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DETERMINANTS OF LOAN LOSS PROVISIONS OF COMMERCIAL BANKS IN NEPAL

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ABSTRACT: *This study aims to derive determinants of loan loss provisions (LLPs) of commercial banks in Nepal using pooled data of ten commercial banks with the 50 observations over the period of 2012/13 to 2016/17. The descriptive and causal comparative research designs have been adopted for the study. The need for this research is due to failures in the loan loss provisioning practices which resulted in loan loss provisions (LLP) not reflecting on collectability of the defaulted loans. As a consequence, the banks do not capture their loss expectations and do not continuously reassess their loss expectations as the conditions affecting their borrowers may change. The study has been used loan loss provision on total assets as dependent variables and natural logarithm of total assets, total loan to total assets ratio, nonperforming loan to total assets ratio, earnings before taxes and provisions to total assets, capital adequacy ratio, loan to deposit ratio taken as independent variables. The estimated regression model reveals that nonperforming loan ratio (NPL) and loan to deposit ratio are significant positive impact of loan loss provisions. This study concluded that nonperforming loan ratio (NPL) and loan to deposit ratio are the mainly determinants of loan loss provisions of commercial banks in Nepal.*

KEYWORDS: Loan Loss Provisions, Total Assets, Nonperforming Loan, Earnings Before Taxes, Provisions, Capital Adequacy Ratio, Loan to Deposit Ratio

INTRODUCTION

In commercial banking business, loan loss provision has significant role to protect against the banks from failure. A loan loss provision is a charge to commercial banks' profit and loss statements that creates a reserve on their balance sheets. It can be viewed as a cushioning mechanism which may ensure that banks do not unexpectedly lose their entire outstanding loan balances. Without this adjustment, the amount of loans and advances on the balance sheets of banks would include possible future losses.

During the last decade, many financial crises have been happening in the developing countries due to the lack of a stable macroeconomic environment, a well-organized legislative-administrative structure, and a perfect surveillance-supervision system (Duvan and Yurtoglu, 2004). At the same time, bank failures happened from time to time and the rate of bank failures around the world has been increasing significantly over the last several years. The examples of the biggest banks failure are Washington Mutual, Indy Mac Bank, Colonial Bank, Bank United and others. Similarly, the last decade in Nepal, Nepal Development Bank, Himalayan Finance Limited, Samjhana Finance and United Bikash Bank were failure.

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The use of loan loss provisions for income smoothing purposes by bank was first explored for the USA by Scheiner (1981). Large empirical evidence supporting this hypothesis has been accumulated in the literature (Greenawalt and Sinkey, 1988; Collins and Shackelford, and Wahlen, 1995; Bhat, 1996; Anandarajan, Hasan and Lozano-vivas, 2003; Anandarajan *et al*., 2005). Some studies, however, fail to find evidence of income smoothing through loan loss provisions (Beatty *et al.*, 1995; Ahmed *et al.* 1999).

One of the most important bank accruals, loan loss provisions (LLPs), is calculated based on an incurred loss approach and reflects the expected losses arising from their lending business. Unexpected losses, defined as negative deviations from the expected losses, should be absorbed by bank capital and are calculated through risk weighted assets. From a prudential perspective, there is little research on how the management of through LLPs is associated to the risk profile of a bank. The related capital management hypothesis states that banks adjust the provisioning behavior to manage the capital ratios (e.g., Kim and Kross, 1998; Beatty et. al, 1995; Collins et. al., 1995).

Banks are in the business of using the funds provided by the depositors to make loan to borrowers and loans comprise a large part of the banking business. The loans can be short term, medium term or long term. Short term loan usually has a maturity of one year or less; medium term loan has maturity of one to three years and long term loan usually has a maturity of three to ten years. Loans can be repaid in the form of installments spread over a period of time or in a lump sum amount and there is an interest charged on the amount that lent out to the customers. Loans are normally secured against tangible assets of the company.

Hence, banks are required to create a cushion against the possibility of the future unexpected and expected loan losses in order to safeguard against financial risks that the banks face and to protect the banks and country from bankruptcy. In principle, loan loss provisions are widely used by the commercial bank managers to manage the risk exposure that may occur in their lending and financing activities. Commercial bank managers need to estimate the losses that will inherent in a bank's loan portfolio at a given moment of time and set aside as a loan loss provision for this likelihood in order to guarantee a bank's solvency and capitalization if and when the loan defaults occur. The loan loss provision will be charged to the banks' profit and loss statements that creates a reserve on their balance sheets. Ideally, the amount of the loan loss provision should be proportional to the riskiness of the loans that offered by the banks and the overall strength of the economy. However, federal bank and securities regulators recognize that the provisions cannot accurately match the actual losses (Montgomery, 2003).

The main objective of the study is to investigate the determinants of loan loss provision of commercial banks in Nepal. Specially, it examines the loan loss provision of commercial banks through the natural logarithm of total assets, total loan to total assets ratio, nonperforming loan to total assets ratio, earnings before taxes and provisions to total assets, capital adequacy ratio, loan to deposit ratio.

The rest of the study is organized as follows. Section two consist the theoretical framework. Section three presents a research methodology. Section four demonstrates the results and conclusion of empirical analysis.

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Theoretical Framework

This section attempts to analyze the different studies made by different researchers into various contexts.

Anandarajan, Hasan and McCarthy (2005) have motivated by the fact that there is a paucity of research on the earnings management practices of banks in Australia. Research on the practices of North American, European and Asian banks provided conflicting evidence. In this study, we examine whether Australian banks engage in earnings, capital management and signalling, and, if so, the extent to which loan loss provisions (LLPs) are used for this purpose. Our results indicate that banks in Australia use loan loss provisions to manage earnings. Further, listed commercial banks engage more aggressively in earnings management using LLPs than other banks. We also find that earnings management behaviour is more pronounced after implementation of the Basel Accord. We do not find evidence to indicate a relationship between LLPs and capital management. This may be because loan loss reserves no longer constitute part of Tier I capital in the numerator of the capital adequacy ratio. Overall, however, we find a significant understating of loan loss provisions in the post-Basel period relative to the pre-Basel period. This indicates that reported earnings may not reflect the true economic reality underlying those numbers. Finally, Australian banks do not appear to use LLPs for signalling future intentions of higher earnings to investors.

Zoubi and Al-Khazali, (2007) have indicated that when return on assets (ROA) before tax and loss provisions for the current year is higher than the prior year ROA and the actual capital reserve is below the legal required reserve, then management is expected to increase loss provisions for the current year. This result is robust for all the years of this study.

Packer and Zhu (2012) have enlighten in the wake of the Asian financial crisis, many regimes in Asia adopted stricter provisioning requirements, as well as discretionary measures, with the objective of increasing provisioning in good times in response to rising levels of risk. Based on a final sample of 240 banks in 12 Asian economies, the evidence is that countercyclical loan loss provisioning has dominated throughout emerging Asia, most strikingly so in the case of India. Thus, loan loss provisioning did not simply become more conservative at all points in time subsequent to the Asian financial crisis, but actively leaned in a fashion that ameliorated swings in earnings and the macro-economy.

Dong, Liu, and Hu (2012) have reviewed and analyzed the development of our nation's loan loss provision system, then studied the relations of commercial bank loan loss provision and earnings management and capital management through empirical study. The study selected 14 domestic commercial banks of year 2001-2009 as data sample, using Kanagaretnam et al.'s (2003) research method, dividing the loan loss provision into two parts that is discretionary and nondiscretionary part, and empirically studied the relationship of discretionary part of loan loss provision and earnings before taxes and pro- visions (EBTP) and capital adequacy ratio (CAR). Empirical results show that: there is significant positive correlation between the discretionary loan loss provisions and earnings before taxes and provisions (EBTP), and there is significant negative correlation between the discretionary loan loss provisions and capital adequacy ratio (CAR). That provides evidence for the relation of bank loan loss provision and earnings management and capital management. In the last, combining with empirical research findings and the status of the loan loss provision system of China's commercial banks, this paper made several suggestions to improve the system of loan loss provision.

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Norden and Stoian (2013) have investigated that whether banks use of loan loss provisions (LLPs) to manage the level and volatility of their earnings and examine the implications for bank risk. They study found that banks use LLPs to manage the level and volatility of earnings downward when they are abnormally high and when expected dividends are lower than current earnings. Moreover, banks adjust LLPs to avoid fluctuations in their risk-weighted assets. Our findings highlight an important tradeoff in the provisioning for expected and unexpected losses that affects bank risk and profitability.

Isa, Choong, and Fie (2013) have examined the factors in loan loss provisioning practices on commercial banks that reflect on collectability of defaulted loans. The need for this research is due to failures in the loan loss provisioning practices which resulted in loan loss provisions (LLP) not reflecting on collectability of the defaulted loans. As a consequence, the banks do not capture their loss expectations and do not continuously reassess their loss expectations as the conditions affecting their borrowers may change. Henceforth, in their financial reporting, the banks do not represent relevantly and faithfully their true underlying credit risks conditions. When the banks do not represent relevantly and faithfully their true underlying risk conditions, they contradict the objectives of useful financial reporting. The results showed that among explanatory variables, bad debt recoveries as a factor in loan loss provisioning practices that reflect on collectability of defaulted loans was rejected. Bad debt recoveries were a biased variable and inconsistent estimator. In context of perceived credit risks as the basis to make credit judgments, an estimate of bad debt recoveries had not fulfilled the criteria. On the other hand, non-performing loans (NPL) as a factor in loan loss provisioning practices was not rejected.

Abdullah, Ahmad and Bujang (2015) have demonstrated that the global financial system is vulnerable due to the weak growth prospects in many advanced economies. Hence, the stability of the banking system remained as an important issue to be resolved. Therefore, it is vital for the banks to properly manage the Loan Loss Provisions (LLPs) to ensure the sufficient amounts are allocated to counterbalance the non-performing loans, especially during financial turmoil. The issue of LLPs has captivated the interest of many researchers as to what extent the LLP has been affected by macroeconomic factors. Thus, the main purpose of the study is to investigate the influence of macroeconomic factors in affecting the provision decision of Malaysian commercial banks. The investigation aims at detecting whether the provisions have been influenced by the macroeconomic factors such as the interest rate, gross domestic products and exchange rate. At the same time, the effect of macroeconomic factors can be examined in order to identify the pro-cyclical or counter-cyclical behavior in relation to the LLP. The Generalized Method of Moments (GMM) is devised in assessing the significant macro factors that influencing the LLP.

Fernando and Ekanayake (2015) have examined that banking industry is one of the most profitable industries in Sri Lanka and lending operations constitute as the core banking business which is a highly risk area. As a tool to mitigate the credit risk that occurs in the banking business it involves in providing for loan losses which ultimately affect the profitability of the bank. This study therefore attempts to ascertain whether Sri Lankan Commercial banks use loan loss provisions to smooth their income. The time period considered for the study is 2003 to 2012 with a balanced set of panel data. Eight bank specific variables were used which are; capital adequacy ratio, change in total loans, change in non-performing loans, total loans, non-performing loans, earnings before tax and provisions, loans to deposit ratio and log value of total assets. First the whole sample was examined and later analysis was done to three major

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categories namely; public sector banks, systematically important private banks and small private banks. The findings reveal that private domestic licensed commercial banks use loan loss provisions to smooth the income while the public sector banks are not. Loan loss provisions of banks to a large extent are depends on four bank specific variables. It was further revealed that banks with high level of loan growth are associated with a reduced level of problem loans. Finally the study suggests important policy implications for bankers and regulators that might help to address income smoothing activities of financial sector in Sri Lanka.

Haan, Manrten and Oordt (2016) have investigated a panel error correction model for loan loss provisions, using unique supervisory data on flow of funds into and out of the allowance for loan losses of 25 Dutch banks in the post-2008 crisis period. The study found that these banks aim for an allowance of 49% of impaired loans. In the short run, however, the adjustment of the allowance is only 29% of the change in impaired loans. The deviation from the target is made up by (a) larger additions to allowances in subsequent quarters and (b) smaller reversals of allowances when loan losses do not materialize. After one quarter, the adjustment toward the target level is 34% and after four quarters is 81%. For individual banks, there are substantial differences in timing of provisioning for bad loan losses. The study presented two model-based metrics that inform supervisors on the extent to which banks' short-term provisioning behaviour is out of sync with their target levels.

Obuya1 and Olweny (2017) have examined the effect of bank's lending behaviour on loan losses of listed commercial banks in Kenya. The study employed descriptive research survey design. The target population encompassed 11 listed commercial banks in Kenya. The study was a census of listed commercial banks in Kenya. The data was extracted from CBK Annual reports and Audited financial statements of individual commercial bank in Kenya. Descriptive analysis involved mean, standard deviation, minimum and maximum while for inferential analysis; correlation analysis was used to test the relationship between banks' lending behaviour and loan losses of commercial banks in Kenya. Simple OLS model was used to establish the causal effect relationship between lending behaviour and loan losses of listed commercial banks in Kenya. The findings showed that total customer loans and quality of loans had a statistically significant effect on loan losses. However the effect of lending rate, loan growth and loan portfolio diversification on loan losses was not statistically significant. The study thus concluded that banks' lending behaviour has a significant effect on loan losses as shown by p value less than significance level in the ANOVA. The study recommends to the management of listed commercial banks to take into consideration their total customers loans and quality of loans when setting loan loss provisions to cover any eventual loan losses.

Ozili and Outa (2017) have reviewed the recent academic and policy literature on bank loan loss provisioning. Among other things, they observe that there exist some interaction between LLPs and existing prudential, accounting, institutional, cultural, religious, tax and fiscal frameworks which differ across countries; and they have found that managerial discretion in provisioning is strongly linked to income smoothing, capital management, signalling, tax management and other objectives. They also address several issues including the ethical dimensions of income smoothing, factors influencing income smoothing, methodological issues in LLP modelling and the dynamic loan loss provisioning experiment; which opens up several avenues for further research such as: finding a balance between sufficient LLPs which regulators want versus transparent LLPs which standard setters want; the sensitivity of abnormal LLPs to changes in equity; the persistence of abnormal LLPs following CEO exit; country-specific interventions that induce LLP procyclicality in emerging countries; the impact

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of Basel III on banks' provisioning discretion; LLP behavior among systemic and non-systemic financial institutions; etc. The study concluded that regulators need to pay attention to how much discretion lending institutions should have in determining reported provision estimates, and this has been a long standing issue.

Caporale, Alessi, Colli, and Lopez (2018) have analyzed data from a panel of more than 400 Italian banks for the period 2001–2015 to examine the main determinants of loan loss provision (LLP), which are classified as either discretionary (income smoothing, capital management, signalling) or non-discretionary (related to the business cycle). The possible effects of the double-dip recession of 2008–9 and 2011–15 are also examined. The results suggest that LLP in Italian banks is countercyclical, with non-discretionary components and macroeconomic shocks playing a significant role. Moreover, LLP is less cyclical in the case of local banks, since their loans are more collateralised and their behavior is more strongly affected by supervisory activity.

Isa, Choong, Fie and Rashid (2018) have asserted that determinants of loan loss provisions (LLPs) of commercial banks in Malaysia. A single-stage panel data analysis multiple regression model that contains a mixture of quantitative and qualitative elements is used. The LLPs is a dependent variable or regressor, and non-performing loan (NPL), interest income, net profit, loans and advances and gross domestic product (GDP) are the independent variables or regressor/explanatory variables. The moderating variable is “credit risk management” (CRM) and the intervening variable is “relevance and faithful representation”. The study suggests in LLPs, NPLs, interest income, loans and advances, net profit and GDP, as well as the moderating effect of CRM and the intervening effect of relevance and faithful representation, are determinants of the LLPs. The moderating variable CRM strengthens the relationship between the independent variables and the dependent variable. The intervening variable “relevance and faithful representation” brings about a more accurate reporting on the levels of the LLPs.

Conceptual Framework

The conceptual framework shows the relationship between dependent and independents variables. In this study loan loss provisions is used for dependent variable and bank size, total loan ratio, nonperforming loan ratio, earnings before taxes and provisions to total assets, capital adequacy ratio, loan to deposit ratio taken as independent variables. The conceptual framework is developed from the prior theoretical and empirical grounds.

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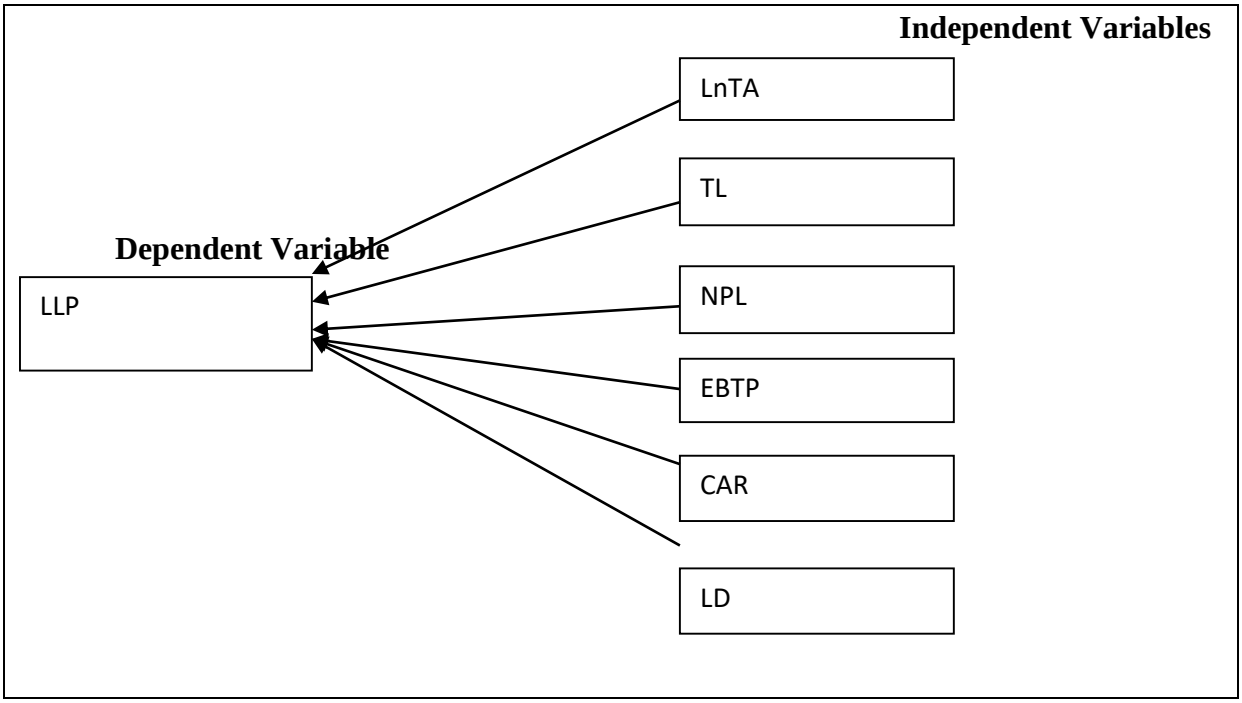

Figure 1: Conceptual Framework

Source: Conceptual Framework Developed by Researcher (2018)

The conceptual framework presented in the **Figure 1** developed to test the effect of these independent variables on the loan loss provisions of sample commercial banks of Nepal.

RESEARCH METHODOLOGY

This study is based on the secondary data which were gathered for 10 commercial banks in Nepal for the period 20012/13 to 2016/17 leading to the total 50 observations. The secondary data have been obtained from the publications and websites of concerned banks. The pooled cross-sectional data analysis has been undertaken in the study. This study has adopted descriptive and causal comparative research design. It deals with the loan loss provision of commercial banks through the natural logarithm of total assets, total loan to total assets ratio, nonperforming loan to total assets ratio, earnings before taxes and provisions to total assets, capital adequacy ratio, loan to deposit ratio.

Variables and Hypothesis

The study has been used loan loss provision on total assets as dependent variables and natural logarithm of total assets, total loan to total assets ratio, nonperforming loan to total assets ratio, earnings before taxes and provisions to total assets, capital adequacy ratio, loan to deposit ratio taken as independent variables.

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Dependent Variables

Loan Loss Provisions Ratio

In commercial banking business, loan loss provision has significant role to protect against the banks from failure. The use of loan loss provisions for income smoothing purposes by bank was first explored for the USA by Scheiner (1981). Large empirical evidence supporting this hypothesis has been accumulated in the literature (Greenawalt and Sinkey, 1988; Collins and Shackelford, and Wahlen, 1995; Bhat, 1996; Anandarajan, Hasan and Lozano-vivas, 2003; Anandarajan *et al*., 2005). Some studies, however, fail to find evidence of income smoothing through loan loss provisions (Beatty *et al.*, 1995; Ahmed *et al.* 1999).

Independent Variables

Bank Size

This study has been used the natural logarithm of total assets as a proxy for bank size. Fernando and Ekanayake (2015) have found that negative and insignificant relationship between loan loss provision and bank size. However, Dhakal (2015) have found insignificant and positive relationship with loan loss provision.

H1: There is a significant and positive relationship between bank size and loan loss provision.

Total Loan

Total loan is the ratio of total loans to total assets and represents a proxy for the risk profile of the bank. Fernando and Ekanayake (2015) have found that negative and significant relationship between loan loss provision and total loan in public licensed commercial banks. However, Dhakal (2015) have found significant and positive relationship with loan loss provision.

H2: There is a significant and positive relationship between total loan ratio and loan loss provision.

Nonperforming Loan

NPL is a measure of non-performing loans. Rottke and Gentgen(2008) documented high levels of NPLs in balance sheets of banks during a banking crisis when an economy experienced distressed debt cycles. Lin and Mei (2006) attributed the main cause of a bank failure to a large number of NPLs. In their analysis in several countries, Boudriga et al. (2009) attributed bank failures mainly to high levels of NPLs. The authors refer to previous work of Hasan and Wall (2004) who observed that "higher levels of NPLs are associated with high rates of provisioning".

H3: There is a significant and positive relationship between *nonperforming loan ratio and loan loss provision*

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Earnings before Taxes and Provisions

The variable (EBTP) is the net operating income before provisions and taxes of bank i in period t, normalized by it total assets. This variable is usually used in prior literature as a proxy for earnings management practices. Fernando and Ekanayake (2015) have found that positive and significant relationship between loan loss provisions. However, Dhakal (2015) have found significant but negative relationship with loan loss provision in Nepalese commercial banks. Under the inter-temporal income smoothing hypothesis, as suggested by Moyer (1990), Beatty et al. (1995), Collins et al. (1995) and Ahmed et al. (1999), the study expect a positive relation between earnings (before taxes and provisions) and loan loss provisions.

H4: There is significant and positive relationship between earnings before taxes and provisions ratio and loan loss provisions.

Capital Adequacy Ratio

Previous studies control also for the capital adequacy ratio effect on the loan loss provisions. Kim and Kross (1998) and Ahmed et al. (1999) found that banks with low capital declined significantly LLPs. The variable CAR is approximated by the total capital ratio of the bank in period t to its total assets.

H5: There is a significant and positive relationship between capital adequacy ratio and loan loss provisions.

Loan Deposit Ratio

Loans to deposit ratio measures the relationship between loans and deposits from the customer's deposits and higher the ratio more the need of external funds and to attract external funds the perceived risk will be adjusted by the loan loss provisions (Zoubi & Al-Khazali, 2007). In this study expect a positive relation between Loans to deposit ratio and loan loss provisions.

H6: There is a positive and significant relationship between loan to deposit ratio and loan loss provisions.

The Model

The determinants of LLP in Nepalese commercial banks are analyzed following a similar approach to Packer and Zhu (2012), Bouvatier et al. (2014), Fernando and Ekanayake (2015) and Dhakal (2015). The model is specified as follows:

$$\mathbf{LLP_{it} = \beta_0 + \beta_1 TL_{it} + \beta_2 NPL_{it} + \beta_3 EBTP_{it} + \beta_4 CAR_{it} + \beta_5 Size_{it} + \beta_6 LD_{it} + \varepsilon_{it}}$$

Where:

LLP it = Loan loss provisions of bank i in year t normalized by the total assets

TL it = Ratio of total loans normalized by the total assets of i^{th} bank for the time period t

NPL it = Non Performing Loans normalized by the total assets of i^{th} bank for the time period t

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EBTP it = Earnings before taxes and provisions normalized by the total assets of of i^{th} bank for the time period t

CAR it = Capital Adequacy Ratio approximated by total funds to total assets of i^{th} bank for the time period t

SIZE it = Logarithm of Total Assets of i^{th} bank for the time period t

β_0= The intercept (constant)

β_1, β_2, β_3, β_4, β_5 β_6, = The slope which represents the degree with which bank loan loss provisions changes as the independent variable changes by one unit variable.

ε_{it} = error component

The selected study variables, their definition, basis of measurement and priori expected sign have been depicted in Table 1.

Table 1: Summary of Variables

Notation	Measurement	Expected Sign
LLP	Loan loss provision to total assets ratio	
LnTA	Natural logarithm of total Assets	+
TL	Total loans to total assets	+
NPL	Nonperforming loans to total assets	+
EBTP	Earnings before taxes and provisions to total assets	+
CAR	Capital adequacy ratio	+
LD	Total loans to deposit ratio	+

RESULTS AND CONCLUSION

Descriptive Statistics

Table 2 represents the descriptive statistics of all the variables in the study. Descriptive statistics are used to analyze the use of loan loss provisions to income smoothing. It is useful in predicting the nature of the data and thereby helps to understand the trend over the period from 2012/2013 to 2016/2017. It provides a useful summary on measures of central tendency and dispersion of data.

Table 2: Descriptive Statistics of Study Variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
LLP	50	.46	3.51	1.299	0.598
LnTA	50	9.99	11.92	11.0872	0.461
TL	50	42.63	709.21	76.524	91.622
NPL	50	.06	3.50	0.895	0.740
EBTP	50	1.30	4.32	2.909	0.644
CAR	50	10.84	21.08	12.519	1.857
LD	50	48.92	87.28	73.170	9.331

Source: Annual Reports of Sample Banks and Results are drawn from SPSS – 21

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The ratio of loan loss provision to total asset equals 1.30 percent on average with a maximum of 3.51 percent and a minimum of 0.46 percent. Total assets which are denoted by LnTA measure the size of the banks. Standard deviation of 0.46 indicates that Size of the banks has a considerable variation. As shown in the table 2 total loans and advances are 42.63 per cent average of total assets. This suggests that from the total asset value of banks, 42.63 percent consists of with advances which indicate the average risk taken by bank managers to boost the profits. The mean NPL of all banks over the test period is 0.895 percent. This suggests that banks could not collect 0.895 percent of every loan investment. The lowest NPLs is 0.06 percent (recorded by the Nepal SBI Bank) while the highest is 3.50 percent (recorded by Sunrise Bank). The average earnings before taxes and provisions for all the sample banks is 2.91 percent. The highest EBTP average for a single bank is 4.32 percent (Standard Chartered Bank) while the lowest is 1.30 (Nepal Investment Bank). Mean value of CAR is 12.52 percent for all samples and it is well above the regulated amount as specified in the Basel II and NRB Directives. Almost all the banks are met with the requirement. Loans to deposits ratio of the banks recorded 73.17 percent of mean value. This suggests that from the total deposit value of banks, 73.17 percent has converted into loans and advances which indicate the higher risk taken by bank managers to boost the profits.

Correlation Analysis

The Pearson's correlation coefficients among study variables are shown in Table 3. The results of the correlation coefficients of variables indicate that loan loss provision is negatively associated with bank size, earnings before taxes and provisions and capital adequacy ratio.

Table 3: Person Correlation coefficients among Study Variables

	LLP	LnTA	TL	NPL	EBTP	CAR	LD
LLP	1						
LnTA	-.433**	1					
TL	.080	.021	1				
NPL	.899**	-.460**	.050	1			
EBTP	-.027	-.015	-.093	-.063	1		
CAR	-.426**	.262	.123	-.480**	-.076	1	
LD	.468**	.111	.284*	.394**	-.169	-.193	1

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

Source: Annual Reports of Sample Banks and Results are drawn from SPSS – 21

This implies that the bank loan loss provision tends to move in the opposite direction as with bank size, earnings before taxes and provisions and capital adequacy ratio. However, total loan ratio, nonperforming loan ratio, and loan to deposit ratio are positively associated to loan loss provisions. Moreover, the correlation matrix of the variables presented Table 3 reveal that all correlations coefficients among the independent variables are less than 0.50, implying the absence of multicollinearity. Thus, there is no evidence of presence of multicollinearity among the independent variables.

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Regression Analysis

Model for the sample commercial banks (Table 5) together explain 80.8 percent variations of the LLPs. Results of regression indicate that LLPs of sample commercial banks to a large extent are dependent on bank-specific variables such as NPL and LD.

It is important to note that the results of the regression highlights that there is a significant relationship between NPL and LLPs for the sample commercial banks. It is suggested that higher level of NPL may reflected the higher provisions of LLPs which consist with priori hypothesis. The result of the study is consistent with the study of Abdullah, Ahmad, and Bujang (2015) and Fernando and Ekanayake (2015).

Table 5: Regression Result of Determinants of Loan Loss Provisions of sample Commercial Banks in Nepal

$$LLP_{it} = \beta_0 + \beta_1 LnTA_{it} + \beta_2 TL_{it} + \beta_3 NPL_{it} + \beta_4 EBTP_{it} + \beta_5 CAR_{it} + \beta_6 LD_{it} + \varepsilon_{it}$$

Variables	B	Std. Error	T	Sig.	Collinearity Statistics	
					Tolerance	VIF
(Constant)	.938	1.102	.851	.400		
LnTA	-.115	.098	-1.168	.249	.682	1.467
TL	-0.00004009	.000	-.092	.927	.881	1.135
NPL	.649	.071	9.169	.000	.511	1.958
EBTP	.049	.059	.825	.414	.956	1.046
CAR	.007	.024	.291	.772	.731	1.367
LD	.011	.005	2.289	.027	.658	1.520
No of Observations: 50, R Square:0.832, Adjusted R Square: 0.808, F value:35.409 , Probability: 0.000						

Source: Annual Reports of Sample Banks and Results are drawn from SPSS - 21

Similarly, the result of LD for sample commercial banks is significant and positive association with LLPs. It is indicated that higher the loan to deposit ratio is higher the loan loss provions. The result also consistent with the result of the study Abdullah, Ahmad, and Bujang, (2015) and Fernando and Ekanayake,(2015). The Table 5 depicted that other variables LnTA and TL have neither positive nor the significant result found with LLPs. However, EBTP and CAR are positive but insignificant result found with LLPs. The findings of EBTP is consistent with the result of Fernando and Ekanayake (2015) in public licensed commercial banks while inconsistent with the result of the study of Abdullah, Ahmad, and Bujang (2015).

SUMMARY AND CONCLUSION

This study has examined the loan loss provisions of commercial bank in Nepal. The descriptive and causal comparative research designs have been adopted for the study. The panel data of 10 commercial banks over the period of 5 years (2012/13 to 2016/17) have been collected from the annual reports of the banks in the sample. Pooled OLS model have been used to determine the loan loss provisions of commercial bank in Nepal.

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The estimated regression models reveal that nonperforming loan ratio (NPL) and loan to deposit ratio are significant positive impact of loan loss provisions. This study concluded that nonperforming loan ratio (NPL) and loan to deposit ratio are the mainly determinants of loan loss provisions of sample commercial banks in Nepal.

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