

Effect of Determinants of Lending Behavior on Loan and Advances in Joint Venture Commercial Banks in Nepal

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Abstract

This study investigates the bank specific and macroeconomic variables including Total Deposit (LNTD), Cash Reserve Ratio (CRR), Interest Spread Rate (ISR) and Inflation Rate (IR) on the Loan and Advances (LNLA) of joint venture banks operating in Nepal. The association and impact of determinants of lending behaviors have been assessed by the panel data (28 observations) of 4 joint venture banks out of 7 joint venture banks. The secondary panel data has been used that covered a period of seven years (2013/2014-2019/2020). This study finds that there is the significant and positive correlation between LNLA and LNTD. LNLA has significant and negative correlation with IR. This study also finds that the LNTD and IR have significant impact on LNLA but CRR and ISR do not give any significant influence on LNLA.

Keywords: Total Deposit, Cash Reserve Ratio, Interest Spread Rate, Inflation Rate and Loan and Advances

1. Introduction

Commercial banks have been playing a significant role in boosting performance of the economy and act as financial agency. Commercial banks have been at the middle of driving the economy as evidenced through the incredible growth in the private sector credit over time (Olokoyo, 2011). The banking sector is largely responsible for collecting household savings in terms of different types of deposits and regulating them into the society by lending them in different sectors of the economy. Lending plays a vital role in commercial banks daily banking activities where loan and advances is the largest element in the bank's asset portfolio and it is also the major sources of revenue generation for the bank (Malede, 2014). Credit policy provides a framework for achieving asset quality and earnings objectives, sets risk tolerance levels, and guides the bank's lending activities in a manner consistent with the bank's strategic direction. Credit policy sets standards for portfolio composition, individual credit decisions, fair lending, and compliance management (Caouette et al., 2011). Credit management is one of the major and most challenging functions of the Commercial Bank. Credit management is crucial and it is instrumental in ensuring the success or failure of any credit institution. The key to successful lending for business is a systematic loan analysis, which deals with the process of investing those factors that give rise to non-payment of debts. The efficiency of loan decision shall be all standards depend upon sound judgments of the officer or manager (Adhikari, 2009). The main objective of establishing a commercial bank is to earn optimal profit by proper utilization of various types of deposited fund. Mobilization of such savings is made by commercial banks through their branches established in different parts of the country. Most of the studies on the banks' lending behavior have been made in the developed financial markets and commercial banks. A new research study was required to evaluate the determinants of lending behavior of

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joint venture banks. The study problem can be summed up by the following issues: What is the relationship between loan and advances with total deposit, cash reserve ratio, interest rate spread and inflation rate? What is the impact of total deposit, cash reserve ratio, interest rate spread and inflation rate on loan and advance? The main objective of this study is to evaluate the determinants of lending behavior of selected joint venture banks in Nepal.

2. Review of Literature

Timsina (2014) revealed that Gross Domestic Product and liquidity ratio of banks have the greatest impacts on their lending behavior. Granger Causality Test shows the evidence of unidirectional casual relationship from GDP to private sector credit. The study implies that GDP is the barometer of the economy and commercial banks should pay their attention to the overall macro economic situation of the country, factors affecting the GDP in general and their liquidity ratio in particular while taking lending decision. Lalon (2015) concluded that it is very important for banks and other financial institution to manage credit risk properly. Effective CRM helps to increase the present and future financial performance of a bank. CRM contains several elements such as Credit processing, Approval, Documentation, Administration, Disbursement, Monitoring Credit classification and Credit recovery etc. The relationship between CRM and Banks profitability is positive. Therefore, it can be said that effective CRM can contribute on Banks financial performance. Timilsina (2016) depicted that the Assets, liquidity, OMOs, and CRR are the major determinants to affect bank lending. OMOs and CRR tend to influence the bank lending in negative manner. However, bank rate has positive impact on lending. Hence the central bank, should focus more on OMOs and CRR as monetary instrument. As study found that assets, capital and liquidity have positive impact on bank lending, central bank is recommended to focus more on effective and realistic liquidity monitoring and forecasting. Banks willing to lend more are recommended to increase their assets, capital as well as liquidity position that cushion them at the time of liquidity crisis. Han (2015) conducted a study to examine the source of credit risk. The paper explores the sources of credit risk in Chinese commercial banks, analyzes Chinese commercial banks credit management experience and their insufficiency, and puts forward some countermeasures to control the credit risk of commercial banks in China under the new situation.

Muhamet and Arbana (2016) concluded that an increase in nonperforming loans will result in profit erosion and thus a decrease in profit, implying that the two variables will have an inverse relationship; and an increase in capital reserves will be an impediment to the income generating capacity of the banks, thus result in a decline in profitability, establishing a negative relationship between the capital reserves and income generating capacity of the bank. Muigai and Maina (2018) concluded that loan appraisal, lending requirement, credit management tools and loan recovery process had a positive and significant relationship with the financial performance of commercial banks in Kenya. The study recommended that commercial banks need to establish an overall credit limit at individual borrowers as well as clearly establish a process for approving new and refinancing of existing credits. Further, there is need for follow-up on payment schedule of borrowers and reminding customers before maturity. Bajracharya (2018) revealed that bank size, volume of deposit, cash reserve ratio are the major determinants of loan and advance of Nepalese commercial banks. It is found that bank size and deposit of the banks had significant positive impact on loan and advance of commercial banks in Nepal whereas cash reserve ratio of the banks had negative impact on loan and advance of the banks. Similarly, inflation rate and lending

volume of the banks had negative relation which indicates that higher inflation rate leads to decrease lending of the banks. Bhattarai (2019) found that liquidity ratio, interest rate spread and exchange rate were significant in determining lending behavior in Nepal's commercial banks. The positive effect of exchange rate infers those commercial banks in Nepal have sufficient insights into the international market and trade and that they are prepared to meet short-term and long-term commitments. Likewise, the findings showed interest rate spread negatively and significantly associated with total loans advanced. This implies that as the cost of borrowing increases, banks significantly increase credit supply in the market. However, there seems a greater deal of reluctance from among the borrowers to get more credit in such situations. During periods of economic stagnation, majority of loans become non-performing and thus constraining credit available to private sector. Bhattarai (2020) The result showed that investment portfolio, cash reserve ratio and bank size have positive and significant effects on loan and advance. But the liquidity has negative and statically significant with loan and advance. The macroeconomic variables gross domestic products growth rate and inflation rate have not played effective roles to determine the loan and advance. The study concluded that liquidity, investment portfolio, cash reserve ratio and bank size were major determinants of loan and advance.

The review literature indicates that most of the studies on the banks' lending behavior have been carried out in the developed financial markets. Studies reviewed here used total loan advanced, volume of deposits, bank's investment portfolio, lending rate, cash reserve ratio, liquidity ratio, credit risk, GDP, interest rate spread, investment portfolios, capital structure and exchange rate as dependent and independent variables. However, a few studies have been done in the less developed financial markets. Similarly, studies on the determinants of lending behavior of commercial banks in Nepali financial market are available with addressing Financial and economic variables. Majority of studies conducted to focus on the determinants of interest rate spreads among the commercial banks. This study intends to focus to analyze the association and effect of four joint venture banks in Nepal.

3. Hypothesis Development

H₁: There is the significant relationship between Total Deposit, Cash Reserve Ratio, Interest Spread Rate and Inflation Rate with Loan and Advance of sample joint venture banks.

H₂: There is significant impact of Total Deposit, Cash Reserve Ratio, Interest Spread Rate and Inflation Rate on Loan and Advance of sample joint venture banks.

4. Methodology

The purpose of the study is to answer "Is there significant relationship between different variables as well as is there significant impact of Total Deposit, Cash Reserve Ratio, Interest Spread Rate and Inflation Rate on Loan and Advance of sample joint venture banks? It describes, to significant users, how hypotheses were tested and the basis for which conclusions were drawn. This research work borders on the association of total deposit (TD), cash reserve ratio (CRR), interest spread rate (ISR) and inflation rate (IR) with loan and advance (LA) and effects of TD, CRR, ISR and IR on LA of Everest Bank Limited (EBL), Nepal SBI Bank Limited (NSBL) Himalayan Bank Limited (HBL) NABIL Bank Limited (NABIL) in Nepal.

4.1 Research Design

This study has used correlational and causal research design to test the objective of the study. It relies upon discretionary secondary data that is collected from yearly reports of picked banks. Everest Bank Limited, Nepal SBI Bank Limited, Himalayan Bank Limited and NABIL Bank Limited have been taken as a sample bank for the purpose of the study. The banks have been chosen as a purposive technique out of seven joint venture banks in Nepal. The study has used seven years panel data for the purpose of analysis.

4.2 Model Specification

This study used the Olokoyo (2011) and Malede (2014) model, in which all joint venture banks are considered for a set length of time, namely seven years. The model depicts how several bank-specific and macroeconomic factors interact to influence total bank lending operations. The study developed a model that links elements impacting joint venture bank lending behavior, including bank-specific features and macroeconomic variables. We have total loan and advances, cash reserve ratio, interest spread rate inflation rate in the vector of bank particular variables.

$$\text{LNLA} = \alpha + \beta_1 \text{CRR}_{it} + \beta_2 \text{ISR}_{it} + \beta_3 \text{IR}_{it} + \beta_4 \text{LNTD}_{it} + \epsilon_{it}$$

Where;

α = Intercept/constant term

LNLA = Natural logarithm of the total loans and advances

CRR = Cash reserve ratio

ISR = Interest spread rate

IR = Inflation rate indicated by the economic survey

LNTD = Natural logarithm of the total deposit

ϵ_{it} = error term of the stochastic model

Betas (β) are the parameters of the models

5. Results and Discussion

The relationship between of total deposit (LNTD), cash reserve ratio (CRR), interest spread rate (ISR) and inflation rate (IR) with loan and advance (LNLA) of EBL, NSBL, HBL and NABIL are calculated in this part of the analysis. Another part of analysis tries to evaluate the impact of LNTD, CRR, ISR and IR on LNLA of EBL, NSBL, HBL and NABIL through regression analysis, where dependent variable is LNLA and independent variables are LNTD, CRR, ISR and IR.

Table 1: Correlation Analysis

	CRR	ISR	IR	LNTD	LNLA
CRR	1				
ISR	0.227	1			
IR	0.109	-0.006	1		
LNTD	-0.142	-0.242	-.493**	1	
LNLA	-0.137	-0.173	-.598**	.975**	1

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

Table 1 depicts the correlation coefficient of CRR, ISR, IR and LNTD of EBL, NSBL, HBL and NABIL with LNLA of the joint venture banks and the significance test for the calculated coefficients also presented in the table. The correlation between of CRR, ISR, IR and LNTD of the banks with LNLA are -0.137, -0.173, -0.598 and 0.975 respectively which are low degree and moderately negative and high degree positive correlation showing the fact that the three variables have opposite direction and one variable have same direction changing relation and the two coefficients are significant in the population at 1 percent level of significance and another two variables are insignificant. These significant coefficients indicate that the relation of LNLA with IR and LNTD of sample banks may be significant relation in the same variables of population. On the other hand, the negative correlation LNLA and CRR and ISR of the banks are not significant in the population at 1 percent level of significance.

Table 2: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.985 ^a	0.971	0.966	0.0301839	1.843

a. Predictors: (Constant), LNTD, CRR, ISR, IR
b. Dependent Variable: LNLA

Table 2 shows that the value of R^2 is 0.971, indicate that the independent variables described for up to 97.1% of dependent variable. The remaining 2.29% can therefore be achieved through other factors outside the two variables. Adjusted R^2 (0.966) is called the coefficient of determination which tells % of variations in dependent variable explained by independent variable. In the study, Adjusted R^2 is 96.6% which show that 96.6% of variations in LNLA (dependent variable) is explained by LNTD, CRR, ISR and IR (independent variables) after adjusting by degree of freedom. The standard error of estimate measures the variability of observed value of dependent variable around regression line. In the study, the standard error of the estimate is 0.0301839 indicate that the average distance of the data points from the fitted regression line is deviated by given calculated value.

Table 3: Regression Analysis for Dependent Variable ROA

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.402	.276		-1.458	.158
CRR	-.00031	.001	-.002	-.046	.964
ISR	.015	.012	.048	1.260	.220
IR	-.011	.003	-.147	-3.535	.002
LNTD	1.060	.050	.914	21.394	.000

Table 3 presents the regression analysis result for the dependent variable (LNLA) and independent variables (CRR, ISR, IR and LNTD) of EBL, NSBL, HBL and NABIL over the study period. The beta coefficient of CRR, ISR, IR and LNTD are -.00031, .015, -.011 and 1.060 respectively, which shows that LNLA of the sample banks are positively associated with ISR and LNTD and negatively associated with CRR and IR. Since, the p-value of the coefficient of IR and LNTD i.e., .002 and .000 are less than 1 percent level of significance, the coefficients are significant at 1 percent. But the p-values of the coefficients of CRR and ISR are not less than 1 percent level of significance the coefficients are not significant. The results show that LNTD has positive significant impact but IR has negative significant impact on LNLA. The results further indicate that the CRR and ISR have no significant impact on LNLA.

6. Conclusion

The results reveal that there is positive correlation of LNTD with LNLA and negative and insignificant correlation of CRR, ISR but negative and significant correlation of IR with LNLA. It also indicates low degree, moderate and high degree negative and positive correlation showing the fact that the variables have not same direction changing relation and all the coefficients are not significant in the population at 1 percent level of significance. The findings are not consistent with the result of Bhattarai (2019) and Bajracharya (2018) who have found that interest spread rate, cash reserve ratio and volume of deposit have positive and significant relation with lending behavior. LNTD has significant and positive impact but IR has negative significant impact on LNLA and rest variables have not significantly impact on LNLA. Finally, it is concluded that all the independent variables are not the determinants of lending behaviors due to positive and negative association with dependent variable and insignificant impact on it.

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