Determinants of Lending Interest Rate of Nepalese Commercial Banks

- Ballav Niroula [1]
- Bindu Gnawali [2]

Abstract

This research analyzes the determinants of lending interest rates of commercial banks in Nepal. The lending interest is the main source of income for any financial institution. Secondary data has been collected from the annual reports of seven commercial banks for the study. Using convenience sampling techniques only seven banks are taken as samples out of 21 commercial banks in Nepal. 35 observations of the study are analyzed and interpreted using correlation and simple regression analysis. The study is based on the dependent variable lending interest rate and independent variables: liquidity ratio, deposit interest rate, return on assets, default risk, gross domestic production, and inflation. *This study found a statistically positive and significant effect of deposit interest rate, return on assets, and inflation on the lending interest rate of commercial banks in Nepal.*

Key Words: Deposit Interest, Default Risk, GDP, Inflation, Lending Interest, and Return on Assets.

Introduction

This study intends to investigate the factors that Nepalese commercial banks' lending interest rates depend on during the five years from 2018 to 2022. Few research has been conducted to analyze the determinants of lending interest rates of commercial banks in Nepal. The direction of the interest rate's movement is not constant. Bhole (1992), the federal budget, inflation, monetary policy, and the status of the economy all play a role in determining interest rates. The choice to lend money to commercial banks is significantly influenced by interest rates. The ability of commercial banks to choose their interest rates is limited. Interest is the expense of

---

[1] Mr. Niroula is an assistant professor at Patan Multiple Campus, TU
[2] Ms. Gnawali is an assistant professor at Patan Multiple Campus, TU

using loanable funds. Banks and other financial organizations use the lending interest rate to finance both the short and long-term needs of both the public and private sectors. The rate of interest on loans is influenced by the creditworthiness of borrowers.

Yüksel, Mukhtarov, Mammadov, and Özsarı, (2018) explained that the two main types of interest are simple interest and gross interest. When there are no other management concerns, dangers, or drawbacks, the reward for the use of capital is pure interest. Gross interest is the amount that the lender receives from the borrower. Payments for risk, inconvenience, management, and exclusive use of funds are included in this. By making more loans at low deposit rates, commercial banks increase their profit margins. For fear that interest income won't be enough to cover the cost of deposits, other operating costs, and the revenue lost from a portfolio of non-performing loans, banks avoid setting lending rates too low.

Alnaqtari (2019) explained the primary factors influencing money cost are consumption time preference and production opportunity. The cost of an investment or a loan depends on the return on productive assets in an economy. Borrowing costs and returns are also impacted by consumers' preference for immediate gratification over future savings. Because it costs more for investors to borrow money at high rates, high lending interest rates are a sign of inefficiencies in the banking sector, which impede not only the development of finance but also economic growth. (2017) Nanjunga et al. The amount of interest a commercial bank charges on loans is important since it affects their ability to make a profit (Bhattarai, 2015; Nanjunga et al., 2016).

In the classical conception, the rate of interest is controlled by the interaction of two different factors. First, there is the supply of savings, which comes primarily from the commercial sector (Obeng and Sakyi, 2017). Lending by financial organizations is a good idea. It is accurate to say that the entire economy is expanding rapidly. It is the most important strategy for promoting business expansion and economic growth around the world. There are two types of loans: secured loans and unsecured loans. Unlike secured loans, which are disbursed in return for a collection of valuable properties, unsecured loans are disbursed based only on the lender's financial status and absence of collateral. Loan interest rates are linked to both secure and unsecured loans. Because unsecured loans pose a significant risk to financial institutions, their interest rates are typically higher than those of secured loans. The loan interest rate followed the 5Ps and 5Cs of product, place, price, protection, profit, character, capacity, capital, collateral, and condition.

The objective of this study is to examine the factors that affect commercial banks' lending interest rates. Lending interest rate has a significant role in the formation of the financial and

economic systems. Commercial banks want to know how both external and internal factors affect loan interest rates. Profitability is directly impacted by lending interest. Due to this conceptual gap, it is unclear whether lending interest rate has an impact on commercial banks favorably or unfavorably utilizing both internal and external factors. Various studies have been done in this area, but none of them have taken into these types of variables such as liquidity ratio, deposit interest rate, return on assets, default rate, bank size, GDP, and inflation. Therefore, the purpose of this study is to close the gap left by other studies

Literature Review

Bhattarai (2015) studied the factors that commercial banks in Nepal use to set their lending interest rates. to investigate the elements influencing the lending interest rate. Convenience sampling was used to choose just six commercial banks. The study took place between 2010 and 2015. Panel data were utilized. total data gathered from sample banks' yearly reports. From 2011 to 2017, there were just five banks in the sample. Regression investigation of the effect of the independent variable on the dependent variable used panel data. Operating cost as a percentage of total assets, deposit interest rate, profitability, and default risk were independent variables. All independent variables had positive correlations with the dependent variables when the random effect model was chosen, while fixed effect models were rejected for operating costs, total assets, and profitability. The finding of the study was that R^2 was better f is significant and no multicollinearity problems.

Mbowe, Mrema, and Shayo (2020) examined the Tanzanian banks' lending interest rate factors. The study used two ways to track the factors that affect the interest rate on bank loans. From 2001 to 2017, a sample of domestic and international small- to medium-sized banks was employed in the study. Panel data from secondary sources was used in the study. In the study, regression analysis was utilized to show how an independent variable affected a dependent variable. The independent variables included the statutory minimum requirement, return on assets, deposit rate, high deviation from the mean ratios of market concentration, liquid as set, non-performing loans, operating cost, provision for bad loans, bank size, inflation real GDP, and treasury bill interest. The dependent variable was the lending interest rate. The investigation used both a descriptive and a causal-comparative research design. The study's key finding was that operating costs, non-performing loans, cost of funds, and inflation all had statistically significant effects on bank lending interest rates. Similar to how bank size and liquidity have an adverse effect, SMR has an adverse but statistically significant effect. SMR should be reduced cautiously in order to increase bank lending capacity.

Al-Qudah (2021) studied to examine the lending interest rates for commercial banks listed in Jordan. For the study's regression analysis, punitive data were employed. Only eight years, from 2011 to 2018, comprised the study period. Only thirteen commercial banks were included in the study's sample. The impact of the lending interest rate was examined using a descriptive and causal-comparative research methodology. Liquidity, bank size, return on assets, operational costs to deposit interest rate, and lending interest rate were independent variables, whereas lending interest rate was a dependent variable. The major finding of the study was LIQ and OPCOST had positive and insignificant and all other variables had significant effects. Similarly, LTQ, ROA, and size had negative and significant impacts on dependent variables but other variables had positive and significant impacts on dependent variables. F statistics was significant and r square was high.

Shrestha (2022) investigated the factors that influence Nepalese commercial banks' lending interest rates. Secondary data from the annual report of a commercial bank and an economic survey were used for the analysis. Twenty-five commercial banks made up the sample, which spanned only eight years from 2013/14 to 2020/21. There were 200 observations in all. Both a descriptive and a comparative-causal study design were used. The following factors were independent: GDP, management effectiveness, operational effectiveness, asset quality, credit risk, and lending interest rate. Regression was used to examine the effects of the independent variables on the dependent variable, whereas correlation was used to demonstrate the relationship between independent variables and the dependent variable. The study's key finding was that operational effectiveness and capital adequacy ratio were negatively correlated, while returns on assets, managerial efficiency, asset quality, credit risk, inflation, and GDP were positively correlated. Similar to return on assets, the impact of lending interest rate was favorable but not very large. The other factors, such as asset quality, management effectiveness, and capital adequacy ratio, had positive and significant effects on credit risk, inflation, GDP, and operations efficiency.

Rathnayaka, Bai, Louembe, and Liqi (2022) investigated the performance of Chinese commercial banks and the liberalization of interest rates. There were just 10 commercial banks in the sample. From 1999 to 2019, twenty-one years were covered by the study. Both a descriptive and a causal-comparative research design were utilized in the study. The link between the independent and dependent variables was examined using correlation. To demonstrate how the independent variable affected the dependent variable, a regression analysis was performed. The dependent variable was the lending interest rate, while the independent variables were the profit margin, net interest margin, bank size, cash reserve ratio,

loan deposit rate, capital adequacy ratio, non-performing loan, GDP, and M2. The major finding of the study was strongly dependent on their size, quality suggested the prompt adoption of an innovative risk management system to develop the bank's efficiency

Lawal (2022) found that Nigerian food security is determined by the overall amount of loans and the total interest rates from government-owned development financial institutions. in order to ascertain the impact of loans from government-owned development financial institutions on the achievement of food security in Nigeria and to look into the impact of interest rates on loans from these institutions on this outcome. Directly relevant to agricultural loans and their interest rate was the study. The study's time frame was 2000–2018. Food security was the dependent variable, whereas total loans from state-owned development finance institutions and total interest on agricultural loans were independent variables. The hypothesis was tested using multiple regression and descriptive statistics. The study's main conclusion was that there was no discernible impact on Nigeria's food security. If the government increases loans from publicly owned projects, it had a favorable and significant impact on Nigeria's food security.

Ghimire and Bhandari (2023) examined the elements that determine lending interest rates by looking at the factors that influence of lending interest rates of commercial banks in Nepal. For the analysis from 2016 to 2021, panel data were used. For analysis, both a descriptive and a causal-comparative study design were used. For the sample, only fifteen financial institutions were chosen. The operating cost to total assets, deposit interest rate, profitability, and default risk were independent variables, and the loan interest rate was the dependent variable. Only the deposit interest rate had a favorable and considerable impact on the lending interest rate, according to the study's findings. All other individual variables had a favorable but minimal effect on the loan interest rate. R2 and all other correlation values were low.

Research Methodology

A casual comparative research design has been used in this study. The dependent variable is the lending interest rate (LIR), whereas the independent variables are the liquidity ratio (LR), deposit interest rate (DIR), return on assets (ROA), default risk (DR), gross domestic product (GDP), and inflation (INF). The secondary data used as the basis for this study was only collected from commercial banks between 2018 and 2022. To choose the samples, a convenience sampling technique is employed. All data were taken from publicly accessible annual reports of representative banks. Out of the twenty-one commercial banks, seven have been chosen as sample banks as convenience samples. These data are investigated and

interpreted through the use of inferential statistics including correlation, and multiple regressions. Microsoft Excel 10 and SPSS version 25 are both used in this analysis.

Research Model

The study's econometric model is expressed:

$$Y = \alpha + \beta x + \varepsilon$$

Where:

Y denotes for dependent variable, α is constant, β is the explanatory variables coefficient, "x" denotes for independent variables and ε used for the error term.

On the basis of the econometric model following research model can be applied.

$$LIRi\ t = \beta 0 + \beta 1 LRit + \beta 2\ DIRit + \beta 3\ ROAit + \beta 4\ DR\ it + \beta 5 GDP\ it + \beta 6 INFit + eit$$

Where:

LIRit = Lending interest rate for the bank during the t period.

DIRit = Deposit interest rate for the bank during the t period.

ROAit = Return on assets for the bank during the t period

DRit =   Default risk for the bank during the t period

GDPit = Gross domestic product   INFit = Inflation rate   eit = Error terms

$\beta 0$ = Intercept $\beta 1$ - $\beta 6$ = Coefficient of parameters.

Research Framework

On the basis of the literature review and research gap, the following research framework has been developed:
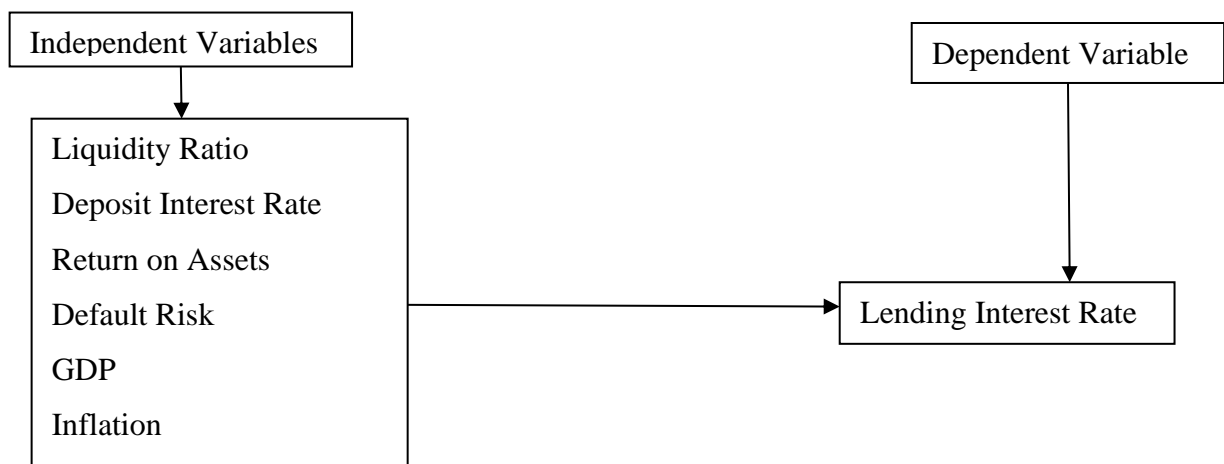

Figure 1. Research Framework. (Al-Qudah 2021)

Variables Definition

Lending Interest Rate

The average yearly rate at which a borrower is required to repay borrowed money is referred to as the interest rate. the opportunity cost of making a financial commitment. The definition of interest is "a payment from borrowers (deficit units) to lenders (surplus units) that compensates savers to lenders for parting with their savings for a predetermined period, typically stated in days, months, or years, and at some risk."

Liquidity Ratio

Abdul et al. (2011) demonstrated how the low rate of return on highly liquid assets is the reason for this association. The danger that a bank won't be able to successfully and promptly meet its short-term debt obligations or its short-term financial needs is known as liquidity risk.

Deposit Interest Rate

Uhde and Heimeshoff (2009) analyzed how Short-term increases in deposit interest rates raise the cost of capital for banks, which causes interest rates on loans to climb. It is frequently expressed as a proportion of the total interest paid on interest-bearing deposits.

Return on Assets

Mbao et al. (2014) discovered that interest rates on loans had a negative correlation with profits. They said that rising bank expenses are often reflected in higher interest rates for borrowers, whereas things that boost bank profits typically have the opposite effect and reduce rates for borrowers.

Default Risk

High default rates are a result of high borrowing risk, which is brought on by the borrower's lack of collateral and credit references. As a result, banks have increased lending rates by making provisions for high default rates and charging their customers more as a result. (Bawumia et al. 2005)

Results and Discussion

Correlation Coefficient

The relationship between the independent and dependent variables is shown by the correlation matrix. Table 2 displays the correlation coefficients for the following variables: lending interest rate, liquidity ratio, return on assets, default risk, deposit interest rate, GDP, and inflation.

Table 1 *Correlation Coefficient Between Independent and Dependent Variables*

Variables	LIR	LR	DIR	ROA	DR	GDP	INF
LIR	1						
LR	.404*	1					
DIR	.642**	0.082	1				
ROA	.530**	.398*	-0.035	1			
DR	.387*	.421*	0.102	.375*	1		
GDP	-.348*	-0.144	-.604**	-0.098	0.078	1	
INF	-0.228	-0.214	-.477**	-0.162	0.02	.918**	1

Note: Annual report.

Table 1 shows the correlation coefficient between the variables. There is a high positive correlation between the lending interest rate and deposit interest rate i.e., 0.642. The correlation between the ROA and LIR has a positive but moderate relation. Liquidity interest rates have a low positive correlation between the liquid ratio and default risk (0.404 & 0.387 respectively). The LIR with the gross domestic product and inflation have a negative correlation (-0.348 & -0.228).

Regression Coefficient

Table 2: *Regression Coefficient of Independent Variables on Dependent Variables*

Variance	B	S.E.	t	Sig.	VIF
LIR	0.52	1.25	0.42	0.68	-
LR	0.03	0.02	1.90	0.07	1.39
DIR	0.66	0.11	6.00	0.00	1.83
ROA	1.69	0.31	5.38	0.00	1.33
DR	0.10	0.13	0.74	0.47	1.44
GDP	-0.12	0.07	-1.79	0.08	8.79
INF	0.47	0.17	2.76	0.01	7.22
$R^2 = 0.81$	**Adj. $R^2 = 0.77$**		**F. Stat. = 20.07**		**Sig. = 0.000**

Dependent variable: lending interest rate (LIR).

The regression coefficients of the independent and dependent variables are displayed in Table 2. The Table explains that the regression model for the study of determinants of lending interest rate of commercial banks in Nepal is fit for the study. Calculated F. value is greater than the tabulated value and p - the value of the model is 0.000 which is significant at a 1% level of significance this result is consistent with the result of Shrestha (2022). The independent variables of this study explain the lending interest rate by 77% as adjusted R^2 is 0.77. variance inflation factors of all the variables are less than 10 so there is no multicollinearity between the independent variables. The regression coefficient of the independent variables shows that there is a positive and significant effect of deposit interest rate, return on assets, and inflation on the

lending interest rate at a 1% level of significance with p- p-values = 0.000, 0.000, & 0.01 respectively and the result is consistent with Mbowe, Mrema, and Shayo (2020) and contradict with the result of Al-Qudah (2021). It means increases in deposit interest rate, return on assets, and inflation support to increase the lending interest rate of the commercial banks in Nepal. Other variables of this study have a nominal impact on the lending interest rate.

Conclusion

The research has examined the determinants of lending interest of commercial banks in Nepal. An independent variable lending interest rate and Six independent variables: liquidity ratio, deposit interest rate, return on assets, default risk, gross domestic production, and inflation were used in the study. The panel data of seven commercial banks from 2018 to 2022 has been collected from the annual report. Correlation and the ordinary least square method have been applied to analyze the data.

Deposit interest rate, ROA, and inflation have a positive and significant effect on lending interest rates. However, GDP has an insignificant negative effect, and LR and DR have an insignificant positive effect on lending interest rates. Therefore, the conclusion of this study is, that the main independent variables like deposit interest rate, return on assets and inflation have positive and significant effects on the lending interest rate of Nepalese banks.

Implication for Future Research

The lending interest rate of commercial banks is also affected by the operating cost, total assets, and other variables. This study does not consider the aforementioned variables in this study. If the macroeconomic variables are supportive, the bank can positively manage the lending interest rate. Therefore, both the macroeconomic and bank-specific variables should take into account lending decisions for the enhancement of the performance of commercial banks. Banks can not consider a few factors to provide better performance, so future research must consider integrated research to understand the determinants of lending interest rates of commercial banks in Nepal.

References

Abdul-Karim, Z., W. Azman-Saini, and B. Abdul Karim. (2011). Bank lending channel of monetary policy: Dynamic panel data study of Malaysia. *Journal of Asia-Pacific Business* 12(3), 225-243.

Almaqtari, F.A., Al-Homaidi, E.A., Tabash, M.I., & Farhan, N.H. (2019). The determinants of profitability of Indian commercial banks: A panel data approach. *International Journal of Finance & Economics,* 24(1), 168-185.

Al-Qudah, A.M. (2021). The determinants of lending interest rates on Jordanian. Listed commercial banks. *Journal of Accounting,* 7, 719-726.

Banks. Economic Journal of Development Issues,19 & 20 (1-2) 39-59.

Banks' Interest Rate Spreads in Botswana. *Botswana Journal of Economics,* 14, 1-15.

Bawumia, M., Belnye, F., & Ofori, M. E. (2005). The determination of bank interest spreads in Ghana: An empirical analysis of panel data. *African Development Review,* 20(3), 378-399.

Blole, L.M. (1992). *Financial institutions and markets.* Tata McGraw Hill Publications, New Delhi, Chapter 22, 447-464.

Ghimire, C., & Bhandari, N., (2023). Determinants of lending interest rate of commercial banks in Nepal. *International Journal of Finance and Commerce,* 5(1), 75-82.

Hendrik, S. H. & Williamson, J.P. (1996). *The economics of financial markets.* Oxford University Press, Chapter 6, 141-167

Krnic, B. (2014). Determinants of lending interest rates granted to companies in Croatia. *Journal of Accounting and Management,*1-20.

Lawal, S.A., (2022). Total loans and total interest rates from government-owned development financial institutions as a determinant of attainment of food security in Nigeria. *International Journal of Education, Science and Technology*, 6 (1), 47-57.

Mbao, F.Z., Kapembwa, C., Mooka, O., Rasmussen, T., Sichalwe, J. (2014). Determinants of Bank Lending Rates in Zambia: A Balance Sheet Approach. *Journal of Finance*, 18(4), 69-82.

Ongore, V. O. & Kusa, G. B. (2013). Determinants of Financial Performance of Commercial Banks in Kenya. *International Journal of Economics and Financial Issues*, 3(1), 237-252

Rathnayaka, D.N., Bai, Y., Louembe, P.A., & Li-Qi (2022). Interest rate liberalization and commercial bank performance: new evidence from Chinese. *A Share Bank*, 1-12.

Shrestha, P.M. (2022). Determinants of interest rate spread of Nepalese commercial banks. *Journal of Business and Social Sciences Research,* 7(2), 19-28.

Uhde, A. & Heimeshoff, U., (2009). Consolidation in banking and financial stability in Europe: Empirical evidence. *Journal of Banking & Finance*, 33(7), 1299-1311.

Yüksel, S., Mukhtarov, S., Mammadov, E., & Özsarı M. (2018). *Determinants of profitability in the banking sector: an analysis of post-soviet countries.* Economies,6(3), 41-55.