DETERMINANTS OF LENDING INTEREST RATE IN NEPALESE COMMERCIAL BANKS

A Dissertation Submitted to the Office of the Dean, Faculty of Management in partial fulfillment of the requirements for the Master's Degree of Business Studies

by

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Certification of Authorship

I hereby declared that I have submitted the final draft of dissertation entitled DETERMINANTS OF LENDING INTEREST RATE IN NEPALESE COMMERCIAL BANKS. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirement for any academic purposes.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all sources and literature used are cited in the reference section of the dissertation.

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Report of Research Committee

Ms. Diksha Gurung has defended research proposal entitled DETERMINANTS OF LENDING INTEREST RATE IN NEPALESE COMMERCIAL BANKS successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Indra Bahadur Bohara and submit the dissertation for evaluation and viva voce examination.

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Approval Sheet

We have examined the dissertation entitled DETERMINANTS OF LENDING INTEREST RATE IN NEPALESE COMMERCIAL BANKS presented by Ms. Diskha Gurung for the degree of master of business studies (MBS). We hereby certify that the dissertation is worthy of acceptance.

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Diksha Gurung

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Abbreviations

DIR	:	Deposit Interest Rate
EBL	:	Everest Bank Limited
GDPG	:	GDP Growth Rate
HBL	:	Himalayan Bank Limited
INF	:	Inflation Rate
IR	:	International Rates
LIR	:	Lending Interest Rate
MBS	:	Masters of Business Studies
NABIL	:	Nabil Bank Limited
NADF	:	Nepal Awash Development Finance Company Limited
NMB	:	NMB Bank Limited
NRB	:	Nepal Rastra Bank
NSBL	:	Nepal SBI Bank Limited
OER	:	Operating Expenses Ratio
SCBNL	:	Standard Chartered Bank Nepal Limited
SIZE	:	Bank Size

Abstract

The main objective of this study is to identify the determinants of lending interest rates of Nepalese commercial banks. The specific objective is to find out the impact of deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size on lending interest rates of Nepalese commercial banks. To analyze the data combination of descriptive and causal research design were used in this study and interpretation of finding with collecting data. This study considers six commercial banks (i.e. EBL, NSBL, HBL, NABIL, SCBNL and NMB) as sample based on convenience sampling technique. This study employs panel data techniques to analyze the data and this study covers the data from year 2013/14 to 2022/23. According to the findings, the interest rate on deposits has a significant positive impact on the lending interest rate, as does the interest rate on liquidity ratio; the return on assets has a significant positive impact on the lending interest rate; the inflation rate has a significant positive impact on the lending interest rate; the operating expenses ratio has a significant positive impact on the lending interest rate; and bank size has no significant positive impact on the lending interest rate of the banks. Because it may expand lending to offset this drop in lending rates, a bank that is more profitable is able to offer credit facilities at low interest rates. Since the bank transfers deposit interest rates to borrowers, an increase in the deposit interest rate raises the bank's lending interest rate. Since the bank transfers the inflation rate to borrowers in an effort to maintain the same levels of real interest it charges, the rise in inflation also raises the bank's lending interest rate.

Keywords: Deposit interest rate, Liquidity ratio, Inflation rate, Profitability ratio, Operating expenses ratio, Bank size and Lending interest rate

CHAPTER - I

INTRODUCTION

1.1 Background of the Study

One of the key words in the loan decision-making process used by commercial banks is interest rate. Commercial banks are autonomous companies that choose their own lending interest rates. The proportion of the amount of the loan that the lender charges in order to lend money is known as the lending interest rate (Bhattarai, 2015). One of the economic indicators that is most constantly monitored is interest rates. Because their movements have a significant impact on our daily life and the state of the economy, the news media covers them virtually every day (Adekanmi et al., 2022). They have an impact on individual decisions including whether to save or consume, whether to purchase a home, buy bonds, or deposit money into a savings account. Interest rates have an impact on family and company economic decisions as well, such as whether or not to save money in a bank or invest in new machinery for companies. Excessive interest rate spreads indicate inefficiencies in the banking system, which impedes economic growth and financial development by restricting credit to productive uses at the expense of investors through excessive loan rates (Mbowe et al., 2020).

The banking sector believes that the lending function is the most crucial one for using funds. Since loans provide the majority of banks' gross earnings, managing loan portfolios has a significant impact on banks' profitability. In fact, the primary reason for bank collapse is the high volume of non-performing loans. Banks are becoming more adept at evaluating their risk portfolios based on Basel II standards. Basel's objective, according to Greenspan, is to encourage bankers to enhance their capacity for risk management, including how the organizations set prices for goods, set aside money for losses, and manage their day-to-day operations (Nizamani et al., 2021). The interest rate commercial banks charge their clients when they make loans to them is known as the lending interest rate. Commercial banks are unable to set extremely low lending interest rates since the different operating and non-operational costs will not be sufficiently offset by interest revenue. Additionally, it cannot enforce excessive lending interest rates as doing so will lead it to lose borrowers (Al-Qudah, 2021).

The most reliable major of interest rate that is studied in this research is yield to maturity. The total amount of interest owed on a loan, deposit, or borrowing amount expressed as a percentage of the principle sum is known as the interest rate. The principle amount, interest rate, frequency of compounding, and duration of loan, deposit, or borrowing all affect the total interest on the amount borrowed or lent (Ghimire & Bhandari, 2023). It is defined as the percentage of the loan amount that the lender charges the borrower in interest; this percentage is often reported annually. It's the interest rate that a financial institution or another lender charges on a loan, or the rate a bank gives its customers who maintain funds in an account. The interest rate for a year is known as the annual interest rate. Different interest rates are applicable for varying durations, such a day or a month, although they are often annualized (Bista & Basnet, 2022).

A financial institution is defined in the fields of economics and finance as one that offers financial services to its members or clients. Serving as a financial intermediary is among the most significant financial services that a financial institution offers. A majority of financial institutions are subject to government regulation. Lending operations from finance businesses have a tendency to concentrate on metropolitan regions, much like the operations of commercial banks. These businesses have focused on raising money through fixed deposits since they are unable to take demand or savings deposits from the general public. Finance businesses are therefore organizations that carry out non-banking operations, such as setting up and managing various programs through which they gather funds under various arrangements. They have achieved their goals and created and distributed the monies to those who requested them (Ghimire & Bhandari, 2023). The study looks at how Nepal's policy interest rate is passed through to the market interest rate (Bista & Basnet, 2022). Commercial banks charge interest on loans in order to make a profit, maintain the value of the money lent, compensate for risks, and cover different operating costs in addition to giving depositors interest (Sheriff & Amoako, 2014). The interest that financial institutions charge their clients when they make loans to them is known as the lending interest rate (Al-Qudah, 2021).

Policymakers, the banking sector, and the general public have serious concerns about the variables that affect commercial bank lending rates. Lower loan rates are preferable from a policy standpoint since they often have a favorable impact on both new and current investments, increase Kenyan enterprises' competitiveness, and promote growth and development. Financial surpluses and generally greater living standards would result from these welfare impacts. However, markets in industrialized nations have demonstrated that commercial banks' earnings often grow in tandem with an increase in interest rates (Kosumi & Kosumi, 2021).

Any nation's economic progress depends on capital production and wise use of it. The participants in the financial system, borrowers, depositors, and intermediaries, play a significant role in such a setting. Financial institutions are commercial entities that serve as lenders and providers of credit, as well as mobilized depositories of funds. Financial corporations act as financial intermediaries, gathering surplus funds from all throughout the nation to support economic development. Additionally, by paying interest to depositors and charging interest to borrowers, loans are made available to other customers who are short on funds for investments and other uses (Motaze, 2022).

Rates on commercial bank loans are subject to market competition, and they often adjust in response to decreases in deposit rates and other expenses. Commercial bank lending rates are heavily influenced by the borrower's risk profile and the remuneration for direct costs paid in loan management. The ultimate cost to the borrower would depend on the competitive landscape, the portfolio's overall risk profile, and the commercial banks' liquidity. In order to take advantage of the finest financing package, investors, where feasible, move their firm to bargain with bankers for the best conditions available (Njoka, 2003).

The degree to which liabilities and assets rates respond determines how lending rate fluctuations affect banks' profitability. Generally speaking, since commercial bank lending rates have an impact on both sides of banks' balance sheets in a simultaneous manner, it is possible to determine the net effect on banks' profitability by tracking the responses of assets as well as liabilities to changes in market interest rates (Sahayogee, 2019).

As the financial sector with the quickest rate of expansion, banks are now seen as catalysts for a nation's economic development because they facilitate the effective conversion of idle funds into profitable investments. A bank has to be able to make money in order to survive, and that money is derived from interest revenue. The interest differential between the sources and uses of funds represents the bank's profit. With 10 commercial banks serving as a sample organization, the goal of this study is to investigate the variables that affect Nepalese commercial banks' interest rates (Bhattarai, 2021).

One of the key elements in the growth of banks and the financial sector overall is thought to be interest rates. The analysis of deposit interest rates, liquidity ratios, inflation rates, profitability, and operating expense ratios as determinants of commercial banks' lending interest rates is another goal of this study. Since interest rates are a major concern for everyone who saves (deposits) and borrows money, the research also focuses on whether or not the theories on interest rates put out by various economists correspond in the Nepalese context. This study tries to examine the determining factors of interest rate charged by commercial banks which is the concern of every individual customers of the banks that what factors has higher influence on the lending rate in Nepalese banking sector.

1.2 Problem Statements

In today's international environment, attracting and keeping profitable customers, as well as raising income from those customers, are top priorities for bank managers worldwide. It is especially crucial in the fiercely competitive retail financial services sector, where risk management is still banks' primary activity (Itimu & Abdul, 2018).

A bank's maturity on its balance sheet is mismatched as a result of the maturity and liquidity intermediation, which leaves the bank vulnerable to changes in market rates. The maturity structure of banks' balance sheets, which consists of "lending long and borrowing short," is seen to be the primary cause of the interest rate risk that commercial banks must deal with (Al-Qudah, 2021). A comprehensive set of bank characteristics, including size, leverage, business type, foreign ownership, macro indicators, financial structure variables, taxation and regulatory variables, legal and institutional indices, and financial structure variables, were found to have an impact on bank interest rate spread and profitability in the association among interest rate spread and profitability of commercial banking organizations (Kidane, 2019).

These theories' underlying presuppositions varied, and at different points in time, different aspects were seen as essential. Although the Nepalese market is still in its infancy as a developing nation, institutions are already setting their own interest rates. Therefore, it's critical to understand if management judgment or market factors decide the interest rate (Ghimire & Bhandari, 2023). Since liquidity and the (LIR) are inversely correlated, banks with strong liquidity also have low (LIR). Although there is a positive correlation between operating expenses and (LIR), this implies that banks with high operating costs also have high (LIR). As one of the elements that might lead to a further decline in the (LIR), Al-Qudah (2021) found that banks employ (ROA) and the size of the bank as instruments to lower the (LIR).

A few earlier researchers have focused on specific topics, such the structure of interest rates and how interest affects a policy portfolio, among other things. There are currently no studies of this kind available. Not only does it appear to be private, but university graduates with degrees in business administration or commerce are also unable to determine the actual or genuine prices. Different techniques are used by bankers and other financial organizations to calculate interest. Likewise, there are differences in actual impacting rates. This study was influenced to analyze the determinants of lending interest rates in Nepalese commercial banks. So, this study tries to address the following questions:

i. What is the current position of commercial banks in term of lending interest rates, deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size in Nepalese commercial banks?
ii. Is there any relationship between lending interest rates, deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size in Nepalese commercial banks?
iii. What is the impact of deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size on lending interest rates of Nepalese commercial banks?

1.3 Objectives of the Study

The main objective of this study is to analyze the impact of determinants of lending interest rates of Nepalese commercial banks. Some other specific objective are as follows:

i. To assess the current position of commercial banks in term of lending interest rates, deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size in selected commercial banks.
ii. To examine the relationship between lending interest rates, deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size in selected commercial banks.
iii. To analyze the impact of deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size on lending interest rates of selected commercial banks.

1.4 Hypothesis of the Study

Based on the variables used in the study and the previous findings by Kaymaz and Kaymaz (2011); Bhattarai (2015); Abrar (2019); Mbowe et al. (2020); Kosumi and Kosumi, (2021) and Ali (2021) stated that the variables used in this study can have positive effect on lending interest rate of the banks. So that, this study has following hypothesis;

H 1: Deposit interest rate has a significant effect on lending interest rate.

H 2: Liquidity ratio has a significant effect on lending interest rate.

H 3: Inflation rate has a significant effect on lending interest rate.

H 4: Return on assets has a significant effect on lending interest rate.

H 5: Operating cost to total assets ratio has significant effect on lending interest rate.

H 6: Bank size has a significant effect on lending interest rate.

1.5 Rationale of the Study

This study is significance to several parties in the financial sector.

i. Bank managers can find this study useful in understanding the several elements that affect lending rates and in making decisions that align with consumer preferences.
ii. Potential investors, both domestic and foreign, who would choose to direct their capital into local banks where they can take advantage of a wider range of risk-return profiles.
iii. This study is beneficial to government and financial policy makers because it helps them understand the factors that affect lending rates and create rules that allow commercial banks to set effective lending rates.

iv. Understanding the factors that identify the best bank to invest assets in is beneficial for fund managers, who serve as the funds' custodians and managers.

v. Researchers can be benefited from documented information into determinants of lending rates in commercial banks. Academicians can be benefited from the findings of this study as it adds to the body of existing knowledge in banking industry.

vi. The study of interest rate seems worthwhile in the con enough of Nepal as it is the only factor that significantly influences and ties all finance companies, the components of the financial systems.

1.6 Limitations of the Study

Despite the enough effort of in this study there are following limitations of the study;

i. Although there were other 20 commercial banks working all over Nepal, the samples cover only six joint venture commercial banks which is a small sample to represent all company’s information.

ii. This analysis only covered the ten-year period from 2013–14 to 2022–23 and was based on secondary data gathered from the sample banks' websites and published annual reports.

iii. Factors of lending interest rate such as; deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size are analyzed in this study.

iv. It is presumed that the data's source, which includes published annual reports and websites, is accurate.

v. This study is conducted for the partial fulfillment of Master’s Degree.

CHAPTER - II

LITERATURE REVIEW

This chapter presents empirical and theoretical data pertaining to the factors that influence bank lending interest rates. Various empirical reviews relating to determinants of commercial banks' lending rate are reviewed and conclusion based on reviewed related literatures are discussed in research gap section.

2.1 Conceptual Review

The conceptual review provides the brief ideas about the banks' lending interest rate, interest rates charged by banks, banks deposit interest rates, determinants of interest rates and the NRB directives regarding interest rate required for this study.

2.1.1 Banks lending interest rate

Within the financial business, lending is seen as the primary function for using cash. Since loans provide the majority of banks' gross earnings, managing loan portfolios has a significant impact on banks' profitability. In fact, the primary reason for bank collapse is the high volume of non-performing loans. The intermediation services provided by commercial banks, which bridge the gap between fund sources and demanders, are crucial to their operations. The disparity between the interest rates applied to loans and the amount paid to fund providers contributes to their profitability. Microfinance institutions reduce their risk exposure in an environment of fluctuating interest rates by acting as brokers and only matching the arrival of liabilities and assets (Kaymaz & Kaymaz, 2011).

One of the key words in the loan decision-making process used by commercial banks is interest rate. Commercial banks are autonomous companies that choose their own lending interest rates. The lending interest rate is the percentage of the loan volume that the financial institution charges in exchange for the loan. Interest is levied on loans made by banks to their clients for a variety of purposes, such as profit-making, risk-reduction, and value preservation (Sheriff & Amoako, 2014).

Several variables may impact the lending interest rate of commercial banks. According to the traditional idea, there are two forces that affect the rate of interest. The first is the savings supply, which is mostly provided by families, and the second is the demand for investable capital, which is mostly supplied by the business sector (Kaymaz & Kaymaz, 2011). Furthermore, savings, investments, the desire to hoard money, and the availability of money are the four elements that the loanable funds theory takes into account when determining the rate of interest. According to rational expectation theory, changes in interest rates are mostly caused by unforeseen information and/or shifts in economic conditions, and the current spot rate provides the best estimate of future interest rates (Itimu & Abdul, 2018).

Pricing for various forms of risk (such as the credit risk connected to the loan and the liquidity risk involved in supporting long-term assets with short-term obligations) and decisions regarding growth plans in various markets are probably other variables influencing lending interest rates. One of the main factors influencing the amount of funding costs for intermediaries and, consequently, the lending rates, is the level of the cash rate that the central bank sets. Furthermore, an attempt by the Treasure to cover the public deficit by releasing more bonds in an unwilling market, an attempt by banks to widen their margins, an anti-inflationary policy, or a policy by the central bank to defend the currency from devaluation can all individually or in combination cause an increase in lending interest rates (Bhattarai, 2015).

The factors that determine the lending interest rate in commercial banks have frequently generated contentious discussion in Nepal. The primary topic of discussion is that Nepalese commercial banks' loan prices were comparatively high for an extended length of time, which restricted access to money and slowed economic progress. A comparison of the lending rate trends reveals that there is usually a far wider range for rises in lending rates than for decreases. Even if loan rates and spreads have been trending lower in recent years, they are still comparatively expensive. Nevertheless, the success of lowering lending rates would rely on how banks set their interest rates (Bhattarai, 2021).

2.1.2 Interest rate

The amount that a lender charges a borrower for the use of assets is known as the interest rate, and it is represented as a percentage of principle. Annual percentage rates, or APRs, are commonly used to indicate interest rates. The assets that are borrowed may consist of money, consumer products, or big assets like a car or building. In essence, interest is a leasing or renting fee assessed to the borrower for the use of the asset. The interest rate is frequently referred to as the "lease rate" when it comes to a significant item, such as a building or car. A low interest rate is often applied to borrowers who pose less risk; a higher interest rate is imposed on borrowers who pose a greater risk (Mbao et al., 2014). The profitability of commercial banks is determined by their lending rates. Lowering higher loan rates has proven to be a challenging task and a persistent challenge. Academics and economists contend that high rates of interest impede economic growth (Ali et al., 2016).

The cost incurred by a borrower to obtain limited loanable funds from a lender for a predetermined duration is known as the interest rate. That's what credit costs. The money cost of borrowing divided by the total amount borrowed is the ratio that determines the interest rate, which is often stated as a percentage on an annual basis. Interest rates communicate prices to investors, lenders, savers, and borrowers. For instance, higher interest rates typically encourage more lending and result in higher levels of saving. Conversely, lower interest rates tend to stifle lending activity and the flow of savings. Lower interest rates encourage borrowing and investment spending, whereas higher interest rates often reduce the amount of borrowing and capital investment. The amount of interest owing each month expressed as a percentage of the principle sum, the amount borrowed, deposited, or lent, is known as the interest rate (Ngugi, 2001).

The interest rate is the cost of borrowing money, expressed in rupees per year per rupee borrowed. Interest rates communicate prices to investors, lenders, savers, and borrowers. For instance, higher interest rates often encourage lending of funds and result in increased volumes of saving. Conversely, lower interest rates tend to stifle lending activity and the flow of savings. Lower interest rates encourage borrowing and investment spending, while higher interest rates often result in less borrowing and capital investment (Mbowe et al., 2020).

In other terms, interest is the sum of money that a debtor pays to a creditor in exchange for borrowing a certain amount of money for a predetermined duration of time. This interest is a compensation provided to the capitalist for the use of capital, just like other elements of production. The loan-borrowing and interest-payment mechanism is an ancient one. The system of interest was despised by economists throughout history. For a variety of reasons, the impoverished were nonetheless forced to take out loans and pay interest. Back then, the majority of loans were taken out for personal use. However, the types of loans nowadays differ from one another. Nowadays, businesspeople and manufacturers are the ones that take out loans, and they do so in order to finance production. The loan amount is obtained from the capital fund. There is a productive capacity in the capital fund. As a result, interest is paid on the capital used. Different economists have given different definitions of interest (Matemilola et al., 2015).

2.1.3 Different interest rates charged by financial institutions

Interest is the cost of using money, or a loan. There are several ways to charge interest; the most common one is to demand the repayment of the initial loan plus an extra portion of it after a predetermined amount of time. The majority of loans need repayment in equal monthly installments, however certain loan agreements call for the repayment of the whole balance owed in one single payment. In a nutshell, the various interest rates that banks and other financial organizations charge may be divided into the following categories:

- **Nominal/Quoted interest rate**

Generally speaking, the nominal or quoted rate is the one that financial institutions pledge to pay or charge. Banks and other financial institutions pay interest to depositors for putting money in their institutions, but they also charge and earn interest on loans they make. Since the interest rates that banks offer are based on an annual basis, they represent the interest that must be paid or earned for the use of money over a full year. The interest rate on a securities or loan that is quoted or reported is known as the nominal rate. A statement in the financial press, for instance, that the largest commercial banks have increased their prime lending rate to ten percent annually, reveals the nominal interest rate that banks are now offering to their most devoted clients (Lamichhane, 2013). Mathematically, nominal interest could be presented as;

Nominal Interest Rate = Real Interest Rate + Inflation Premium

- **Real interest rate**

The amount paid back to the investor or lender expressed in terms of real buying power is known as the real interest rate. Naturally, the real rate will be smaller than the nominal rate during an inflationary period. The return on buying power to fund lenders is known as the real interest rate (Malede, 2014). In terms of buying power (adjusted for inflation), it is the rate of return on financial assets. Real interest may be obtained mathematically by subtracting the inflation premium from the nominal interest rate. So, Real Interest Rate = Nominal Interest Rate – Inflation Premium

- **Periodic interest rate**

The rate that a lender charges or that a borrower must pay on a regular basis for a loan is known as the periodic interest rate. The rate can be expressed as a percentage per day, week, month, quarter, year, and so on. The nominal interest rate is divided by the number of periods in a year to arrive at this rate. The following is the periodic interest rate:

$$\text{Periodic Interest Rate} = \frac{\text{Nominal Rate}}{\text{No. of Compounding periods per year}}$$

- **Effective annual interest rate**

The effective annual interest rate is the annual interest rate compounded annually that produces the same yearly interest as the nominal interest rate when accumulated annually.

Effective Annual Interest Rate = $(1 + \text{Periodic Rate})^{m} - 1$

Generally speaking, interest is not calculated or determined using the effective annual interest rate. When comparing securities with various compounding periods, the effective interest rate comes in handy.

2.1.4 Banks deposit interest rate

Depositors are informed in advance of the interest rate terms associated with these deposits. Savings accounts, on the other hand, often have a fluctuating interest rate and are accessible 24/7. Bank clients can deposit money and receive interest on both kinds of accounts. We use a special dataset, which includes daily rates and conditions provided by all commercial banks operating in Nepal, to investigate deposit rate factors. Generally speaking, bank rates are positively impacted by the market rate, inflation rate, and stock market and market rate volatility. In contrast, interest rates are inversely correlated with economic growth and bank concentration (Bikker & Gerritsen, 2018).

The literature on market discipline often examines the effects of bank-specific characteristics on the pricing of deposits. The process by which debt holders, like depositors, demand greater yields when the likelihood that they may suffer losses in the event of, say, a bank default, is known as market discipline. The deposit rate and bank risk are often positively correlated (Imai, 2006).

Interest payments on time deposits and savings accounts might be made on a monthly, quarterly, or biannual basis as opposed to annually. Banks may be able to lower the interest rates on these accounts if depositors express a strong appreciation for this service. Conversely, if banks provide them as an extra service, there may eventually be a beneficial influence on the effective interest rate.

2.1.5 Determinants of interest rates

Specific variables such as variations in the interest rates on particular securities and the underlying interest rate level established by the supply and demand of loanable funds are what specifically influence interest rate variations across the spectrum of the real world financial market. These variables include the time to maturity of the security, inflation, the "real" interest rate, default risk, liquidity risk, and specific stipulations addressing the use of money earned by the issuing of a security (Karki, 2020).

- **Inflation**

A continuous rise in the average cost of goods and services is referred to as inflation. The actual or predicted rate of inflation in the economy is the first factor that influences interest rates. In other words, interest rates will rise in direct proportion to the degree of inflation, whether it be real or predicted. The idea underlying the positive correlation between interest rates and inflation is that, in order to offset the higher costs associated with delaying the purchase of these more expensive goods and services in the future and instead consuming real goods and services now, an investor purchasing financial assets must earn a higher interest rate when inflation rises (Ali, 2021). Stated differently, a future basket of goods and services will be more expensive given a greater rate of inflation. The percentage rise in the cost of a standardized basket of goods and services over a certain period of time is known as the general price index of goods and services (IP) inflation. Indexes like the producer pricing index (PPI) and consumer price index (CPI) are used to measure inflation (Njoka, 2003). For instance, between year t and t+1, the yearly inflation rate based on the CPI index would be;

$$\text{Inflation (IP)} = \frac{(CPI_{end} - CPI_{start})}{CPI_{start}}$$

- **Real interest rate**

The real interest rate is the interest rate that is approximately equal to the nominal rate of interest less the inflation rate. The interest rate that an investor anticipates receiving after inflation is known as the real interest rate. It assesses the temporal worth of money and solely takes into account the systematic and regulatory risks (Kaymaz & Kaymaz, 2011).

- **Default/ Credit risk**

Default risk is the possibility that a security issuer would fail to provide the security buyer with the promised principal and interest payments. In order to make up for this exposure to default (or credit) risk, the buyer of the security will seek a higher interest rate in proportion to the increased default risk. Not every security carries a default risk. For instance, Treasury Securities are thought to have no default risk since the government issues them, and because the government has the authority to impose taxes and manufacture money, the likelihood of it defaulting on its debt payments is almost zero (Cotler & Almazan, 2013).

- **Liquidity risk**

An asset that can be quickly converted to its full market value and sold at a predicted price with little transaction costs is said to be highly liquid. When all other factors stay the same, a security's interest rate indicates its position in terms of liquidity, with highly liquid assets having the lowest interest rates. Liquidity premium is the difference between a security's price and yield. According to Georgievska et al. (2010) investors add the liquidity risk premium (LRP) to an illiquid investment, which causes the interest rate to increase.

- **Terms to maturity**

The duration to maturity of securities is also correlated with interest rates. The yield curve or term structure of interest rates are common names for this connection. By comparing interest rates on securities, the term structure of an interest rate makes the assumption that all characteristics, such as default risk and liquidity risk, apart from maturity are the same. The maturity premium (MP) is the variation in necessary interest rates when the assets mature. According to Ghimire and Bhandari (2023) the MP, or the variance between the needed yields on long- and short-term securities with the same features but different maturity dates, might be zero, positive, or negative.

2.1.6 NRB directive regarding interest rate

With respect to the interest that must be paid for deposits and the interest that licensed institutions must charge for loans and advances, the following directives have been issued, utilizing the authority granted by Section 79 of the Nepal Rastra Bank Act, 2002 (Nepal Rastra Bank, 2023).

Provisions relating to interest rates

The "A", "B", and "C" Class licensed institutions are allowed to choose their own interest rates for loans as well as deposits. They can also choose the types of interest that they want to charge and how they want to handle things.

Interest rate to be approved

a. The interest rates for loans and deposits, the methods for calculating interest, penal interest, commissions, and service fees must all be implemented by licensed institutions only after receiving approval. The interest rates on deposits may be raised by the institutions by up to 0.5 percent over the declared rates; however, the interest rates on loans may not exceed the published rates.
b. If a deposit has a maturity period longer than five years or if the fund is permanent, the interest rate may be set by agreement between the bank or financial institution and the customer.

c. If the institutional deposit is to be collected by bidding, then no provision of the advertised interest rate shall apply.

Interest rates to be published

a. At the time of each change in the interest rates on deposits and loans, the national level "A", "B", and "C" Class licensed institutions are required to publish the details as per Clause 4 above in national daily publications.
b. The regional and district level organizations are required to notify the public in the regional and district level newspapers of any modifications to the minimum level of balance that must be maintained.
c. Stated that institutions in the "D" Class may post the rates and other information on their notice boards.

2.2 Theoretical Review

2.2.1 Loan pricing theory

The loan pricing theory states that banks consistently set high lending rates. Given the significant information asymmetry in the lending market, commercial banks should take moral hazard and adverse selection issues into account while optimizing interest revenue. High lending rates established by banks lead to issues with adverse selection in the market since riskier borrowers willfully accept high rates. Borrowers who get loans and advances run the risk of engaging in moral hazard behavior because they are more inclined to embark on riskier projects or investments. The primary elements of this theory are the cost of the bank's operations, including the direct and indirect costs, the risk associated with lending, and the loan's length (Doliente, 2005).

This hypothesis is therefore relevant to the study since commercial banks may try to change interest rates in order to affect the pricing components of the loans they offer to the general public, which in turn impacts the total cost of the loanable money. This ultimately impacts the borrowers' loan uptake, which impacts the banks' lending operations (Georgievska et al., 2010). In order to determine a fair price for a loan, this theory takes into account a number of variables, making sure that the lender can cover its expenses, control risks, and turn a profit while giving borrowers access to cash. Lenders are responsible for paying all of their own borrowing expenses, such as interest on deposits and capital used to fund loans.

The price of loans is mostly determined by the cost of capital. Lenders use the borrower's creditworthiness to determine the degree of risk involved in the loan. The interest rate is determined in large part by variables including collateral, income, and credit history. Interest rates are usually higher for borrowers that pose a greater risk. When determining loan rates, lenders take the state of the economy and current market interest rates into account. The interest rate may change depending on how long the loan duration is. Because of the time value of money and the higher risk involved with lengthier payback terms, short-term loans may have lower rates than long-term loans. Regulations that lenders must abide by may have an effect on loan pricing. The purpose of these laws is to shield borrowers from unscrupulous lenders (Itimu & Abdul, 2018).

2.2.2 Theory of multiple lending

Through loan syndication, the multiple lending idea is put into practice. Through a partnership known as loan syndication, banks pool their resources to finance loan applications. When the loan amount surpasses the lending capability of the banks taken into consideration independently, it is often advantageous. Bank lending capacity is increased by loan syndication (Ngugi, 2001).

Although this idea may be applied to a variety of different lending settings, it is frequently addressed in relation to microfinance and small-scale lending in developing nations. To expand their sources of funding and lessen the concentration of risk related to a single lender, borrowers may apply for loans from a number of lenders. Borrowers may lessen their exposure to changes in lender policies or economic shocks by distributing their loan across many lenders (Jeanneau & Marian, 2002).

Sometimes a lender's inability or unwillingness to grant credit will prevent borrowers from getting the required loan amount from that particular lender. By mixing loans from several sources, multiple lending enables borrowers to get access to the entire amount of funding they require. Borrowers may also use many loans as a tactic to reduce their excessive debt. A borrower may take loans from multiple lenders to pay off outstanding debt or prevent default if they are unable to repay a loan from one lender (Ghimire & Bhandari, 2023).

In order to benefit from variations in interest rates across lenders, borrowers may engage in multiple lending. In order to minimize their total interest costs, they could get loans from one lender with lower interest rates and utilize those funds to pay back loans from another lender with higher rates. Several loans may give rise to moral and legal concerns. Lenders may be misled by borrowers about their financial circumstances, and high debt levels can result in default and other financial difficulties (Goodfriend & McCallum, 2007).

2.2.3 Loanable funds theory of interest

This hypothesis states that the primary driver of interest rates is the availability and demand for loanable money or surplus bank reserves. When the supply of loans cannot keep up with demand, interest rates will increase, favoring banks at the expense of borrowers. This theory expands on the traditional idea of interest rates by acknowledging that saving and investing are highly influenced by the money supply. The rate at which the supply and demand of loans are equal is known as the market interest rate, or the cost of credit (Ngugi, 2001).

This theory is frequently applied to examine how interest rates are set in an economy as well as the demand and supply for loans. In the context of financial services providers like banks and credit markets, it is especially pertinent. The loanable funds market is a made-up market in which lenders, those who provide funds, such financial institutions and savers, and borrowers, those looking for loans, including people and businesses, interact to trade money. Investors and savers who are prepared to lend their money to borrowers provide the supply of loanable funds. The propensity of people and institutions to save and invest, as well as investment possibilities and savings rates, all have an impact on this supply (Kananu & Ireri, 2015).

Borrowers who wish to get money for a variety of things, such investing in businesses, purchasing homes, or funding projects, are the ones that drive demand for loanable cash. Interest rates, the anticipated return on investment, and the general state of the economy all have an impact on demand (Asamoah & Adu, 2016). The rate at which the amount of loanable funds supplied and the amount sought in the loanable funds market are equal is known as the equilibrium interest rate. It stands for the interest rate at which the market clears when there is neither an excess of supply nor an excess of demand for funds. The availability and demand for loanable funds, and subsequently interest rates in the economy, can also be influenced by government policies and central bank measures such as alterations to reserve requirements or open market operations (Amollo, 2015).

2.2.4 Classical theory of interest rates

This theory essentially maintains that the intersection of the capital supply and demand determines the rate of interest. The general equilibrium theory serves as its foundation. When capital supply and demand are equal, the level of interest is considered to be in equilibrium. The majority of the capital supply comes from community savings, while the demand for capital comes from the entrepreneurial sectors. The capital supply is represented by the savings schedule. Thus, the two actual factors that affect the rate of interest are saves and investments. The point where the savings schedule and the investment demand schedule converge is the interest rate. Total savings and total investment are equal at the interest rate of equilibrium (Bikker & Gerritsen, 2018).

According to the hypothesis, various banks have distinct liquidators. These banks should charge low interest rates on cash they lend to attract more borrowers and low interest rates on deposits to deter saving if the theory's assertions about highly liquid banks are accurate. On the other hand, low interest rates on savings should be maintained if they charge the same rate as other banks for money borrowed. If so, the interest rate differential between more liquid and less liquid institutions should be greater. Comparatively speaking, high liquid bank financial performance ought to outperform low liquid bank financial performance (Doliente, 2005).

This hypothesis is predicated on the notion that the interplay between the demand and supply for capital drives interest rates. According to classical economics, people often choose to buy products and services in the now rather than the future because they have a natural temporal preference. Interest rates are based on people's willingness to sacrifice present consumption in favor of the prospect of higher consumption in the future, which is a temporal preference. According to the traditional theory of interest, the point where capital supply and demand converge is the equilibrium interest rate. It is the rate at which the amount of savings required for investment and the amount of savings given for that purpose equalize. The goals of investors, who seek capital, and savers, who supply it, are balanced by this equilibrium rate (Karki, 2020).

2.2.4 Liquidity preference theory of interest

According to this theory, short-term securities will always be preferred by investors over long-term ones. To encourage investors to keep long-term bonds, long-term securities should provide higher interest rates than short-term bonds. The yield curve will consequently continuously slope upward. According to a theory on the term structure of interest rates (the relationship between interest rates and term to maturity), investors look for a premium for taking on interest rate risk. The amount of the premium increases as the term gets closer to maturity, albeit at a decreasing rate. The decreasing rate of growth may be explained by two factors: first, duration, a measure of how sensitive a bond's price is to changes in interest rates, grows at a decreasing rate with term to maturity; and second, long-term interest rates are often less volatile than short-term interest rates (Njoka, 2003).

Commercial banks mark up the base rate set by the central bank to establish the interest rate in the credit market, and they then provide loans to borrowers who they deem creditworthy at this rate. In these circumstances, shifts in the monetary policy stance are the cause of changes in both the base rate and the interest rate on the loan market. Accordingly, adjustments to the base rate of the central bank will also have an impact on credit demand, which in turn will alter the credit supply curve and actual economic activity that is financed by credit (Asamoah & Adu, 2016).

However, if commercial banks' worries about risk and liquidity, or the number of rivals, and hence their markups, change in reaction to a shifting base rate of interest, monetary policy may not be able to directly determine the credit market rate of interest. An imbalance might show up here: The credit market rate will always rise in response to an increase in the base rate of interest as commercial banks are required to recover refinancing costs and generate (minimum) profits. However, a falling base rate could not be followed right away by a dropping credit market rate if commercial bank's liquidity and risk premium increase due to higher levels of uncertainty or if banks' earnings ambitions increase (Claeys & Vennet, 2003).

2.2.5 Rational expectation theory

This is based on the idea that, given the abundance of information available in the marketplace, customers set expectations. The strongest predictor of future interest rates, according to rational expectation theory, is the current spot rate. Unexpected information or changes in the economy are the main causes of interest rate fluctuations. The loanable funds theory and the rational expectations theory can be combined to better take into account the knowledge that is currently known about the economy. The main obstacles to rational expectation theory's application are the challenges of information collection and comprehending how the general public utilizes information to create expectations (Cihak, 2004).

The theory's basic logic, that the term structure of longer interest rates is shaped by expectations of future short interest rates, is logical, persuasive, and a widely accepted assumption in macroeconomic modeling. The idea that long interest rates are reasonable projections of future short rates, up to a fixed term premium, is called into question by the predictability of excess returns demonstrated by Doliente (2005) and more recently by Kananu and Ireri (2015). Instead, this data clearly suggests that there is a time-varying risk premium. Tennant (2006) shows that classic excess return regressions' expectations hypothesis is satisfied by interest rates revised for time-varying risk premium obtained via dynamic term structure models.

Overestimating the forecast of future short-term rates is one of the inherent risks associated with expectation theory. This method can easily leave out information that can limit the amount of change in short-term interest rates, as the theory primarily considers historical long-term interest rate performance. The trajectory of interest rates may be readily impacted by events like natural disasters, political upheavals, or abrupt adjustments in consumer preferences and demands, which can cause the forecasts created using this theory to be inaccurate (Njoka, 2003).

2.2.6 Credit market theory

This point of view holds that credit conditions are what clear the loan market. If the loan securities remain unchanged, the interest rate is the only pricing mechanism that could clear the credit market. Given the rising demand for credit at a certain loan and the banks' supply of advances, the interest rate may rise if the lending market is clear and vice versa. Therefore, in order to balance any possible losses, it is believed that the borrower's interest payment raises the default risk (Sharma, 2017).

Currency depreciation may come from the rise in credit demand brought on by the low interest rates that have been in place. The central bank must thus assess interest rates in order to curb the excessive demand for loans and deter borrowing. As a result of the long-term drop in loan demand, commercial banks will increase their lending rates. The two main components of the credit market hypothesis are bank profits and loan interest rates (Itimu & Abdul, 2018).

2.3 Empirical Review

Niroula and Gnawali (2024) investigated the determinants of lending interest rate of Nepalese commercial banks. This study's main objective was to investigate the variables influencing Nepal's commercial banks' lending interest rates because lending interest is the main source of income for any financial institution. To analyze and comprehend the data, basic regression analysis and correlation were employed. The lending interest rate is the dependent variable in this study, whereas the liquidity ratio, depository interest rate, return on assets, risk of default, gross domestic product and inflation are the independent factors. It was discovered that the lending interest rates of Nepal's commercial banks were positively and statistically significantly impacted by the rate of inflation, return on assets, and banking interest rates.

Carera and Fauzie (2024) examined the determinants of the distribution of bank lending interest rates in Indonesia. The study's primary goal was to determine and examine the factors that influence Indonesia's bank credit spread distribution. A descriptive quantitative research methodology was employed in this work, and multiple regression analysis was performed to examine the panel data. The ownership structure was shown to have a negligible beneficial impact on the credit interest rate spread. Similar to this, deviation significantly reduces the spread of credit interest rates, the information environment has a negligible negative impact, and credit risk has a negligible positive impact on the spread of credit interest rates at Indonesian banks.

Ghimire and Bhandari (2023) analyzed the determining factors of lending interest rate of commercial banks in Nepal. This study examined the factors influencing Nepali commercial banks' lending rates. The outcome variable was the lending rate, while the explanatory factors were the non-performing loans, profitability (ROA), and deposit rate (DR). This study used a descriptive and causal comparative investigation technique. The pooled OLS model, fixed effects hypothesis, and random effects model were used to assess the data in this investigation. The bank's lending rate was shown to be significantly influenced by the deposit rate, but the interest rate offered by commercial banks was not much impacted by the ratio of operating expenses to total assets, return on assets (ROA), or non-performing assets.

Bista and Basnet (2022) studied on measuring determinants of time deposit in the commercial banks in Nepal. The study attempted to quantify the drivers of time deposits in Nepalese commercial banks, employing descriptive statistics and multiple regression models as analytical methods. Commercial bank liquidity showed a fluctuating pattern, whereas internal and external factors including GDP, capital, deposits, bank size, remittances, and public debt showed an upward trend. Given that commercial banks' financial stability and performance are determined by internal factors rather than external ones, it was clear that time deposits constitute a reliable and long-term source of liquidity.

Motaze (2022) analyzed on the determinants of the lending interest rate in a cost-based approach: Theoretical model and empirical analysis. This study's goal was to determine a financial institution's loan interest rate using a cost-based technique. Net operating expenditures, weighted average cost of funding, cost of risk, and weighted cost of equity are the four main components of the total cost of credit that were included in this study's research. The study's conclusions indicate that interest rates fluctuate in tandem with the floor interest rate. Additionally, it was found that rather than forcing financial institutions to pay low interest rates, they should work to improve their credit circumstances by reducing their credit rates.

Adekanmi et al. (2022) analyzed the relationship between macroeconomic variables and interest rate: evidence from Nigerian deposit money bank. The purpose of this study was to determine the impact of interest rates on the financial performance of listed deposit money banks on the Nigerian stock exchange. A robust regression model was used to evaluate the relationship between interest rates and financial performance. It was discovered that the maximum lending rate leads to an increase in financial performance, the domestic money supply rate leads to an increase in financial performance, and the monetary policy rate leads to a decline in return on asset among Nigerian deposit money institutions.

Uduma and Ezemndi (2021) examined on a study entitled interest rate deregulation and performance of deposit money banks: Time series evidence from Nigeria. This study's goal was to determine a financial institution's loan interest rate using a cost-based technique. Net operating expenditures, weighted average cost of funding, cost of risk, and weighted cost of equity are the four main components of the total cost of credit that were included in this study's research. The study's conclusions indicate that interest rates fluctuate in tandem with the floor interest rate. Additionally, it was found that rather than forcing financial institutions to pay low interest rates, they should work to improve their credit circumstances by reducing their credit rates.

Ali (2021) examined the determinants of lending interest rates of Jordanian listed commercial banks to investigate the factors that influence interest rates on loan and advances for 13 Jordanian commercial banks listed on the Amman Stock Exchange. The fixed effects model was run in the manner specified by the Hausman test. The study found that lending interest rates were significantly impacted negatively by ROA and bank size. Liquidity had a very small adverse effect. Additionally, it was shown that the lending interest rates of Jordanian commercial banks were significantly positively impacted by inflation and deposit interest rates. The operating cost ratio also had a somewhat favorable influence. ROA, bank size, deposit interest rate, and inflation were found to be strong predictors of interest rates on loan for Jordanian listed commercial banks.

Al-Qudah (2021) investigated the determinants of interest rates on loan and advances of Jordanian listed commercial banks. The purpose of this study was to look at the factors that influence lending interest rates at Jordanian commercial banks listed on the Amman Stock Exchange. The fixed effects model was used in this investigation, as recommended by the Hausman test. ROA and bank size were found to have a negative substantial influence on lending interest rates. Liquidity had a very small adverse effect. The results also imply that the lending interest rates of Jordanian commercial banks were significantly positively impacted by inflation and deposit interest rates. Additionally, the operational cost ratio had a relatively positive impact. Accordingly, the results indicate that the interest rates of Jordanian commercial banks were strongly predicted by ROA, bank size, interest rate on deposit, and inflation rate.

Nizamani et al. (2021) investigated the bank heterogeneity in interest rate passthrough: a panel evidence from Pakistan. Investigating how bank-level factors impact the way interest rate pass-through from monetary policy rates to commercial banks' lending rates in Pakistan was the aim of this study. The pooled mean group (PMG) estimate was used in this work as a dynamic heterogeneous panel approach. It was discovered that smaller banks with larger capital and better liquidity had a considerable impact on the interest rate pass-through method. Therefore, Pakistan's central bank should restrict bank capitalization and remove excess liquidity from the banking sector in order to improve the monetary policy transmission mechanism.

Bhattarai (2021) investigated the determinants of commercial banks' lending behavior in Nepal. Finding the variables influencing lending operations in Nepalese commercial banks was the main objective of this study. Multiple regression analysis and panel data correlation analysis were employed in this study's data analysis. It was found that the currency rate, interest rate spread, and liquidity ratio all had an impact on how Nepal's commercial banks lent money. The positive impact of the exchange rate suggests that Nepalese commercial banks are ready to meet both short-term and long-term obligations and possess sufficient understanding of the global market and trade. Lending volumes among Nepalese commercial banks are positively and significantly impacted by inflation controlled by the central economic policy. Similarly, the data revealed a negative and large disparity in interest rates on total loans advanced to individuals and institutions.

Mbowe et al. (2020) explored the determinants of bank lending interest rates in Tanzania to investigate the factors influencing bank lending interest rates in Tanzania, with an emphasis on identifying the important factors and their relative relevance. The techniques used include interest rate decomposition and econometric estimate utilizing yearly balance sheet data from banks. According to the study, operational expenses, cost of funds, and inflation all have a statistically significant positive effect on bank lending rates, but bank size and liquidity have a negative impact. Bank lending rates are primarily determined by inflation, which has an average positive influence on lending rates for a unit change in inflation, followed by operational expenses and cost of funds.

Karki (2020) studied on the effect of interest rate spread on profitability in Nepalese commercial banks. The purpose of the study was to look at how interest rate spread (IRS) and profitability are related, as well as how IRS affects Nepalese commercial banks' profitability. In this study, secondary data obtained from bank annual reports was assessed using a regression analysis methodology. This study found that the profitability of Nepalese commercial banks is positively impacted by IRS. The study's conclusions indicate that Nepalese commercial banks need to understand the importance of IRS and achieve a balance between it and profitability.

Kidane (2019) analyzed the determinants of lending interest rate: an empirical study on private commercial banks in Ethiopia to look at the factors that influence interest rates on loan and advances at Ethiopian private commercial banks. The balanced panel model was employed in the study to examine the regression model. The results showed that bank size, profitability, and liquidity all had the biggest detrimental effects on loan and advance interest rates. The lending interest rate is directly and statistically significantly influenced by the market concentration, operational cost ratio, and deposit rate. The lending interest rates offered by Ethiopian private commercial banks are positively impacted by the inflation rate, however this effect is statistically insignificant.

Abrar (2019) examined the effect of financial and social performance of microfinance institutions on interest rate on loan and advances: a cross-country evidence to investigate the influence of microfinance institutions' (MFIs') financial and social performance on lending interest rates. In this study, financial success was examined using return on assets, return on equity, and operational self-sufficiency, and social performance was measured using average loan and advances and number of credit customers. According to the findings, the cost of funding, return on assets (ROA), and the number of credit customers have a substantial positive influence on lending interest rates throughout the world, while depth outreach, as represented by average total loan, has a strong negative relationship with lending interest rates. Furthermore, the findings reveal many factors that influence the productivity of MFIs across the world.

Tadiyos (2018) examined the determinants of lending rate of private commercial banks in Ethiopia. This study's primary goal was to look at the factors that affect lending rates in Ethiopia's private commercial banking industry. For data analysis, this study used an imbalanced panel data regression model. It was discovered that the bank lending rate is positively and significantly impacted by bank size, operational costs, and deposit rate. Lending rates are significantly impacted negatively by credit risk, bank concentration, and GDP. Inflation and reserve requirements, however, have little bearing on the loan rate.

Itimu and Abdul (2018) examined the determinants of average lending rates among selected commercial banks in Kenya. The study's goal was to determine the factors of average lending rates among Kenyan commercial banks. The type and degree of link between the independent and dependent variables was investigated using correlation and multiple regression analysis. The association between the independent factor lending rate and the dependent variables bank specific parameters such as bank size, capital adequacy, liquidity risk, non-performing loans, and operating cost was determined using regression analysis. It was discovered that the availability of liquid cash is critical in influencing commercial banks' average lending rates. The operational costs that have a substantial impact on the average lending rate. The study also found that capital adequacy, or a bank's capital strength, has a small but significant impact on average lending rates. Bank size was also found to be a significant predictor of commercial banks' average lending rates.

Bikker and Gerritsen (2018) eaxmined the determinants of interest rates on time deposits and savings accounts with macro factors, bank risk, and account features. The influence of macroeconomic, bank-specific, and account-specific factors on banking product interest rates was investigated in this study. The data in this study was analyzed using a multivariate regression model. Since the start of the global financial crisis, interest rates have become increasingly sensitive to bank risk. Time deposits often reflect the state of the economy more accurately than bank interest rates on savings accounts. Deposit product interest rates vary both inside and across banks (i.e., between individual bank accounts).

Ali et al. (2016) analyzed some inner factors affecting the lending rate and commercial bank behavior. The likely underlying factors affecting loan rates in Pakistan's commercial banking sector were examined in this study. For this objective, seven bank-specific factors were selected in order to evaluate their impact on lending behavior: capital adequacy, management efficiency, liquidity, asset quality, investment-to-asset, loan-to-asset, and deposit-to-asset ratios. Panel data methodologies were applied. Out of the seven explanatory factors, only four were shown to have a significant relationship with lending rate: the investment-to-total-asset ratio, deposit-to-asset proportion, loan-to-asset ratio, and liquidity ratio. The lending rate was shown to be favorably correlated with two of the key determinants (liquidity ratio and investment to asset ratio), whereas the other two primary factors (loan to asset ratio and deposit to asset ratio) were found to be inversely correlated.

Table 1

Summary of Empirical Review

Date	Article	Objectives	Methodology	Findings
Niroula and Gnawali (2024)	Determinants of lending interest rate of Nepalese commercial banks.	To investigate the elements that affect Nepal's commercial banks' lending interest rates.	Simple regression analysis and correlation were used to examine and understand the data.	Inflation, return on assets, and deposit interest rates were found to have a statistically significant and favorable impact on Nepal's commercial banks' lending interest rates.
Carera and Fauzie (2024)	Determinants of the distribution of bank lending interest rates in Indonesia.	To determine and examine the factors that influence Indonesia's bank credit spread distribution.	A descriptive quantitative research methodology was employed in this work, and multiple regression analysis was performed to examine the panel data.	It was found that the ownership structure was shown to have a negligible beneficial impact on the credit interest rate spread. Similar to this, deviation significantly reduces the spread of credit interest rates, the information environment has a negligible negative impact, and credit risk has a negligible positive impact on the spread of credit interest rates at Indonesian banks.
Ghimire and Bhandari (2023)	Determining factors of lending interest rate of	To look at the elements that influence commercial	A descriptive and causal comparative research	The bank's lending rate was shown to be significantly influenced by the deposit rate, but the interest rate

Date	Article	Objectives	Methodology	Findings
	commercial banks in Nepal.	banks' lending rates in Nepal.	approach was adopted in this study. To evaluate the data in this study, the pooled OLS model, fixed effects model, and random effects model were employed.	offered by commercial banks was not much impacted by the ratio of operating expenses to total assets, return on assets (ROA), or non-performing assets.
Bista and Basnet (2022)	Measuring determinants of time deposit in the commercial banks in Nepal.	To use time series data to measure the factors that influence time deposits in Nepalese commercial banks.	This study employed descriptive statistics and multiple regression models as analytical methods.	Commercial bank liquidity showed a fluctuating pattern, whereas internal and external factors including GDP, capital, deposits, bank size, remittances, and public debt showed an upward trend. Given that commercial banks' financial stability and performance are determined by internal factors rather than external ones, it was clear that time deposits constitute a reliable and long-term source of liquidity.
Motaze, S. P. (2022)	The determinants of the lending interest rate in a cost-based approach: theoretical model and empirical analysis	To use a cost-based method to ascertain the loan interest rate that a financial institution applies.	Multiple regression analysis technique	According to the study, interest rates fluctuate in tandem with the floor interest rate. One of our model's contributions is that, rather than forcing low interest rates on financial institutions, the results may be used to policies that aim to enhance their credit conditions by lowering their lending costs.
Adekanmi et al. (2022)	Relationship between macroeconomic variables and interest rate: evidence from Nigerian deposit money bank.	To ascertain how interest rates affect the listed deposit money institutions' financial performance on the Nigerian stock market.	A robust regression model was used to evaluate the relationship between interest rates and financial performance.	It was discovered that the maximum lending rate leads to an increase in financial performance, the domestic money supply rate leads to an increase in financial performance, and the monetary policy rate leads to a decline in return on asset among Nigerian deposit money institutions.
Uduma and Ezemndi (2021)	Interest rate deregulation and performance of deposit money banks: Time series	To look at the connection between Nigerian deposit money banks' performance and interest rate deregulation.	Dickey-Fuller (D-F) test, Bound's co-integration test for long-term relationships, and serial correlation,	None of the explanatory factors were statistically significant, according to the study, but the prime lending rate was the only one that had a positive relationship with banks' ROA. Interest rate liberalization and the

Date	Article	Objectives	Methodology	Findings
	evidence from Nigeria		heteroscedasticity, and normalcy tests for ARDL results' dependability	profitability of Nigerian deposit money banks during the time under consideration did not significantly correlate.
Ali (2021)	The determinants of lending interest rates of Jordanian listed commercial banks	To investigate the factors that influence the lending interest rates of 13 commercial banks in Jordan that are listed on the Amman Stock Exchange.	Fixed effects regression model and Hausman test were used in this study	According to the study, lending interest rates were significantly impacted negatively by ROA and bank size. Liquidity had a negligible negative effect. Additionally, it was shown that Jordanian commercial banks' lending interest rates were significantly positively impacted by both inflation and deposit interest rates. Additionally, the operating cost ratio showed a slight favorable effect.
Al-Qudah (2021)	The determinants of lending interest rates of Jordanian listed commercial banks	To examine the determinants of lending interest rates of Jordanian commercial banks listed.	Multiple regression method	The study's findings demonstrated that lending interest rates were significantly impacted negatively by ROA and bank size. Liquidity had a negligible negative effect. The findings also demonstrated that Jordanian commercial banks' lending interest rates were significantly positively impacted by inflation and deposit interest rates. Additionally, the operating cost ratio showed a slight favorable effect.
Nizamani et al. (2021)	Bank heterogeneity in interest rate pass-through: a panel evidence from Pakistan.	To look into how bank-level factors impact the way interest rates are passed through from monetary policy rates to lending rates offered by Pakistani commercial banks.	The pooled mean group (PMG) estimate was used in this work as a dynamic heterogeneous panel approach.	It was discovered that smaller banks with larger capital and better liquidity had a considerable impact on the interest rate pass-through method. Thus, in order to strengthen the transmission mechanism of monetary policy, Pakistan's central bank should limit bank capitalization and drain excess liquidity from the banking system.
Bhattarai (2021)	Determinants of commercial banks' lending behavior in Nepal.	to identify the factors that affect lending operations in Nepalese commercial banks.	For data analysis, this study used panel data correlation analysis and multiple regression analysis.	It was found that the beneficial influence of the exchange rate implies that Nepalese commercial banks have enough knowledge of the world market and commerce, and that they are prepared to satisfy both short-term and long-term

Date	Article	Objectives	Methodology	Findings
				commitments. Similarly, the data revealed a negative and large disparity in interest rates on total loans advanced to individuals and institutions.
Mbowe et al. (2020)	Determinants of bank lending interest rates in Tanzania	To examine the determinants of bank lending interest rates in Tanzania, largely focusing on identifying the key determinants and their relative importance.	Interest rates decomposition and econometric estimation methods	The study found that operating costs, cost of funds, and inflation have a statistically significant positive effect on bank lending rates, while bank size and level of liquidity have a negative influence. The main determinants of bank lending rates are inflation with an average positive impact on lending rates for a unit change in inflation, trailed by operating costs, and cost of funds.
Karki (2020)	Effect of interest rate spread on profitability in Nepalese commercial banks.	To look at the relationship between interest rate spread (IRS) and profitability as well as how the IRS affects Nepalese commercial banks' profitability.	The study's goal was Secondary data acquired from bank annual reports was evaluated utilizing a regression analysis approach in this study.	This study discovered that IRS has a beneficial influence on the profitability of Nepalese commercial banks. According to the findings of this study, Nepalese commercial banks must grasp the relevance of IRS and strike a balance between IRS and profitability.
Kidane (2019)	Determinants of lending interest rate: an empirical study on private commercial banks in Ethiopia	To look at the factors that affect Ethiopian private commercial banks' lending interest rates	Balanced panel regression model	According to the investigation, bank size, profitability ratio, and liquidity ratio all significantly and negatively impacted lending interest rates. The lending interest rate is positively and statistically significantly impacted by the deposit rate, market concentration, and the ratio of operating costs to total assets. The lending interest rate of Ethiopian private commercial banks is positively and statistically insignificantly impacted by the inflation rate.
Abrar (2019)	The impact of financial and social performance of microfinance	To investigate how lending interest rates are affected by the social and financial	Correlation and multiple regression methods	The study discovered that depth outreach, as measured by average loan size, has a substantial inverse relationship with lending interest rates, whereas cost

Date	Article	Objectives	Methodology	Findings
	institutions on lending interest rate: a cross-country evidence	performance of microfinance organizations (MFIs).		of funding, return on assets (ROA), and the number of credit customers had a large positive influence on lending interest rates globally.
Tadiyos (2018)	Determinants of lending rate of private commercial banks in Ethiopia	To look at the factors that affect loan rates in the private commercial banking industry in Ethiopia.	Unbalanced panel data regression model	The findings shown that the bank lending rate is positively and significantly impacted by bank size, operational costs, and deposit rate. Lending rates are significantly impacted negatively by credit risk, bank concentration, and GDP. Inflation and reserve requirements, however, have little bearing on the loan rate.
Itimu and Abdul (2018)	Determinants of average lending rates among selected commercial banks in Kenya.	To determine the factors of average lending rates among Kenyan commercial banks.	The link between the independent and dependent variables was investigated using correlation and multiple regression analysis.	It was discovered that the availability of liquid cash is critical in influencing commercial banks' average lending rates. The operational costs that have a substantial impact on the average lending rate. The study also found that capital adequacy, or a bank's capital strength, has a small but significant impact on average lending rates. Bank size was also found to be a significant predictor of commercial banks' average lending rates.
Bikker and Gerritsen (2018)	Determinants of interest rates on time deposits and savings accounts with macro factors, bank risk, and account features.	To look at how banking product interest rates are affected by macroeconomic, bank-specific, and account-specific factors	The data in this study was analyzed using a multivariate regression model.	Since the start of the global financial crisis, interest rates have become increasingly sensitive to bank risk. In general, time deposits mirror the economic situation more closely than bank interest rates on savings accounts. Interest rates on deposit products differ not just among banks, but also within banks (i.e., across individual bank accounts).
Ali et al. (2016)	Analysis of some inner factors affecting the lending rate and commercial bank behavior	To look at the possible internal variables influencing the loan rate in Pakistan's commercial banking industry.	Panel data regression technique	According to this study, the lending rate is significantly correlated with the investment to total asset, deposit to asset, loan to asset, and liquidity ratios. While the remaining two major explanatory variables—the loan to asset

Date	Article	Objectives	Methodology	Findings
				ratio and the deposit to asset ratio—are shown to be adversely connected with lending rate, two of the important determinants, the liquidity ratio and the investment to asset ratio, are favorably correlated.

2.4 Research Gap

There have been conducted many national and international studies in the field of determinants of interest rates (Al-Qudah, 2021; Bhattarai, 2021; Bikker and Gerritsen, 2018; Itimu and Abdul, 2018). Those studies have attempted to find out the relationship between different firm specific and macro-economic variables of interest rates. The reviewed literature shows that there is no uniformity in the variables used for the analysis and the findings since, countries differ each other by their economic, financial, regulatory and operating environments. This study focused on analysis of determinants of interest rate Nepalese commercial banks taking the data of latest period. Ghimire and Bhandari (2023) used operating cost to total assets (OCTA), deposit rate (DR), profitability (ROA) and non-performing loan as factors affecting lending interest rate, while Bista and Basnet (2022) used GDP, deposit, capital, size of bank, remittance, and public debt as determinants of interest rate. Since, this study is also different from the prior studied in term of study variabels used for the analysis i.e. deposit interest rate, liquidity ratio, inflation rate, return on assets and operating expenses ratio as factors affecting lending interest rate in Nepalese banking sector. This study applied quantitative research approach and used expected generalized regression model for the data analysis whereas Ali (2021) used the fixed effects model for the analysis. So, this study has been attempted to carry out the analysis of determinants of lending interest rate in Nepalese commercial banks is distinct from other previous studies in terms of sample period, sample companies and the research methodology.

CHAPTER - III

RESEARCH METHODOLOGY

Research methodology of this study deals with research design, population and sample, nature and source of data, research framework and definition of variables and methods of analysis used in this study.

3.1 Research Design

To achieve the objectives of the study, descriptive and causal research design are used to study and interpret the findings of the study. The descriptive research design explores quantitative fact about lending interest rates and influencing factors of interest rates in Nepalese commercial banks and their position throughout the period, with the help of descriptive statistical tools such as; mean, standard deviation, maximum and minimum values of the data. Similarly, casual research design analyzes the relationship between the lending interest rate and the determining variables (i.e. deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size) of the lending interest rate, with the help of correlation and regression analysis tools.

3.2 Population and Sample and Sampling Design

Although there were other 20 commercial banks working all over Nepal till July 2023, which are considered as population for the study and six joint venture commercial banks are selected for this study which are; EBL, NSBL, HBL, NABIL, SCBNL and NMB. This study basically tried to analyze the determinants of lending interest rate in Nepalese commercial banks, which can be obtained from the data analysis of volatile interest rates of the banks. While selecting the samples, convenience sampling technique is used. First of all, the commercial banks are divided into the more fluctuating interest rate and less fluctuating interest rates and six banks covering joint venture, since the fluctuation in interest rates of joint venture banks are quite higher than the government owned banks.

3.3 Nature and Source of Data

The study is entirely dependent on secondary data, which was gathered from the sample banks' published annual reports as well as other pertinent material from prospectuses, newspapers, websites, and other sources. Since the primary focus of this study is the examination of internal interest rate components, it is relied on secondary sources of data to achieve its specific goals. The study covers data from 2013/14 to 2022/23. To cover the recent ten years' data for the analysis the data from year 2013/14 to 2022/23 are covered in this study.

3.4 Methods of Analysis

The descriptive analysis of variables used in this study and the relationship analysis using correlation, regression and t-test tools. In this study descriptive statistics such as, mean and standard deviation is used to satisfy the first aim of the study, the correlation analysis tool is utilized to meet the second objective of the study and the multiple regression technique is used to fulfill the third objective of the study. The statistical program Eviews is used to examine the influence of the independent factors into dependent variable under the regression model.

The regression model for the study

$LIR = b_0 + b_1DIR + b_2LIQ + b_3INF + b_4ROA + b_5OER + b_6SIZE + e$ ……….. (i)

Where,

LIR = Lending Interest Rate

b_0 = Value of independent variables are zero (Constant)

b_1 = Regression coefficient of deposit interest rate

b_2 = Regression coefficient of liquidity ratio

b_3 = Regression coefficient of inflation rate

b_4 = Regression coefficient of return on assets

b_5 = Regression coefficient of operating expenses ratio

b_6 = Regression coefficient of bank size

DIR = Deposit interest rate

LIQ = Liquidity ratio

INF = Inflation rate

ROA = Return on assets

OER = Operating expenses ratio

SIZE = Bank size (i.e. Logarithm of total assets)

e = Residual term of the regression equation

Table 2

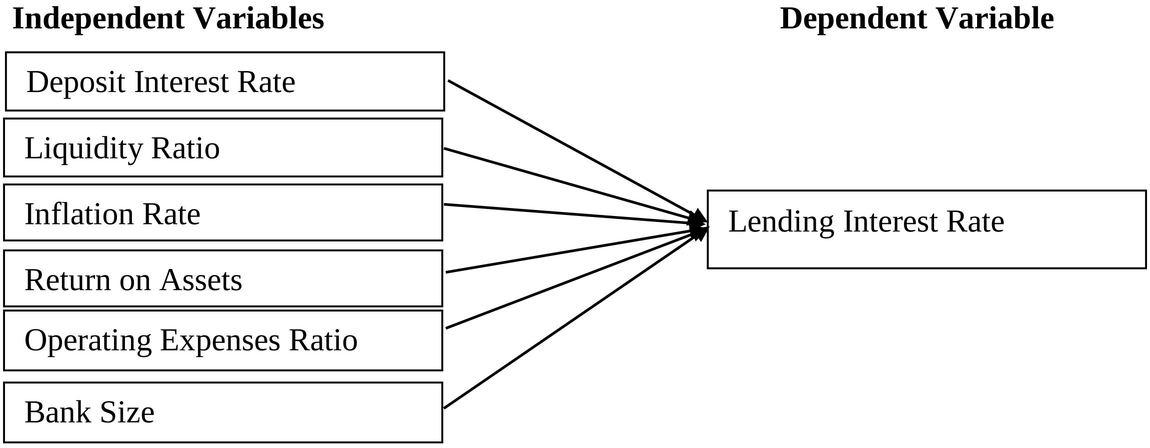
Measurement of Variables

Variables	Measurement	Source
Lending interest rate	Interest Income / Loan and Advance	Bhattarai (2015); Atakelt and Veni (2015); Abrar (2019)
Deposit interest rate	Interest Expenses / Deposit	Kaymaz and Kaymaz (2011)
Liquidity ratio	Total Liquid Assets / Total Deposit	Kosumi and Kosumi, 2021); Ali (2021)
Inflation rate	Average inflation rate	Mbowe et al. (2020)
Return on assets	Net Profit after Tax / Total Assets	Bhattarai (2015); Abrar (2019)
Operating expenses ratio	Total Operating Expenses / Total Assets	Bhattarai (2015)
Bank size	Logarithm of total assets	Atakelt & Veni, (2015)

3.5 Research Framework and Definition of Variables

The conceptual framework for the study was built for the examination of the factors influencing the interest rates of Nepalese commercial banks by a review of several prior studies by Lamichhane (2013); Bhattarai (2015) and Ghimire and Bhandari (2023). The many macroeconomic and bank-specific factors that affect interest rates in commercial banks were examined in international context by Al-Qudah (2021); Adekanmi et al. (2022); Carera and Fauzie (2024) who have stated that GDP, deposit, capital, size of bank, remittance, and public debt as determinants of interest rate are the determining factors of lending interes rates. Previous studies have attempted to find out the relationship between different firm specific and macro-economic variables of interest rates. In accordance with the reference of previous studied this study tries to analyze the determinants of lending interest rate of Nepalese commercial banks. This study is distinct from other previous studies in terms of sample period, sample companies and the research methodology. In this study the determining factors of lending interest rate is analyzed using the variables like; deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size. Using these variables, the research framework for this study is:

Figure 1: Research Framework



Source: (Bhattarai, 2015; Abrar, 2019; Ali, 2021 and Niroula and Gnawali, 2024)

Definition of Variables

Deposit Interest Rate (DIR)

The average interest rate on deposits from consumers at each bank is known as the deposit interest rate. Deposit interest rates determine the interest that is paid on client deposits. The interest rate on loans may rise in tandem with the interest rate on deposits. There is clear evidence of a one-way causal relationship between deposit and loan interest rates, according to Kaymaz and Kaymaz (2011). They said that banks utilize the previous period's deposit interest rates to determine the interest rates on their loans. The interest rates on loans and deposits were shown to significantly positively correlate. In this study the average deposit interest rate paid by banks to the depositors are used for the analysis and these data are collected form the principle indicators of the annual report of the banks. Previous research findings led to the hypothesis that the deposit interest rate positively influences the bank's lending interest rate.

Liquidity Ratio

This ratio helps to reduce the danger of a bank failure by measuring the bank's liquidity ratio between cash and bank balance and total deposit of the banks. The bank may not be able to pay its depositors and fund its regular payments if it does not have enough cash on hand and in its bank account (Kosumi & Kosumi, 2021). Liquidity and the (LIR) have a negative association, according to Ali (2021) meaning that banks with high liquidity also have low (LIR). In this study the liquidity rate as cash reserve ratio of the banks are used for the analysis and these data are collected form the principle indicators of the annual report of the banks.

Inflation Rate

The pace at which the average price level of a chosen basket of goods and services in an economy rises over time is called inflation, and it may be quantified. It is the ongoing increase in the overall level of prices to the point that one unit of money is worth less than it was in previous times. Inflation, which is frequently reported as a percentage, is a measure of how much a country's currency has lost buying power. According to Ali's (2021) findings the lending interest rate of banks was significantly impacted positively by the rate of inflation. Mbowe et al. (2020) found a positive correlation between the lending interest rate of banks and the inflation rate, indicating that interest rates adjusted for inflation are higher. This leads to hypothesized that inflation rate has positive relation with lending interest rate of the banks. In this study the inflation rates are used for the analysis and these data are collected form the macroeconomic indicators report published by NRB.

Return on Assets

Return on assets, or net profit, is calculated by dividing total assets by net profit. This is often regarded as a reliable metric for assessing a bank's asset profitability relative to other financial institutions in the banking sector. Bhattarai (2015) discovered a negative correlation among lending interest rate and profitability. Additionally, Abrar (2019) discovered a positive correlation between profitability and lending interest rates. It is hypothesised that banks' lending rates are influenced by their return on average assets, and that banks with strong returns on average assets also provide lower loan interest rates. In this study the profitability ratio as return on assets of the banks are used for the analysis and these data are collected form the principle indicators of the annual report of the banks.

Operating Expense Ratio

One of the independent variables in this study is the operating expenses ratio. The cost needed to offer a loan unit is measured by the ratio of operational expenditures to total assets, which is dependent on staff productivity and other operating expenses. The commercial banks' efficiency increases with decreasing ratios. High operating expenditures are frequently cited as a sign of operational inefficiency since they are also likely to contain costs resulting from inefficiencies that raise lending interest rates. Nonetheless, by cutting operational expenses, commercial banks may maintain their competitiveness by lowering their lending rates. As a result, loan rates may be determined by ratios of operational expenses to total assets. Bhattarai (2015) also discovered a favorable relationship between operating expenditures and lending rates. This empirical data suggests that a rise in operational expenses will likely have a favorable impact on lending interest rates. In this study the proportion of operating expenses and total assets is used to calculate operating expenses ratio of the banks and these data are collected form the principle indicators of the annual report of the banks.

Bank Size

The logarithm of the total assets of the bank is used to calculate the size of the bank. According to some research, bank size has a detrimental effect on credit risk. It seems sense that big banks can handle credit risk by creating sensible and efficient policies. credit risk management system, offering a greater potential for portfolio diversification, and providing contemporary risk management tools and technology. Economies of scale provide major banks a competitive edge, allowing them to offer loans to their clients with low landing rates (Atakelt & Veni, 2015).

Lending Interest Rate (LIR)

The lending interest rate (LIR) is the study's dependent variable. It is the typical interest rate that commercial banks charge on loans. The lending interest rate of commercial banks is said to be impacted by a number of factors, including profitability, operating expense ratio, inflation rate, deposit interest rate, and liquidity ratio. In this study the average lending interest rate charged by banks to their customers are used for the analysis and these data are collected form the principle indicators of the annual report of the banks.

CHAPTER - IV

RESULT AND DISCUSSION

This chapter serves as the study's major body and contains a thorough analysis of the data as well as a discussion of the findings.

4.1 Results

To analyze the position of variables used in this study a structural pattern analysis is used. Pattern analysis is the process of identifying and analyzing patterns in data in order to extract meaningful insights or make predictions about future behavior.

4.1.1 Descriptive analysis of lending interest rate

The lending interest rate is the average interest rate on lending of commercial banks in used to analyze the pattern in this study. This analysis tries to find out the summary of lending interest rate of EBL, NSBL, HBL, NABIL, SCBNL and NMB banks over the study period.

Table 3

Pattern of Lending Interest Rate (%)

Year	EBL	HBL	NSBL	NABIL	SCBNL	NMB
2013/14	10.11	10.21	9.55	10.16	9.31	9.10
2014/15	8.76	8.35	8.81	8.50	8.68	7.86
2015/16	6.86	8.94	8.53	8.08	6.86	7.16
2016/17	8.13	9.52	9.51	9.44	6.80	9.62
2017/18	9.89	11.64	11.94	11.36	10.58	10.78
2018/19	10.66	11.67	12.72	11.41	11.71	11.17
2019/20	10.51	10.79	12.1	10.98	11.52	10.95
2020/21	7.37	7.71	8.87	9.37	7.40	8.16
2021/22	8.62	10.35	9.59	10.28	8.40	9.55
2022/23	11.45	13.16	14.09	13.89	13.40	11.98
Average	9.24	10.23	10.57	10.35	9.47	9.63
SD	1.44	1.58	1.86	1.60	2.14	1.50
CV	15.58	15.46	17.57	15.43	22.64	15.62

Source: Appendix- I

Table 3 presents pattern of lending interest rate of the banks during the study period. The lending interest rate of the banks shows that there is fluctuating trend in lending interest rate of the banks and there is maximum average lending interest rate in NSBL i.e. 10.75 percent and minimum average lending interest rate in EBL i.e. 9.24 percent over the study period, which means that NSBL is charging highest interest rate to the customers among sample banks. The standard deviation in the lending interest rate depicts that there is more variation in lending interest rate of NSBL since there is highest standard deviation i.e. 1.86. The coefficient of variation in lending interest rate of the banks shows that there is more consistency on lending interest rate of NABIL since there is lowest coefficient of variation i.e. 15.43 percent.

4.1.2 Descriptive analysis of deposit interest rate

Deposit interest rate is the average interest rate on retail deposits at each bank. The interest paid on customer deposits depends on deposit interest rates. Lending interest rate can increase with increasing deposit interest rate. This analysis tries to find out the summary of deposit interest rate of EBL, NSBL, HBL, NABIL, SCBNL and NMB, banks over the study period.

Table 4

Pattern of Deposit Interest Rate (%)

Year	EBL	HBL	NSBL	NABIL	SCBNL	NMB
2013/14	3.61	3.48	4.02	2.69	1.24	4.49
2014/15	2.52	2.66	3.37	2.56	1.15	3.63
2015/16	1.93	3.42	2.22	1.65	1.01	3.08
2016/17	3.13	3.52	3.4	2.15	1.35	4.71
2017/18	4.41	5.61	5.6	4.04	2.44	6.76
2018/19	5.53	6.13	6.49	4.96	3.91	6.58
2019/20	5.93	5.77	6.4	5.39	3.14	6.30
2020/21	4.62	4.42	5.13	4.35	2.82	4.64
2021/22	5.79	6.59	6.08	5.77	3.70	6.26
2022/23	7.39	7.92	10.14	7.84	5.32	8.01
Average	4.49	4.95	5.29	4.14	2.61	5.45
SD	1.62	1.62	2.13	1.83	1.37	1.48
CV	36.18	32.61	40.24	44.14	52.48	27.22

Source: Appendix- I

Table 4 shows pattern of deposit interest rate of the banks during the study period. The deposit interest rate of the banks shows that there is fluctuating trend in deposit interest rate of the banks and there is maximum average deposit interest rate in NMB i.e. 5.45 percent and minimum average deposit interest rate in SCBNL i.e. 2.61 percent over the study period, which means that NMB is paying highest interest rate to the depositors among sample banks. The standard deviation in the deposit interest rate depicts that there is more variation in deposit interest rate of NSBL since there is highest standard deviation i.e. 2.13. The coefficient of variation in deposit interest rate of the banks shows that there is more consistency on deposit interest rate of NMB since there is lowest coefficient of variation i.e. 27.22 percent.

4.1.3 Descriptive analysis of liquidity ratio

The bank's liquidity ratio is measured by using this ratio between cash and bank balance and total deposit of the banks, which aids in mitigating the risk of bank's failure. This analysis tries to find out the summary of liquidity ratio of EBL, NSBL, HBL, NABIL, SCBNL and NMB banks over the study period.

Table 5

Pattern of Liquidity Ratio (%)

Year	EBL	HBL	NSBL	NABIL	SCBNL	NMB
2013/14	16.91	37.52	9.32	11.32	21.18	13.72
2014/15	24.27	30.32	10.92	14.15	24.03	13.32
2015/16	16.61	28.74	8.33	6.77	7.98	10.81
2016/17	16.52	26.64	10.04	10.02	19.71	7.72
2017/18	17.75	23.05	7.18	10.05	18.91	6.68
2018/19	18.56	26.25	6.65	4.78	7.52	4.19
2019/20	14.43	31.39	8.89	11.20	14.49	5.93
2020/21	18.15	26.51	3.22	3.66	7.53	5.66
2021/22	6.50	23.48	3.05	4.13	4.44	5.33
2022/23	7.11	27.38	7.97	6.89	4.71	5.63
Average	15.68	28.13	7.56	8.30	13.05	7.90
SD	5.05	4.00	2.51	3.37	7.06	3.28
CV	32.19	14.24	33.27	40.59	54.07	41.54

Source: Appendix- I

Table 5 pictures pattern of liquidity ratio of the banks during the study period. The liquidity ratio of the banks shows that there fluctuating trend in liquidity ratio of the banks and there is maximum average liquidity ratio in HBL i.e. 28.13 percent and minimum average liquidity ratio in NMB i.e. 7.90 percent over the study period, which means that HBL is efficient in term of liquidity management among sample banks. The standard deviation in the liquidity ratio depicts that there is more variation in liquidity ratio of SCBNL since there is highest standard deviation i.e. 7.06. The coefficient of variation in liquidity ratio of the banks shows that there is more consistency on liquidity ratio of HBL since there is lowest coefficient of variation i.e. 14.24 percent.

4.1.4 Descriptive analysis of inflation rate

Inflation is a quantitative measure of the rate at which the average price level of a basket of selected goods and services in an economy increases over a period of time. It is the constant rise in the general level of prices where a unit of currency buys less than it did in prior periods. This analysis tries to find out the summary of inflation rate in Nepal over the study period.

Table 6

Pattern of Inflation Rate (%)

Year	Rate	Change
2013/14	9.1	-
2014/15	7.21	-20.77
2015/16	9.92	37.59
2016/17	4.47	-54.94
2017/18	4.15	-7.16
2018/19	4.64	11.81
2019/20	6.15	32.54
2020/21	3.60	-41.46
2021/22	6.32	75.56
2022/23	7.74	22.47
Average	6.33	
SD	2.05	
CV	32.33	

Source: Appendix- I

Table 6 shows the average inflation rate in Nepal over the ten years' study period. It is clear that there is higher fluctuating trend in inflation rate over the study period since the standard deviation in the inflation rate is 2.05 percent the average inflation rate is 6.33 percent. There is lowest average inflation rate in year 2020/21 i.e. 3.60 percent, and inflation rate reached maximum in year 2015/16 i.e. 9.92 percent. The inflation rate seems to be in control in comparison to earlier period. The economic instability in the country increases the inflation rate in the recent period.

4.1.5 Descriptive analysis of return on assets

Profitability is computed as net profit divided by total assets i.e. return on assets. This analysis tries to find out the summary of return on assets of EBL, NSBL, HBL, NABIL, SCBNL and NMB banks over the study period.

Table 7

Pattern of Return on Assets (%)

Year	EBL	HBL	NSBL	NABIL	SCBNL	NMB
2013/14	2.25	1.30	1.51	2.65	2.51	1.36
2014/15	1.85	1.34	1.8	2.06	1.99	1.21
2015/16	1.59	2.03	1.59	2.32	1.98	1.49
2016/17	1.83	2.19	1.57	2.69	1.84	1.69
2017/18	1.97	1.67	1.97	2.61	2.61	1.65
2018/19	1.94	2.21	1.94	2.11	2.61	1.67
2019/20	1.42	1.79	1.17	1.58	1.71	0.95
2020/21	0.89	1.68	0.7	1.71	1.22	1.17
2021/22	1.13	1.09	1.07	1.20	1.83	1.29
2022/23	1.41	0.47	1.81	1.42	2.29	1.12
Average	1.63	1.58	1.51	2.04	2.06	1.36
SD	0.40	0.51	0.39	0.51	0.42	0.24
CV	24.39	32.59	25.99	25.12	20.61	17.94

Source: Appendix- I

Table 7 presents pattern of return on assets of the banks during the study period. The return on assets of the banks shows that there is quite consistent trend in return on assets of the banks and there is maximum average return on assets in SCBNL i.e. 2.06 percent and minimum average return on assets in NMB i.e. 1.36 percent over the study period, which means that SCBNL is utilizing the assets efficiently in earning sectors among sample banks. The standard deviation in the return on assets depicts that there is more variation in profitability of NABIL since there is highest standard deviation i.e. 0.51. The coefficient of variation shows that there is more consistency on return on assets of NMB since there is lowest coefficient of variation i.e. 17.94 percent.

4.1.6 Descriptive analysis of operating expenses ratio

The lower the operating expenses ratio is, the higher the efficiency of the commercial banks. This analysis tries to find out the summary of operating expenses ratio of EBL, NSBL, HBL, NABIL, SCBNL and NMB banks over the study period.

Table 8

Pattern of Operating Expenses Ratio (%)

Year	EBL	HBL	NSBL	NABIL	SCBNL	NMB
2013/14	4.71	2.61	5.21	3.56	2.67	1.52
2014/15	3.39	2.13	4.79	3.53	2.42	1.36
2015/16	2.75	1.75	3.48	2.64	2.28	1.48
2016/17	4.15	1.60	4.58	3.40	2.49	1.69
2017/18	5.16	1.24	6.73	4.93	1.89	1.56
2018/19	5.86	1.20	7.57	5.49	1.76	1.70
2019/20	6.14	1.15	7.65	5.80	1.45	1.57
2020/21	4.85	1.63	6.32	5.22	1.43	1.39
2021/22	5.98	1.27	7.12	5.33	1.59	1.54
2022/23	7.37	1.09	7.49	7.93	1.50	1.46
Average	5.04	1.57	6.09	4.78	1.95	1.53
SD	1.31	0.47	1.40	1.47	0.45	0.11
CV	25.98	29.83	23.01	30.67	23.14	6.96
Max	7.37	2.61	7.65	7.93	2.67	1.70
Min	2.75	1.09	3.48	2.64	1.43	1.36

Source: Appendix- I

Table 8 pictures pattern of operating expenses ratio of the banks during the study period. The operating expenses ratio of the banks shows that there fluctuating trend in operating expenses ratio of the banks and there is maximum average operating expenses ratio in NSBL i.e. 6.09 percent and minimum average operating expenses ratio in NMB i.e. 1.53 percent over the study period, which means that NMB is efficient in term of operating expenses management among sample banks. The standard deviation in the operating expenses ratio depicts that there is more variation in operating expenses of NABIL since there is highest standard deviation i.e. 1.47. The coefficient of variation in operating expenses ratio of the banks shows that there is more consistency on operating expenses ratio of NMB since there is lowest coefficient of variation i.e. 6.96 percent.

4.1.7 Descriptive analysis of bank size i.e. total assets

The descriptive analysis for the comparison of total assets of banks i.e. analysis tries to find out the summary of operating expenses ratio of EBL, NSBL, HBL, NABIL, SCBNL and NMB banks over the study period is done with the help of mean, standard deviation, maximum and minimum values are presented in this section of the study.

Table 9

Pattern of Bank Size (in million)

Year	EBL	HBL	NSBL	NABIL	SCBNL	NMB
2013/14	70445	73590	61073	87275	53324	30212
2014/15	99167	82802	59277	118696	64927	45177
2015/16	113885	99863	78515	127619	65186	75682
2016/17	116510	107255	99752	140332	77409	86817
2017/18	144818	116462	102539	169076	83095	111618
2018/19	170077	133151	118314	201139	93264	135470
2019/20	185023	155885	132402	237680	116438	179452
2020/21	212336	178491	137809	291239	114739	231547
2021/22	225381	216286	153103	419818	123356	255151
2022/23	250090	332392	296735	481203	151378	287777
Average	158773.20	149617.70	123951.90	227407.70	94311.60	143890.30
SD	56401.95	73898.03	64995.58	125976.88	29683.92	85860.27
CV	35.52	49.39	52.44	55.40	31.47	59.67

Source: Appendix- I

Table 9 presents position of total assets of EBL, NSBL, HBL, NABIL, SCBNL and NMB over the study period. The average total assets of NABIL is highest among sample banks i.e. Rs. 227407.70 million and there is minimum average total assets in SCBNL over the study period i.e. Rs. 94311.60 million, meaning that the growth in term of total assets of NABIL is highest among sample banks. The standard deviation in assets growth shows that there is more variation in assets growth of NABIL since there is highest standard deviation i.e. 125976.88. The coefficient of variation in total assets shows that there is consistent assets growth in SCBNL since there is lowest coefficient of variation in total assets of the banks i.e. 31.47 percent.

4.1.8 Descriptive summary of variables

The descriptive statistics for the dependent and independent variables has been presented under this part, where deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size are the independent variables and lending interest rate is dependent variable. The following table reflects the mean, maximum, minimum and standard deviation of the variables.

Table 10

Descriptive Summary

Variables	LIR	DIR	LIQ	INF	ROA	OER	TA
Mean	9.91	4.49	13.44	6.33	1.70	3.49	149658.70
Maximum	14.09	10.14	37.52	9.92	2.69	7.93	481203.00
Minimum	6.80	1.01	3.05	3.60	0.47	1.09	30212.00
Std. Dev.	1.79	1.96	8.56	2.06	0.50	2.14	89134.46
Observations	60	60	60	60	60	60	60

Source: Appendix- II

Table 10 shows the descriptive statistics results for the variables i.e. deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size, and lending interest rate of the banks. The table shows that there is 60 no. of observations for each variables since the ten years' data of six sample banks are arranged in a panel data set for the data analysis.

The maximum and minimum lending interest rate of the banks are 14.09 percent and 6.80 percent respectively. The average lending interest rate of the banks is 9.91 percent with the standard deviation of 1.79 percent. The low standard deviation indicates that there is not much variability in the lending interest rate of the banks during the study period.

The maximum and minimum deposit interest rate are 10.14 percent and 1.01 percent respectively. The average deposit interest rate of the banks is 4.49 percent with the standard deviation of 1.96 percent. The wide range of deposit interest rate indicates that there is higher variability in the deposit interest rate of the banks. The standard deviation is also quite high, indicating that the data is widely spread out and there are many outliers.

The maximum and minimum liquidity ratios are 37.52 percent and 3.05 percent respectively. The average liquidity ratio of the banks is 13.44 percent with the standard deviation of 8.56 percent. The higher standard deviation in liquidity ratio of the banks shows that there is higher variability in the liquidity ratio of the banks.

The average inflation rate during the study period is 6.33 percent with the standard deviation of 2.06 percent. The maximum and minimum inflation rate are 9.92 percent and 3.60 percent respectively. The wide range of inflation rate indicates that there is higher variability in the inflation rate in Nepal during the study period.

The maximum and minimum return on assets are 2.69 percent and 0.47 percent respectively. The wide range of return on assets indicates that there is higher variability in the profitability of the banks. The average return on assets of the banks is 1.70 percent with the standard deviation of 0.50 percent. The higher standard deviation indicates that there is more variability in profitability of the banks during the study period.

The average operating expenses ratio of the banks is 3.49 percent with the standard deviation of 2.14 percent. The higher standard deviation indicates that there is more variability in operating expenses ratio of the banks during the study period. The maximum and minimum operating expenses ratio are 7.93 percent and 1.09 percent respectively.

The average total assets of the banks is Rs. 149658.70 million with the standard deviation of Rs. 89134.46. The growth of banks in term of total assets during the study period is increasing and all banks are growing their assets values with the expansion of business.

4.1.9 Relationship analysis

In this section relationship of lending interest rate with deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size are analyzed through the correlation analysis. For the relationship analysis panel data of sample banks is used which is calculated through Eviews software.

Table 11

Relationship Analysis Table

Variables	LIR	DIR	LIQ	INF	ROA	OER	SIZE
LIR	1						
DIR	0.726**	1					
LIQ	-0.125	-0.242	1				
INF	-0.105	-0.207	0.113	1			
ROA	0.069	-0.449**	0.075	0.010	1		
OER	0.292*	0.323*	-0.368*	-0.078	-0.070	1	
SIZE	0.441**	0.666**	-0.251	-0.295*	-0.328*	0.323*	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Source: Appendix- III

Table 11 presents correlation analysis of lending interest rate with deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size during the study period. There is positive correlation between lending interest rate and deposit interest rate of the banks (r = 0.726), meaning that lending interest rate increases with increment in deposit interest rate. The positive correlation between lending interest rate and deposit interest rate of the banks is significant at 1 percent level of significance. Similarly, there is negative correlation between lending interest rate and liquidity ratio of the banks (r = -0.125), meaning that lending interest rate decreases with increment in liquidity ratio. The negative correlation between lending interest rate and liquidity ratio of the banks is not significant at 5 percent level of significance.

Likewise, there is negative correlation between lending interest rate and inflation rate of the banks (r = -0.105), meaning that lending interest rate decreases with increment in inflation rate. The negative correlation between lending interest rate and inflation rate is not significant at 5 percent. On the other hand, there is positive correlation between lending interest rate with return on assets of the banks (r = 0.069), meaning that lending interest rate increases with increment in profitability. The positive correlation between lending interest rate and return on assets of the banks is not significant at 5 percent level of significance.

In contrast, there is positive correlation between lending interest rate and operating expenses ratio of the banks (r = 0.292), meaning that lending interest rate increases with increment in expenses ratio of the banks. The positive correlation between lending interest rate and operating expenses ratio of the banks is significant at 5 percent level of significance. Moreover, there is positive correlation between lending interest rate and bank size with the coefficient 0.441, meaning that lending interest rate if the banks increases when bank size increases. The positive correlation between lending interest rate and bank size is significant at 1 percent level of significance.

In short, the correlation analysis shows that lending interest rate has positive relation with deposit interest rate, return on assets, operating expenses ratio bank size but liquidity ratio and inflation rate have negative association with lending interest rate of the banks.

4.1.10 Regression analysis

The model described in the third chapter is used to analyze the effect of independent variables i.e. deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size on the dependent variable lending interest rate of the banks over the study period. The regression analysis is done using the panel data of sample banks by Eviews software.

Table 12

Regression Analysis for Dependent Variable LIR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-2.254	1.922	-1.173	(0.246)
DIR	1.135**	0.048	23.559	(0.000)
LIQ	0.030**	0.011	2.694	(0.009)
INF	0.095**	0.016	5.787	(0.000)
ROA	2.363**	0.121	19.554	(0.000)
OER	0.159**	0.048	3.326	(0.002)
SIZE	0.279	0.339	0.824	(0.414)
R-squared	0.976			
S.E. of regression	1.143			
F-statistic	362.709**			
Prob(F-statistic)	(0.000)			

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

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

Source: Appendix- IV

Table 12 provides an overview of the multiple linear regression model used to analyze the effect of (DIR, LIQ, INF, ROA, OER and SIZE) and the dependent variable (LIR). The R-squared value of 0.976 indicates that approximately 97.60 percent of the variance in the lending interest rate can be explained by the six predictor variables in the model. The change statistics table shows that adding the five predictor variables to the model significantly increased the R-square value compared to the constant model. The F-statistic of 362.709 with a p-value i.e., ($0.000<0.05$) also indicates that the model is statistically significant and the predictor variables collectively have a significant effect on the lending interest rate. Overall, the table suggests that the regression model is significant and can be used to predict lending interest rate, but there is still some unexplained variation in the data.

Table also shows the beta coefficient of deposit interest rate is positive ($\beta = 1.135$) showing that there is positive effect of deposit interest rate on lending interest rate, meaning that if deposit interest rate increases by 1 percent lending interest rate increases by 1.135 percent and the positive effect of deposit interest rate on lending interest rate is significant at 1 percent level of significance since p-value i.e. 0.000 is less than 1 percent level of significance.

Similarly, the beta coefficient of liquidity ratio is positive ($\beta = 0.030$) showing that there is positive effect of liquidity ratio on lending interest rate, meaning that if liquidity ratio increases by 1 percent lending interest rate increases by 0.030 percent and the positive effect of liquidity ratio on lending interest rate is significant at 1 percent level of significance since p-value i.e. 0.009 is less than 1 percent level of significance.

Likewise, the beta coefficient of inflation rate is positive ($\beta = 0.095$) showing that there is positive effect of inflation rate on lending interest rate, meaning that if inflation rate increases by 1 percent lending interest rate increases by 0.095 percent and the positive effect of inflation rate on lending interest rate is significant at 1 percent level of significance since p-value i.e. 0.000 is less than 1 percent level of significance.

Similarly, the beta coefficient of return on assets is positive ($\beta = 2.363$) showing that there is positive effect of return on assets on lending interest rate, meaning that if return on assets increases by 1 percent lending interest rate increases by 2.363 percent and the positive effect of return on assets on lending interest rate is significant at 1 percent level of significance since p-value i.e. 0.000 is less than 1 percent level of significance.

Likewise, the beta coefficient of operating expenses ratio is positive (β = 0.159) showing that there is positive effect of operating expenses ratio on lending interest rate, meaning that if operating expenses ratio increases by 1 percent lending interest rate increases by 0.159 percent and the positive effect of operating expenses ratio on lending interest rate is significant at 1 percent level of significance since p-value i.e. 0.002 is less than 1 percent level of significance.

In contrast, the beta coefficient of bank size is positive (β = 0.279) which means that the total assets of the banks have positive effect on lending interest rate which indicates that if the total assets of the banks increases by 1 percent lending interest rate of the banks increases by 0.279 percent. The positive effect of bank size on lending interest rate is statistically not significant since the p-value i.e. 0.414 is higher than 5 percent level of significance.

4.2 Discussion

The descriptive analysis in this study found that lending interest rate and deposit interest rate of the banks shows that there is fluctuating trend in lending interest rate and deposit interest rate of the banks. NSBL is charging highest interest rate to the customers among sample banks and NSBL is paying highest interest rate to the depositors among sample banks. On the other hand, HBL is efficient in term of liquidity management among sample banks. The inflation rate seems to be in control in comparison to earlier period. The economic instability in the country increases the inflation rate in the recent period. The profitability of the banks shows that there is quite consistent trend in return on assets of the banks. The operating expenses ratio of the banks shows that there fluctuating trend and NMB is efficient in term of operating expenses management among sample banks. There is consistent growth in total assets of the banks over the study period. It is clear that the assets growth in NABIL is highest among the banks.

The relationship analysis found that there is significant positive correlation between lending interest rate and deposit interest rate which is consistent with the finding of The finding is consistent with the findings of Al-Qudah (2021) who found positive relation lending interets with deposit interets rate. However, there is no significant negative correlation between lending interest rate and liquidity ratio, the result is consistent with the finding of Itimu and Abdul (2018) who found positive relation between liquidity ratio on lending interest rate of the banks. Similarly, there is no significant negative correlation between lending interest rate and inflation rate of the banks, the result is not consistent with Mbowe et al. (2020) who revealed the positive relation between inflation rate on lending interest rate of the banks.

On the other hand, there is no significant positive correlation between lending interest rate and return on assets of the banks, the result is consistent with the finding of Abrar (2019) who found the positive relationship between lending interest rate and profitability. Likewise, there is significant positive correlation between lending interest rate and operating expenses ratio of the banks, the result is consistent with the finding of Bhattarai (2015) who found that operating expenses has positive relation with lending rates. Moreover, there is significant positive correlation between lending interest rate and bank size, the result is not consistent with the finding of Al-Qudah (2021) who found that bank size has negative relation with on lending interest rates.

The beta coefficient of deposit interest rate is positive ($\beta = 1.135$) showing that there is positive effect of deposit interest rate on lending interest rate, the positive effect of deposit interest rate on lending interest rate is significant. The finding is consistent with the findings of Kaymaz and Kaymaz (2011), Al-Qudah (2021) and Motaze (2022) who have found significant positive correlation between loan interest rates and deposit interest rates. Kaymaz and Kaymaz (2011) explained that banks used the deposit interest rates of previous periods to fix lending interest rate.

The beta coefficient of liquidity ratio is positive ($\beta = 0.030$) showing that there is positive effect of liquidity ratio on lending interest rate, the positive effect of liquidity ratio on lending interest rate is significant. The positive effect of liquidity ratio on lending interest rate showed that the increased liquidity in the banks decreases the fund for the investment in loan and advances and the demand for loan become higher and banks can invest in higher interest rate. The result is consistent with the findings of Itimu and Abdul (2018) and Mbowe et al. (2020) who found positive effect of liquidity ratio on lending interest rate of the banks. But the finding is not consistent with the finding of Ali (2021) who found negative relation between lending interest rate and liquidity of the banks.

In contrast, the beta coefficient of inflation rate is positive (β = 0.095) showing that there is positive effect of inflation rate on lending interest rate. This result is consistent with Mbowe et al. (2020) and Ali (2021) who revealed the positive effect of inflation rate on lending interest rate of the banks. The countries with high inflation rate lead to use of funds in unproductive markets. This adverse suggests that inflation reduces banks' lending and as a result when inflation increase lending rates becomes decline.

The beta coefficient of return on assets is positive (β = 2.363) showing that there is positive effect of return on assets on lending interest rate, the positive effect of return on assets on lending interest rate is significant. The result is consistent with the findings of Abrar (2019) and Ghimire and Bhandari (2023) who found the positive relationship between lending interest rate and profitability. On the other hand, a negative relationship is found between lending interest rate and profitability by Bhattarai (2015). The positive effect of profitability on lending interest rate implies that with the increasing interest rate banks profitability also increases and vice-versa.

The beta coefficient of operating expenses ratio is positive (β = 0.159) showing that there is positive effect of operating expenses ratio on lending interest rate, the positive effect of operating expenses ratio on lending interest rate is significant. The result is consistent with the findings of Bhattarai (2015) and Ghimire and Bhandari (2023) who found that operating expenses has positive effect on lending rates. The result also justifies as on the reason that high operating costs are likely to include costs due to inefficiency leading to higher lending interest rate.

The beta coefficient of bank size is positive (β = 0.279) showing that there is positive effect of bank size on lending interest rate, the positive effect of bank size on lending interest rate is not significant. The result is not consistent with the findings of Al-Qudah (2021) and Ali (2021) who found that bank size has negative effect on lending interest rates.

CHAPTER - V

SUMMARY AND CONCLUSION

This chapter includes the summary of the study, conclude the findings of study and suggest the implications of the study for the further study to make more extensive study in the same topic.

5.1 Summary

Banks receive deposits from customers in little to large amounts, which are then given to borrowers in the form of loan advances. Within the financial business, lending is seen as the primary function for using cash. Since loans provide the majority of banks' gross earnings, managing loan portfolios has a significant impact on banks' profitability. One of the key elements in the growth of banks and the financial sector overall is thought to be interest rates. One of the key words in the loan decision-making process used by commercial banks is interest rate. Commercial banks are autonomous companies that choose their own lending interest rates. This study's main objective is to investigate the factors that influence Nepalese commercial banks' lending interest rates, using 10 of these banks as a sample organization. The analysis of the deposit interest rate, liquidity ratio, inflation rate, return on assets, and operational expense ratio as factors influencing Nepalese commercial banks' lending interest rates is another goal of this study. In this context, this study seeks to identify the variables influencing Nepalese commercial banks' lending interest rates.

The main objective of this study is to identify the determinants of lending interest rates of Nepalese commercial banks. The specific objective are to analyze position of commercial banks in term of deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio, bank size and lending interest rates in Nepal and to find out the impact of deposit interest rate, liquidity ratio, inflation rate, return on assets, operating expenses ratio and bank size on lending interest rates of Nepalese commercial banks. To analyze the data combination of descriptive and causal comparative research design were used in this study and interpretation of finding with collecting data. Descriptive research design is used to analyze the situation of study variables over the study period in the banks and compare the position of the sample banks. And causal comparative research design tries to fetch out the relationship among the variables and the effect of different variables on lending interest rates of the banks through correlation and regression analysis.

This study considered only six commercial banks (i.e. EBL, NSBL, HBL, NABIL, SCBNL and NMB) as sample. While selecting the samples, convenience sampling technique is used. First of all, the commercial banks are divided into the more fluctuating interest rate and less fluctuating interest rates and six banks covering joint venture, since the fluctuation in interest rates of joint venture banks are quite higher than the government owned banks. Similarly, this study basically tried to analyze the determinants of lending interest rate in Nepalese commercial banks, which can be obtained from the data analysis of volatile interest rates of the banks. Similarly, the availability of data related to variables used are comparatively easy assessable in their websites. This study is based secondary source of data to fulfill the specific objectives. This study employs panel data techniques to measure the relation between lending interest rate with deposit interest rate, liquidity ratio, inflation rate, return on assets and operating expenses ratio and this study covers the data from year 2013/14 to 2022/23.

The data analysis found that the lending interest rate of the banks shows that there is fluctuating trend in lending interest rate of the banks and there is maximum average lending interest rate in NSBL and minimum average lending interest rate in EBL over the study period, which means that NSBL is charging highest interest rate to the customers among sample banks. The deposit interest rate of the banks shows that there is fluctuating trend in deposit interest rate of the banks and there is maximum average deposit interest rate in NSBL and minimum average deposit interest rate in SCBNL over the study period, which means that NSBL is paying highest interest rate to the depositors among sample banks. The liquidity ratio of the banks shows that there fluctuating trend in liquidity ratio of the banks and there is maximum average liquidity ratio in HBL and minimum average liquidity ratio in NSBL over the study period, which means that HBL is efficient in term of liquidity management among sample banks. It is found that there is higher fluctuating trend in inflation rate over the study period. The inflation rate seems to be in control in comparison to earlier period. The economic instability in the country increases the inflation rate in the recent period.

Liquidity ratio and inflation rate have a negative link with banks' lending interest rates, whereas deposit interest rate, return on assets, and operational expenses ratio have a positive relationship with banks' lending interest rates, according to the relationship research. Conversely, the effect analysis revealed that the interest rate on deposits had a significant positive impact on the lending interest rate, as did the interest rate on liquidity, the return on assets, the inflation rate, the operating expenses ratio, and the bank size. Additionally, there was no significant positive impact of bank size on the lending interest rate of the banks.

5.2 Conclusion

The descriptive summary of variables used in the study conclude that NSBL is charging highest interest rate to the customers among sample banks. NSBL is paying highest interest rate to the depositors among sample banks. The liquidity management of the banks conclude that there is comparatively more consistent liquidity in HBL during the study period. The inflation rate seems to be in control in comparison to earlier period. The economic instability in the country increases the inflation rate in the recent period. The profitability of the banks during the study period in fluctuated over the period and the profitability of SCBNL seems stronger than other banks. NMB is efficient in term of operating expenses management among sample banks. There is consistent growth in total assets of the banks over the study period.

The relationship analysis concludes that there is positive relation between lending interest rate and deposit interest rate of the banks. Likewise, there is positive relation between lending interest rate and return on assets of the banks, meaning that increasing lending interest rate of the banks leads to increase in profitability of the banks. Similarly, there is positive relation between lending interest rate and operating expenses ratio of the banks which means that the banks that have high operating expenses have high lending interest rate. In contrast, there is negative relation of liquidity ratio and inflation rate with lending interest rate of the banks.

The regression analysis conclude that the regression model is significant and can be used to predict lending interest rate, but there is still some unexplained variation in the data. Inflation has a significant positive impact on lending interest rates, deposit interest rates have a significant positive impact on lending interest rates, liquidity ratios have a significant positive impact on lending interest rates, return on assets has a significant positive impact on lending interest rates, operating expenses ratios have a significant positive impact on lending interest rates, and bank size has no significant positive impact on lending interest rates. Because it may expand lending to offset this drop in lending rates, a bank that is more profitable is able to offer credit facilities at low interest rates. Since the bank transfers deposit interest rates to borrowers, a rise in the deposit interest rate raises the bank's lending interest rate. Since the bank transfers the inflation rate to borrowers in an effort to maintain the same levels of real interest it charges, the rise in inflation also raises the bank's lending interest rate.

5.3 Implications

Based on the findings of the study, following implications are presented;

The NRB's job is to keep a close eye on the banking industry, which aids in upholding and enforcing interest rate regulations. It is imperative for bank management to uphold cautious lending rates in order to ensure the safety and soundness of financial institutions. Additionally, the report suggests a partial transfer of inflation to borrowers in order to guarantee Nepalese commercial banks moderate lending interest rates.

Interest rate spread of the banks is the major earning source in the bank and interest rate is controlled by the regulatory institution of the banks so banks should control the expenses to increase profitability of the banks. In addition, bank management has to make sure that the right internal controls, management information systems, and policies are in place to consistently and continuously keep lending rates at sensible levels.

One of the fundamental tools used by banks to gather and distribute money for loans and advances to the business sector is the interest rate. In order to stay competitive, banks must monitor changes in interest rates in order to maintain their client base. Financial institutions and commercial banks are free to choose their own methods for determining interest rates. Interest rates must be set by banks taking into account risk, inflation, costs associated with banking, environmental considerations, etc.

Since the study's findings indicate that the deposit interest rate has the greatest influence on lending interest rates, commercial bank departments are advised to lower their deposit interest rates in order to lower lending interest rates. A reasonable interest rate encourages depositors and borrowers to make deposits in banks and obtain loans from banks; hence, banks must research the appropriate interest rates to apply to deposits and loans in order to grow their businesses.

Interest rate is the hot topic for study and it is also important subject in Nepal. It is needed to study in more than researcher in this topic. Due to some limitation in study it suggests that other researcher who are interested to research in this topic can study on other aspects which are discussed in this study.

This study is basically deals with the determinants of lending interest rates of the banks which will be reference for the researcher who are interested to analyze on this topic and elaborate this study including more sample and variables. This study is limited to the five specific variables so further study cab be conducted using different explanatory variables such as practical scenarios in the market, government debt, exchange rates, treasury bill rates etc.

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