

**IMPACT OF LENDING INTEREST RATES, DEPOSIT
AND NON-PERFORMING LOAN ON LENDING OF
COMMERCIAL BANKS OF NEPAL**

A Dissertation submitted to the Office of the Dean, Faculty of
Management in partial fulfilment of the requirements for the Master's
Degree

by

Shaili Shahi

Symbol No: 3506/17

Registration No: 7-2-271-416-2011

Peoples Campus

Kathmandu

February, 2020

**IMPACT OF LENDING INTEREST RATES, DEPOSIT
AND NON-PERFORMING LOAN ON LENDING OF
COMMERCIAL BANKS OF NEPAL**

A Dissertation submitted to the Office of the Dean, Faculty of
Management in partial fulfilment of the requirements for the Master's
Degree

by

Shaili Shahi

Symbol No: 3506/17

Registration No: 7-2-271-416-2011

Peoples Campus

Kathmandu

February, 2020

Certification of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “Impact of lending interest rate, deposit and non-performing loan on lending of commercial banks of Nepal.” The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it been proposed and presented as part of requirements for any other academic purpose.

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

Shaili Shahi

28-03-2020

28-02-2020

Report of Research Committee

Ms. Shaili Shahi has defended research proposal entitled Impact of lending interest rate, deposit and non-performing loan on lending of commercial banks of Nepal 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 Mr. Bikash Shrestha and submit the thesis for evaluation and viva voce examination.

Prof. Dr. Arhan Sthapit

Dissertation Proposal Defended Date: 21-09-2019

Supervisor (Defend)

Bikash Shrestha

Dissertation Submitted Date: 28-02-2020

Supervisor

Gopal Krishna Shrestha, PhD

Dissertation Viva Voce Date:

Head Researcher Committee

21-09-2019

Approval Sheet

We have examined the dissertation entitled impact of lending interest rate, deposit and non-performing loan on lending of commercial banks of Nepal presented by Ms. Shaili Shahi for the degree of Master of Business Studies. We hereby certify that the dissertation is acceptable for the award of degree.

Dissertation Supervisor

Internal Examiner

External Examiner

Chairperson, Research Committee

Acknowledgement

The study entitled “Impact of lending interest rate, deposit and non-performing loan on lending of commercial banks of Nepal” has been prepared to fulfill the partial requirement for Masters of Business Studies..

I would like to record my sincere appreciation and gratitude towards supervisor Bikash Shrestha, for his guidance, valuable advice, continuous encouragement, and motivational support. I would like to thank Prof. Dr. Araham Sthapit for helping in defends.

I am also very thankful and grateful towards my seniors, colleagues and authorities of Peoples Campus for their support, encouragement, and valuable suggestions as well as for the generosity and co-operation for the completion of this project.

Last but not the least, I would like to express my sincere thanks to all my family, friends and well-wishers for their immense support and best wishes throughout the project.

Shaili Shahi

February, 2020

Table of Contents

Title Page.....	i
Certification of Authorship	ii
Report of Research Committee	iii
Approval Sheet	iv
Acknowledgement	v
Table of Contents	vi
List of Tables.....	ix
List of Figure.....	x
Abbreviations	xi
Abstract.....	xii
CHAPTER I.....	1
INTRODUCTION.....	1
1.1 Background of study	1
1.2 Problem statement.....	4
1.3 Objective of the study.....	4
1.4 Hypothesis of the study	5
1.5 Rationale of the study.....	5
1.6 Limitation of the study	6
1.7 Chapter plan.....	6
CHAPTER II.....	8
REVIEW OF LITRETURE	8
2.1 Theoretical review.....	8
2.1.1 Loanable fund theory	8
2.1.2 The real bills doctrine theory.....	10
2.1.3 Credit creation theory of banking	11

2.2 Empirical review	13
CHAPTER III.....	35
RESEARCH METHODOLOGY	35
3.1 Research framework and definition of variables	35
3.1.1 Interest rate.....	36
3.1.2 Deposit volume.....	36
3.1.3 Non- performing loan	37
3.1.4 Lending loan.....	37
3.2 Research design.....	38
3.3 Population and sample, and sampling design	38
3.4 Nature and sources of data, and the instrument of data collection	39
3.5 Method of analysis	39
3.5.1 Arithmetic Mean or Average.....	39
3.5.2 Median	40
3.5.3 Standard Deviation	40
3.5.4 Coefficient of Variation	41
3.5.5 ANNOVA.....	41
3.5.6 Correlation.....	41
3.5.7 Regression	42
CHAPTER IV	43
RESULTS AND DISCUSSION	43
4.1 Analysis of data.....	43
4.1.1 Descriptive statistics of lending interest rate.....	43
4.1.2 Descriptive statistics of deposit interest rate	44
4.1.3 Descriptive statistics of credit to deposit ratio	45
4.1.4 Descriptive statistics of non-performing loan	46
4.1.5 Descriptive statistics of deposit	47

4.1.6 Descriptive statistics of lending.....	48
4.1.7 Lending interest rate	49
4.1.8 Deposit interest rate	50
4.1.9 Credit to deposit ratio.....	50
4.1.10 Non-performing loan	51
4.1.11 Deposit amount of commercial banks.....	52
4.1.12 Lending amount of commercial banks.....	53
4.1.13 Deposit and lending	53
4.1.14 Lending interest rate and deposit interest rate.....	54
4.1.15 Descriptive statistics of the variables under study.....	55
4.1.16 Mean difference test.....	56
4.1.17 ANOVA-test for equality of means across variables.....	57
4.1.18 Correlation analysis	57
4.1.19 Regression analysis.....	59
4.2 Discussion.....	60
CHAPTER V.....	63
SUMMARY AND CONCLUSION	63
5.1 Summary.....	63
5.2 Conclusion	64
5.3 Implication.....	65
References	66

List of Tables

Table 1	Review of empirical studies	33
Table 2	Sample of banks	39
Table 3	Descriptive statistics of lending interest rate	44
Table 4	Descriptive statistics of deposit interest rate	45
Table 5	Descriptive statistics of credit to deposit ratio	46
Table 6	Descriptive statistics of non-performing loan	47
Table 7	Descriptive statistics of deposit	48
Table 8	Descriptive statistics of lending	49
Table 9	Descriptive statistics of variables.....	55
Table 10	Mean difference test.....	56
Table 11	ANOVA test for equality of means across variables	57
Table 12	Relationship between variables of all samples	58
Table 13	Impact of variables of all samples.....	59
Table 14	Impact of independent variable on sampling.....	60

List of Figures

Figure 1	Theoretical framework of the study.....	35
Figure 2	Lending interest rate	49
Figure 3	Deposit interest rate	50
Figure 4	Credit to deposit ratio.....	51
Figure 5	Non-performing loan	52
Figure 6	Deposit amount of commercials banks	52
Figure 7	Lending amount of commercials banks	53
Figure 8	Deposit and lending	54
Figure 9	Lending interest rate and deposit interest rate.....	54

Abbreviations

ALAA	:	Average Loan Average Assets
ANOVA	:	Analysis of Variance
ARP	:	Annual Percentage rate
ARPD	:	Average Revenue Per Day
CORR	:	Correlation
CPI	:	Consumer Price Index
CV	:	Coefficient of Variance
ECM	:	Error Correction Methodology
GDP	:	Gross Domestic Product
IFS	:	International Financial Statistic
IMF	:	International Monetary Funds
LOA	:	Loan Advance
MAL	:	Mean Adjustment Log
MRP	:	Monetary Policy Rate
NEPSE	:	Nepal Stock Exchange
NES	:	Nairohia Security Exchange
NPL	:	Non-Performing Loan
OLS	:	Ordinary Least Square
PMG	:	Pooled Mean Group
SPSS	:	Statistical Package for the Social Sciences
UNC	:	Uncertainty
VAR	:	Variance

Abstract

Lending interest rate, deposit and non-performing loan shows kind of relationship with lending. The study analyse the impact of interest rate, deposit volume and non-performing in Lending loan of commercial banks of Nepal. Loanable fund theory, the real bills doctrine theory and credit creation theory are used in this study. In this study three independent variables have been taken they are lending interest rate, deposit volume and non-performing loan whereas lending is taken as dependent variable. Secondary data has been collected from annual reports and websites of five sample banks. The research design embraced in the study consists of descriptive, relational and casual research designs. Various tools used for data analysis were mean, median, standard deviation, ANOVA-test, correlation, regression etc. The finding of the study will help the policy maker to make strong policy regarding interest rate, deposit volume and non-performing loan on lending loan in context to Nepalese Commercial Banks.

Key words: Lending interest rate, deposit, non-performing loan, lending

CHAPTER I

INTRODUCTION

1.1 Background of study

The interest rate is the amount a lender charges for the use of assets expressed as a percentage of the principal. The interest rate is typically noted on an annual basis known as the annual percentage rate (APR). The assets borrowed could include cash, consumer goods, or large assets such as a vehicle or building (Banton, 2019). An interest rate is the cost of borrowing money. Interest rate levels are a factor of the supply and demand of credit: an increase in the demand for money or credit will raise interest rates, while a decrease in the demand for credit will decrease them (Heakal, 2019). Interest rate is the amount of money a lender or creditor charges for access to money. An interest rate is the rate beyond the principal a borrower pays to gain access to money, for financial tools like credit cards and mortgage and auto loans (Connell, 2018).

Interest rates are commonly used for personal loans and mortgages, though they may extend to loans for the purchase of cars, buildings and consumer goods. Interest rates can influence corporate profits and government monetary policies (Glossary, 2019). Commercial banks charge a higher interest rate on loans and pay a lower rate on savings. This difference between the cost of borrowing and rate of return on savings is part of the reason banks are profitable. Lending customers deposits at a higher rate than they pay customers interest on their savings (Pettinger, 2017).

The rate of interest measures the percentage reward a lender receives for deferring the consumption of resources until a future date. Correspondingly, it measures the price a borrower pays to have resources now (Malkiel, 2019). In the real economic sense, interest implies the return to capital as a factor of production. But for all practical purposes, interest is the price of capital. Capital as a factor of production, in real terms, refers to the stock of capital goods i.e. machinery, raw-materials, factory plant etc. (Saquib, 2019).

A savings deposit held by one person can provide the funds that enable the bank to make a mortgage loan to another person. The bank has, in effect, transformed the savings deposit i.e. an asset held by the depositor into a mortgage loan i.e. an asset held by the bank (Ayieyo, 2016). Bank deposits are a primary tool for investment and without them businesses would not be able to access funds from individuals at all. Businesses and individuals can also receive funds through the bank itself. Banks can affect the money supply through demand deposits, or loans that the bank funds through cash deposits it receives (Lacoma, 2019).

When banks and credit unions refer to deposits, they are simply talking about money held at the bank. A deposit is something that has been placed somewhere. That might be money that you put into bank account or jewellery in a safety deposit box at the bank (Pritchard, 2018). The ability to provide the relevant financing is dependent on the ability of the banks to mobilise adequate amount of deposits in the economy and other foreign sources of funding (Silundika & Nujoma, 2013). Deposits are a crucial and very cheap source of funding for banks, which make money by lending to their customers at higher rates than their cost of funding. So the name of the game is to keep “deposit costs” down while attracting enough deposits to lend out (Richer, 2018).

A nonperforming loan (NPL) is a sum of borrowed money upon which the debtor has not made the scheduled payments for a specified period. In banking, commercial loans are considered nonperforming if the debtor has made zero payments of interest or principal within 90 days, or is 90 days past due. For a consumer loan, 180 days past due classifies it as an NPL (Segal, 2019). Nonperforming loans are loans, especially mortgages that organizations lend to borrowers but do not capitalize on. In other words, the borrower cannot pay the loan back in full, or even enough for the bank to make a profit. When this happens, the bank can either work out a new payment option, or foreclose on what collateral the borrower has provided. Either option costs the bank money, so lenders try to avoid nonperforming loans whenever possible (Lacoma, Sampling, 2019). The notion of NPLs has substantial importance not only for bank management but also for policy makers and academicians.

NPL portfolios may consist of loans within a large and diverse spectrum, including SME loans and other corporate loans, real estate secured loans including residential, commercial, and multi-family loans, loans secured by assets other than real estate, unsecured loans, and consumer loans (Lee, 2018). The nonperforming loan ratio, better known as the NPL ratio, is the ratio of the amount of nonperforming loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds. The NPL ratio measures the effectiveness of a bank in receiving repayments on its loans (Hanks, 2018).

Loan pricing or interest rate is one of the most important terms in the lending decision process. Banks cannot charge loan rates that are too low because the revenue from the interest income will not be enough to cover the cost of deposits, general expenses and the loss of revenue from non-performing loan portfolio (Ayieyo, 2016). Lending behaviour of bank generally depends on type of bank, the capital base, the deposit base, density of the deposit, interest rate, exchange rate, inflation, gross domestic product, investment portfolio, liquidity, monetary and fiscal phenomena, the credit guidelines issued from time to time by the regulatory authority and internal policies of the banks as well as other non-economic factors (Timalsina, 2017).

When the Federal Reserve raises or lowers its target interest rate, the change affects consumers too. The federal rate helps determine the interest you pay on loans and earn on savings, so it matters to just about everyone. here's what might change when rates rise or fall are mortgage payments, credit card rate, private student loans and returns on savings (Khan, 2019). Banks sell financial services such as car loans, home mortgage loans, business loans, checking accounts, credit card services, certificates of deposit, and individual retirement accounts. Banks act as go-betweeners for people who save and people who want to borrow (Stanly, 2019).

The two most distinctive features of a commercial bank are borrowing and lending, i.e., acceptance of deposits and lending of money to projects to earn Interest (profit). In short, banks borrow to lend. The rate of interest offered by the banks to depositors is called the borrowing rate while the rate at which banks lend out is called lending rate (Singh, 2019). Scheduled commercial banks are classified into three types: Private Bank, Public Bank and Joint Venture Bank (Business Jargon).

1.2 Problem statement

Research problem is a statement about an area of concern, a condition to be improved, a difficulty to be eliminated, or a troubling question that exists in scholarly literature, in theory, or in practice that points to the need for meaningful understanding and deliberate investigation. A research question is an answerable inquiry into a specific concern or issue. It is the initial step in a research project. The initial step means after you have an idea of what you want to study, the research question is the first active step in the research project. Interest rate, deposit volume and non-performing loan plays an important role in making lending loan decisions for any individuals or any institutions. Interest rate, deposit volume and non-performing loan possess certain impact on lending activities of commercial banks. The research is the vast investigation of the problem. The possible problems are faced by policy maker of commercial bank. The study attempts to answer the following questions:

1. Is there significant difference on interest rate, deposit volume, non-performing loan and lending loan across types of banks?
2. What is the relationship between interest rate, deposit volume and non-performing loan with lending loan?
3. How does the interest rate, deposit volume and non-performing loan effect on lending loan?

1.3 Objective of the study

For the study there has to be some objectives which highlight the purpose of doing research work. The major objective of the study is to find out the impact of interest rate, deposit volume and non-performing on lending loan. Besides, the overall objectives of this study are as follows:

1. To analyse the difference on interest rate, deposit volume, non-performing loan and lending across private banks and joint venture banks.
2. To examine the relationship between interest rate, deposit volume and non-performing loan with lending of sample banks.
3. To examine the effect of interest rate, deposit volume and non-performing loan on lending.

1.4 Hypothesis of the study

The hypotheses were made in this study help to examine the lending with respect to various determining factors. The hypotheses made in this study are as follows:

Ho1: There is no significant difference on deposit volumes across private banks and joint venture banks.

Ho2: There is no significant difference on non-performing loan across private banks and joint venture banks.

Ho3: There is no significant difference on lending loan across private banks and joint venture banks.

Ho4: There is no significant relationship between interest rate with lending loan.

Ho5: There is no significant relationship between deposit volumes with lending loan.

Ho6: There is no significant relationship between non-performing loan and lending loan.

Ho7: There is no significant impact of interest rate on lending loan.

Ho8: There is no significant impact of deposit volumes on lending loan.

Ho9: There is no significant impact of non-performing loan on lending loan.

1.5 Rationale of the study

Nepalese interest rate varies time to time, region and sector to sector. The function in interest rate is a regular phenomenon in developing countries. Therefore, it is necessary develop some ideas about the impact of interest to the economic. It is very much important to know the policies of financial institution regarding interest rate, deposit volume and non-performing loan and its impact on lending loan process. The study will try to help analyse the impact of interest rate, deposit volume and non-performing in Lending loan of commercial banks of Nepal. The finding of the study will help the policy maker to make strong policy regarding interest rate, deposit volume and non-performing loan on lending loan in context to Nepalese Commercial Banks. The significances of study are:

1. The study will try to analyse the interest rate, deposit volume and non-performing loan of commercial banks in Nepal and try to develop some ideas to know whether it influence lending loan.

2. This being important aspects for economic development of the country.

3. This study will be fruitful resources for teachers, students, researchers, academicians, general individuals and others in abstracting some useful information about interest rate, deposit volume, non-performing loan and lending loan.

1.6 Limitation of the study

As we know that every activity has limitations due to time and resources, this thesis also pass through some boundaries. The main limitations of study are mentioned below:

1. The samples are taken only from five commercial banks, other financial intermediaries are not included in the study.
2. The lending amounts of commercial banks are influenced by several factors. However, this study mainly focuses on the interest rate changes, deposit and non- performing loan.
3. The study is based on secondary data only.
4. The study only covers ten fiscal years, i.e. 2008/09 to 2017/18.

1.7 Chapter plan

It deals with the holistic concept of research report. It is explained the research report as a complete form. This study has divided into five chapters i.e. introduction, review of literature, research methodology, data presentation and analysis of data and summary, conclusion and discussion. The first chapter introduce the major issues related to the study, general background and statement of the problems, objectives, significance of study and organization of the study. The second chapter provide a brief review of literature related to study. It will include a related theories, review of empirical literature and theoretical framework. It will also provide an overview of the related literature done in the past related to this study. The third chapter related to research design, population and sample of study, nature and sources of data, definition of the variable, and methods of data analysis and limitation of the study. It will include the financial analysis of a firm where research needs the various data and different statistical tools. The third chapter comprises of presentation and analysis of the data obtained during the study. Different tools and techniques are used for the purpose of data analysis which includes figures and diagrams as well. In this chapter, the collected and processed data are presented, analysed and interpreted using analytical tools, charts and figures. The fifth chapter finally summarizes the study in a

few paragraphs and tries to conclude the whole study; that is the result of the research. Conclusion of the study is also included in this chapter and possible viable discussion is also presented. Finally, bibliography, appendixes and other related materials are presented at the end of the thesis report.

CHAPTER II

REVIEW OF LITERATURE

A literature review is a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources, and do not report new or original experimental work. Most often associated with academic-oriented literature, such reviews are found in academic journals, and are not to be confused with book reviews that may also appear in the same publication. Literature reviews are a basis for research in nearly every academic field. A narrow-scope literature review may be included as part of a peer-reviewed journal article presenting new research, serving to situate the current study within the body of the relevant literature and to provide context for the reader. In such a case, the review usually precedes the methodology and results sections of the work.

All those studies related to this thesis are categorized into three: first related theories which include theories related to the research. The second part refers review of empirical literature which includes review of articles. The third part refers to the theoretical framework which includes the related variables to the research. The purpose of literature review is to find out what research studies have been conducted in the chosen field of study.

2.1 Theoretical review

The theories that are related to this study are:

2.1.1 Loanable fund theory

Kumar (2019) conducted the neo-classical theory of interest or loanable fund theory of interest which was first developed by the Swedish economist Kunt Wicksell. Later economists Ohlin, Myrdal, Lindahl, Robertson and J. Viner had considerably contributed to this theory. According to this theory, rate of interest is determined by the demand for and supply of loanable funds. This theory was more realistic and broader than the classical theory of interest. Loanable funds theory differs from the classical theory in the explanation of demand for loanable funds. According to this theory demand for loanable funds arises for the following three purposes i.e.;

Investment, hoarding and dissaving. Investment is the main source of demand for loanable funds is the demand for investment. Investment refers to the expenditure for the purchase of making of new capital goods including inventories. The price of obtaining such funds for the purpose of these investments depends on the rate of interest. An entrepreneur while deciding upon the investment is to compare the expected return from an investment with the rate of interest. If the rate of interest is low, the demand for loanable funds for investment purposes will be high and vice-versa. This shows that there is an inverse relationship between the demands for loanable funds for investment to the rate of interest. The demand for loanable funds is also made up by those people who want to hoard it as idle cash balances to satisfy their desire for liquidity. The demand for loanable funds for hoarding purpose is a decreasing function of the rate of interest. At low rate of interest demand for loanable funds for hoarding will be more and vice-versa. Dissaving's is opposite to an act of savings. This demand comes from the people at that time when they want to spend beyond their current income. Like hoarding it is also a decreasing function of interest rate.

The supply of loanable funds is derived from the basic four sources as savings, dishoarding, disinvestment and bank credit. Savings constitute the most important source of the supply of loanable funds. Savings is the difference between the income and expenditure. Since, income is assumed to remain unchanged, so the amount of savings varies with the rate of interest. Individuals as well as business firms will save more at a higher rate of interest and vice-versa. Dishoarding is another important source of the supply of loanable funds. Generally, individuals may dishoard money from the past hoardings at a higher rate of interest. Thus, at a higher interest rate, idle cash balances of the past become the active balances at present and become available for investment. If the rate of interest is low dishoarding would be negligible. Disinvestment occurs when the existing stock of capital is allowed to wear out without being replaced by new capital equipment. Disinvestment will be high when the present interest rate provides better returns in comparison to present earnings. Thus, high rate of interest leads to higher disinvestment and so on. Banking system constitutes another source of the supply of loanable funds. The banks advance loans to the businessmen through the process of credit creation. The money created by the banks adds to the supply of loanable funds.

According to loanable funds theory, equilibrium rate of interest is that which brings equality between the demand for and supply of loanable funds. In other words, equilibrium interest rate is determined at a point where the demand for loanable funds curve intersects the supply curve of loanable funds.

2.1.2 The real bills doctrine theory

Mukoya, Muturi, Oteki and Wamalwa (2015) analysed the real bills doctrine or the commercial loan theory states that a commercial bank should advance only short-term self-liquidating productive loans to business firms. Self-liquidating loans are those which are meant to finance the production, and movement of goods through the successive stages of production, storage, transportation, and distribution. When such goods are ultimately sold, the loans are considered to liquidate themselves automatically. For instance, a loan given by the bank to a businessman to finance inventories would be repaid out of the receipts from the sale of those very inventories, and the loan would be automatically self-liquidated. The theory states that when commercial banks make only short term self-liquidating productive loans, the central bank, in turn, should only lend to the banks on the security of such short-term loans. This principle would ensure the proper degree of liquidity for each bank and the proper money, supply for the whole economy. The central bank was expected to increase or diminish bank reserves by rediscounting approved loans.

When business expanded and the needs of trade increased, banks were able to acquire additional reserves by rediscounting bills with the central banks. When business fell and the needs of trade declined, the volume of rediscounting of bills would fall, the supply of bank reserves and the amount of bank credit and money would also contract. Such short-term self-liquidating productive loans possess three advantages. First, they possess liquidity that is why they liquidate themselves automatically. Second, since they mature in the short run and are for productive purposes, there is no risk of their running to bad debts Menkhoff, I. (2000). Third, being productive such loans earn income for the banks. Despite these merits, the real bills doctrine suffers from certain defects. First, if a bank refuses to grant a fresh loan till the old loan is repaid, the disappointed borrower will have to reduce production which will adversely affect business activity. If all the banks follow the same rule, this may lead to reduction in the money supply and price in the community. This may, in turn, make it impossible for existing debtors to repay their loans in time. Second, the doctrine

assumes that loans are self-liquidating under normal economic conditions. If there is depression, production and trade suffer and the debtor will not be able to repay the debt at maturity. Third, this doctrine neglects the fact that the liquidity of a bank depends on the sale-ability of its liquid assets and not on real trade bills. If a bank possesses a variety of assets like bills and securities which can be readily sold in the money and capital markets, it can ensure safety, liquidity and profitability. Then the bank need not rely on maturities in time of trouble. Fourth, the basic defect of the theory is that no loan is in itself automatically self-liquidating. A loan to a retailer to purchase inventory is not self-liquidating if the inventories are not sold to consumers and remain with the retailer. Thus a loan to be successful involves a third party, the consumers in this case, besides the lender and the borrower. Fifth, this theory is based on the “needs of trade” which is no longer accepted as an adequate criterion for regulating this type of bank credit. If bank credit and money supply fluctuate on the basis of the needs of trade, the central bank cannot prevent either spiralling recession or inflation.

2.1.3 Credit creation theory of banking

Starkey (2018) examined credit creation theory of banking proposes that individual banks can create money, and banks do not solely lend out deposits that have been provided to the bank. Instead, the bank creates bank deposits as a consequence of bank lending. Consequently, the amount of money that a bank can create is not constrained by their deposit taking activities, and the act of bank lending creates new purchasing power that did not previously exist. The repayment of existing debt destroys money, as a consequence of reducing bank loans (asset side of balance sheet) and customer deposits (liability side of the bank balance sheet).

A bank's ability to create new money, which is referred to as ‘credit money’, is a consequence of a range of factors. Firstly, non-cash transactions account for more than 95% of all transactions conducted within the economy, with non-cash transactions being settled through non-cash transfers within the banking system. Banks' ability to create credit money arises from combining lending and deposit taking activities. Banks act as the ‘accountant of record’ within the financial system, which enables banks to create the fiction that the borrower deposited money at the bank. Members of the public are unable to distinguish between money that a bank has created, and money saved at the bank by depositors.

Banks' ability to create credit money is also a consequence of being exempt from the 'client money rules'. Regulations in the form of the client money rules prevent non-bank organisations creating credit money, because non-bank organisations (for example, stockbrokers, solicitors and accountants) are required to keep clients' money separate from the non-bank organisation's assets and liabilities on their balance sheet. However, banks' exemption from the client money rules enable banks to label liabilities on their balance sheet at different stages of the process when extending a loan, which enables banks to expand their balance sheets. Exemption from the client money rules enables banks to rename their account payable liability as a customer deposit, despite the money not being a consequence of a customer making a deposit. There is no law, statute or banking regulation that allows banks to reclassify their bank liabilities (accounts payable) as a fictitious customer deposit. Consequently, the legality of banks creating credit money is unclear. Banks' exemption from the client money rules also means that when customer deposits money at their bank, the customer no longer owns the money and becomes a general creditor of the bank.

The accounting entries associated with second stage of the process, when the bank places money into a borrower's bank account, is the point at which the bank's accounting treatment of the loan differs from other types of financial intermediary. A bank creates new credit money as a consequence of their accounting treatment of liabilities. The bank ledger converts the account payable arising from a bank's lending activity to a customer deposit, where the customer deposit represents another category of bank liability. This accounting process causes the bank to create a new customer deposit that was not previously paid into the bank, but instead represented the reclassification of an account payable liability of the bank. This accounting treatment of the transaction enables the bank to expand both sides of their balance sheet at the same time when making a loan.

Bank lending activity is constrained by the need to remain profitable. Bank profitability is a consequence of interest received on loans exceeding interest charges on bank liabilities (which includes the interest paid on money deposited at the bank, interest received by bank bondholders, and dividends to bank shareholders). The difference between interest received on bank loans and the bank's cost of capital is then used to cover the bank's cost of provisions for bad and doubtful debts and operating costs of the bank, and the remainder is bank profit.

Banks money creation capability is constrained by their motivation to ensure there is an appropriate spread between the interest rate received on money loaned, and the cost of bank capital. A rapid expansion of bank lending will require the bank to reduce the interest rate charged to borrowers, which will reduce bank profitability. A bank must also ensure that it has sufficient provisions and capital to cover unanticipated losses arising from bad and doubtful debts, whilst also meeting regulatory requirements.

Creation of 'credit money' is determined by a commercial bank's confidence that issued loans will be repaid. Therefore, banks perception of 'credit default risk' is an important factor influencing the amount of bank lending. Strong growth in property prices over a prolonged period of time reduces bank's perception of the level of credit default risk associated with property lending, because money owed as a consequence of the borrower's failure to repay a loan will be recovered by the bank repossessing the property that provided security for the loan. Secondly, borrowers are likely to repay loans whilst the asset value exceeds the total amount of money outstanding on the loan. When property prices are continuously increasing the bank will perceive that property lending incurs a very low credit default risk, and will therefore attribute a very low level of credit default risk when lending for property purchase. Levels of credit default, and bank provisions for bad and doubtful debts, are likely to increase substantially in the event of a significant reduction in property prices.

2.2 Empirical review

Choi (2002) conducted real options a commercial bank lending application. The researcher extended existing real-option theories by incorporating the stochastic interaction between unit price and cost, applied in commercial bank lending. The study empirically examines an implication derived from the model as to the relationship between lending practices in the banking industry and future uncertainties. The research focuses on lending institutions to analyse the effect of uncertainties on lending (investment) decisions for several reasons. First, it is easy to identify the main sources of uncertainties for the assets and liabilities of the financial institutions default risk and interest rate changes. Second, the commercial lending institution provides a unique environment in which the correlation between investment costs (liabilities) and output (loans) price is quite high and positive since both depend heavily on interest rates. Finally, bank loans may be subject to a high

degree of irreversibility (e.g. substantial loss in defaults). The real option model explains the relationship between levels of lending, loan to assets and the uncertainties regarding interest income and expenses. The correlation between interest income and loan expenses, in particular, explains cross-sectional loan activities, which confirms the importance of risk management. These results also show that as banks increase one type of risk, e.g. interest rate risk, they decrease another type of risk e.g. lending risk as measured by loan/assets. In this research data had been collected on loan activities (loan to assets), the annual amount of loan loss provisions, and interest income and interest expenses for 100 largest bank holding companies for the period of 1987 to 1997. The study provided information of 77 banks out of 100 banks. The dependent variable was average loan/average assets (ALAA) which was a proxy for the loan trigger or the loan decision to make more loans. The independent variable was uncertainty, UNC which measured by two different proxies, (VAR) the variance of net interest revenue and interest expenses plus loan loss provision and (CORR) the correlation between interest revenue and interest expenses plus loan loss provision. The study shows VAR had negative coefficient i.e. as the variance or uncertainty increases the relative amount of lending and decrease ALAA. It also shows CORR had positive coefficient i.e. as the correlation increases uncertainty decreases and the relative amount of lending increases. The study conducted the impact of active risk-management factor in making loan decision which examines relationship between loan activities and uncertainty represented by correlation rather than total variance. The research shows loan decision can be considered as an optimal trade-off between expected return and its risk involved. An existing gap was cumulative result of optimal investment decision in the mean/variance efficient sense. The study suggested that the degree of the correlation between assets (loans) and liabilities (funds) in banking depends on maturity and duration gaps between loan and liabilities funding them, the value to wait to make loan decisions should depend on those gaps. It may be worthwhile to examine cross-sectional relationship between bank lending and duration gap in future.

Ahtila (2005) stated the new theory of commercial banking and bank lending behaviour. The researcher had studies the bank's lending decision, based on three observed phenomena: banks earn substantial profits from off-balance sheet activities and services, which they take into account in their lending decisions. Secondly, the

critical point in the customer relation was the loan decision: the probability of the customer staying with the bank was a function of the loan extended each time one is applied for. Third, what was at stake in the loan decision is the expected value of the entire customer relation, which is the probability times the present value of expected future profits. The bank was maximize of this expected present value, while making decisions on individual loan applications. It was shown that the bank was in a corner solution with respect to its good customers, and other customers often had an incentive to get to a corner. Therefore, corner solutions may be the rule rather than the exception in the bank's customer relations, and there was no mechanism making the bank indifferent, at the margin, between lending to different customers. It can be optimal to extend loans to (present and expected future) good customers at an interest rate loss. A rationed customer with a concave enough probability function can receive a larger loan by asking for less.

Loyalty increases the customer's value to the bank but improves its loan terms only if the customer makes it conditional on the loan extended. Adjusted for customer size, it was often negatively correlated with the profitability of the customer's investments or depends on the customer's production function. Its relative significance increases, the smaller the loan and the shorter its maturity. The conventional optimum results in the special case where a non-interest profits on each customer are zero and the bank is sure of retaining their business or it does not care e.g. because of perfectly competitive markets. On the whole, these findings suggest that the contribution of the banking system to the efficiency of resource allocation is likely to be smaller than has commonly been perceived. The allocated effect of information capital through the interest earnings on loans can be justified on efficiency grounds to the extent that it contributes to the appropriate pricing and rationing of loans. The same applies to banking services priced on the basis of risk. However, the allocated effects of non-interest earnings on loan terms are likely to be a source of serious inefficiency, which can be expected to persist into the future. The harsh judgment on banks' lending to present problem debtors does not appear to be entirely justified when viewed in the light of the present approach. In offering loans to prospective customers on concessionary terms, banks invest in specific capital. If non-interest earnings on the loans are taken into account, in addition to net interest earnings and credit losses, the picture changes substantially.

Roseline, Esman and Anne (2011) conducted the interest rate pass-through Kenya. The study aims to quantitatively measure the size and speed of monetary policy interest rate transmission to long term interest rates in Kenya. The study used autoregressive distributed lag specification re-parameterized as an error correction model and mean adjustment lag methods. In this study the researcher had found incomplete pass-through of policy rates both in the short and the long run. It is approximately between 11 months to two years for policy interest rate to be fully transmitted to long term interest rates. The variables selected in this study are the volume of loan granted and the quality of precaution reserve they choose to hold. Lending interest rate and deposit interest rate are taken as independent variable where the interbank rate, 91-day rate and REPO rate were entered alternately. The MAL formula is used to show the result of incomplete interest rate pass-through both in short and long run. The study sought to provide some insight into the relationship between policy rates and commercial bank interest rates. The study indicates stickiness of policy transmission from policy interest rates to commercial bank rates both for the deposit and lending rates. The magnitude of transmission is less than 0.34 for both lending and deposit rates. The findings of this study will therefore inform policy makers of the effectiveness of their policy decision and facilitate timely monetary policy actions.

Akinyomi (2014) explored effect of deposit volume on banks' lending behavioural in the Nigerian post-consolidation era. The researcher shows the essential role of banks in the economic which shows intermediate funds between surplus and deficit economic units. In the process of carrying out this primary task, banks had found themselves performing a number of functions which include: the mobilization of savings, stimulation of investment and economic growth, assistance in resources allocation, boosting of international trade and promotion of the payment system. The few studies which have been conducted on bank lending in Nigeria focused on the pre-consolidation banking era. This study examines the effect of deposit volume on bank lending behaviour in the Nigerian post-consolidation banking period. The specific objective is to ascertain whether volume of deposit influences loan and advances in the Nigerian deposit money banks. In this study dependent variable is Loans and advance and independent variables is volume of deposit. The population of the study comprises the 22 deposit money banks operating in Nigeria as at December,

2012. Researcher had collected data from the audited annual reports of the 22 banks for the post-consolidation period of 2006 -2012. The analysis was conducted using regression analysis with the aid of SPSS package. The results revealed a positive and significant relationship between deposit volume and loan and advances in the selected banks. The study recommends that future researchers should investigate other factors which may exert some influence on the lending behaviour deposit money banks in Nigeria beside deposit volume. The result of the regression analysis revealed that the independent variable (Volume of Deposit) had a significant and positive relationship with the dependent variable (Loan and Advances) on the Nigerian deposits money banks. In other words, the higher the deposit volume, the greater the probability of granting loans and advanced to prospective borrowers. The result of this study reveals a positive relationship between deposit volume and bank lending. Therefore, there is need for bank management to devise new methods of enhancing customers' deposits. Specifically, factors such as capitalization, interest rates, gross domestic product, and liquidity ratio were mentioned.

Ansari and Goyal (2014) studied bank completion, managerial efficiency and the interest rate pass-through in India. The study shows how banks solve an intertemporal problem under adverse selection and moral hazard with bank specific factors, regulatory and supervisory features, market structure and macroeconomic factors can be expected to affect banks loan interest rates and their spread over deposit interest rates. To examine interest rate pass-through for India banks in a period following extensive financial reform, after controlling for all factors, the researchers estimate the determinants of commercial banks loan pricing decisions using the dynamic panel data methodology with annual data for a sample of 33 banks over the period from 1996 to 2012. The result shows commercial banks consider several factors apart from the policy rate. The independent variables are loan interest rate and deposit interest rate and dependent variables are loan maturity, product diversification and managerial inefficiency, return on equity, liquidity and size. The researcher use descriptive statistics for data analysis. Here APRD measures estimating marginal costs using Translog Cost Function which quantifies the impact of marginal costs on performance, measured in terms of market shares. The absolute value of the ARPD measure is used in our regression since it used straightforward interpretation. Higher the coefficient in absolute sense, higher is the competition. The competition in the

banking sector increased from 2002 where in 2006 and 2007 marginal decrease. The main finding is that loan interest rates spread are positively impacted by policy variables, more competition reduces transmission by reducing the loan rate but positive policy shock increases the cost of funds and reduces the spread. The interaction between policy rate and competition in the banking sector had a negative and highly significant coefficient, which is the impact of competition on interest rate pass-through. An exogenous shock forced banks to minimize costs, offer services at lower prices and at the same time increase profits. Efficient banks will increase in size and market share at the expense of less efficient banks. MI interaction puts significant downward pressure on loan pricing which leads to increased share in competitive loan market which helps in increase in profit. Cost of deposit effect on loan rate. The results highlight the role of operating efficiency, risk aversion, asset-liability management and credit risk management in commercial banks loan pricing.

Fadiran (2014) examined and compare the interest rate pass-through among the Brazil, Russia, India, china and South-Africa (BRICS) emerging markets. The study determines and compares the rate (speed) and size of monetary response to interest shocks, and further determines the presence of asymmetry on interest rates adjustments to shocks. In this study, the presence or absence of asymmetry would indicate, to some extent, the level of institutional and structural differences, rigidities and market imperfections within each of the economies. The study reviews a general literature on interest rates pass-through by applying a counteraction and asymmetric mean adjustment lag (MAL) error correction methodology (ECM). The BRICS economies was considered as the dominant emerging market economies in terms of GDP growth rates, with some of the members having the highest growth rates in the world. The study shows respective trends for BRICS economies, from 2001 to 2010. With significant variation in BRICS' GDP and inflation rate, members similarly, vary significantly in bank competition levels According to research survey annual percentages of constant price GDP was changes year-on-year the base year is country-specific indirectly signals the bank competition levels within the banking industry, which indirectly impacts on the IRPT mechanism and the monetary policy transmission . It was thus suggested that differences in bank concentration and hence competition, are likely to create arbitrage, asymmetry and investment opportunities for BRICS intra-trade, while presenting opportunities for some members to gain more

than others. These differences among members, should thus, increase financial trading, borrowing and integration. The research shows levels of interest margins can assist policy makers in assessing a country's banking system, such as identifying and quantifying major deficiencies and barriers, relating to financial intermediaries' efficiency. To analyse the pass-through transmission from the policy or market rate to the retail rates, secondary data was collected from the International Monetary Fund's (IMF) International Financial Statistics (IFS) under the Thompson DataStream was collected and employed. The research was conducted using monthly data with a period of nine years, from 2001:1 to 2010:12. The variables used in this research were interest rate, discount rates, deposit rates and lending rates. In this research South Africa and Brazil produced a fast and almost complete pass-through in the short-run lending rate and incomplete pass-through in the deposit rate, which justifies the presence of high bank concentration ratio and net interest margin within respective banking systems. Brazil's deposit rate showed a presence of asymmetric influence on the interest adjustments. Amongst the other BRICS members, India produced an insignificant over complete pass-through in the deposit rate short run adjustment. From the period covered, the presence of asymmetric influence on interest rate adjustment was found and confirmed in Brazil, Russia and India. Overall, the study shows that South Africa was ready to join the BRICS from a financial and banking markets sector, though there was a high bank concentration level reducing the competition levels within the country. South Africa can benefit from an expansion in intra-BRICS trade, hence benefiting from the financial sector as more credit and loans can be made locally following potentials of improvement and competition within the financial sector.

Eke, Eke and Inyang (2015) conducted interest rate and commercial banks' lending operations in Nigeria a structural break analysis using Chow test. The study used the classical least squares method to empirically examine interest rate deregulation effect on the lending operations of Nigerian commercial banks for the period 1970 to 2013. The researcher had used The Keynesian theory of interest on this research. The variables used in this research were loan and advances, monetary policy rate, interest rate spread, statutory liquid ratio, exchange rate and inflation rate. The period was divided into two policies regime periods; the regulated interest rate era spanning 1970-1986 and the deregulated period 1987-2013. The Chow test was applied to

examine if there was any significant difference in the relationship between interest rate and commercial banks' lending for the two periods. The empirical result obtained for the interest rate regulation era showed that interest rate spread and statutory liquidity ratio had negative and significant effect on the volume of commercial banks' loans, while fixed exchange rate had negative and insignificant impact on banks' loans and advances. It was found that Monetary Policy Rate (MPR) and inflation rate exert a positive and significant impact on banks' loans for the period. For the deregulation era, the result showed that MPR and the exchange rate had significant impact on banks' loans and advances. While the former exerted a negative impact, the later had a positive influence on loans and advances. Interest rate spread, statutory liquidity ratio and inflation rate were found not to have significantly impacted on commercial banks' loans and advances for the period. The chow test result confirms the impact of deregulation on volume of commercial banks loans and advances due to the deregulation of interest rate. The study submits that, there exist a relatively inelastic relationship between interest rate spread and banks' loans at the deregulated interest rate era. This was largely attributed to imperfections as well as the under-developed nature of the financial market. The study suggests that the monetary authority should evolve a guided interest rate deregulation regime with MPR increasingly used to regulate the activities of commercial banks in the area of loans and advances. In order to extend the financial sector, there is the need to improve financial infrastructure which will enhance commercial bank operations resulting in a more competitive financial market and an improved investment climate in the country. The study suggested that interest rate deregulation impacted positively but insignificantly on banks' loans and advances. The study therefore enforces the proposition that interest rates' are not the major determinants in extension of loans in most developing countries. The researchers had study a comparative analysis of the empirical results for the two periods suggests that the role of interest rates in determining banks loans was more pronounced at the interest regulation regime.

Mukoya, Muturi, Oteki and Wamalwa (2015) conducted volume of deposits, a determinant of total long-term loans advanced by commercial banks in Kenya: case of bungoma country. The studies shows commercial banks exponentially increased their total loans advanced over the period from 2002-2013. It shows commercial bank in Kenya varying long term lending behaviour. The main objectives of this study was to

established the effect of determinants of long term lending in Kenya banking industry, a case of Bungoma Country. The study was guided by the following specified objects to determine the effect of volume of deposit on total loan advanced of selected commercial banks in Kenya. The studies shed some light on the lending decision of Kenyan commercial banks. It was important to understand the functioning of the banking system in emerging market in general and in Kenya in particular to know how banks regard rate and rate them. It proved challenging at times to get the respondents from individual banks due to their busy schedules. The researcher had used “The Real Bills Doctrine theory” which stated that a commercial should advance only short-term self-liquidating productive loan to business firms. This principle would ensure the proper degree of liquidity for each bank and the proper money, supply for the whole economy. Such short-term self-liquidating productive loan possess three advantages, firstly, they possess liquidity that is why they liquidate themselves automatically. Second, since they mature in the short run and are for productive purpose, there is no risk on their running to bad debts. Third, being productive such loans earn income for the banks.

Despite these merits the real bills doctrine suffer from certain defects. First, if a refuses to granny a fresh loan till the old loan was repaid, the disappointed borrower will have to reduce production which adversely affect business activity. Second, the doctrine assumes that loans are self-liquidating under normal economic conditions. Third, this doctrine neglects the fact that the liquidity of a bank depends on the saleability of the situation liquid assets and not on real trade bills. Fourth, the basic defect of the theory was that no loan was in itself automatically self- liquidating. Fifth, this theory was based on the “needs of trade” which was no longer accepted as an adequate criterion for regulating this type of bank credit. The researcher applied descriptive survey research to achieve the objective of this study.

The population of study comprised of 13 banks in Bungoma Country and purposive sampling was applied to choose 4 respondents from loan department of each bank. The sample of respondents for this survey was considered suitable due to its relevance in the focus and purpose of the study. The variables used in this research were volume of deposit as independent variables and total loan advanced as dependent variables. It used self-administered questionnaires to collect data which was analysed by statistical package for social science (SPSS) and inferential statistics was carried out using

regression model to establish the effect of independent research variable on the dependent variable and extent to which the independent variable explained the determinant variable. The research shows volume of deposit explained 10.9% of total loans advanced, investment portfolio explained 44.9% and interest rate explained 9%.

Njeru, Njeru, Member and Ondabu (2015) examined effect of loan repayment on financial performance of deposit taking Sacco in Mount Kenya region. The study shows the target population was all the thirty licensed deposit taking SACCOs in Mount Kenya Region. For sampling purpose simple random sampling was used and sample size was taken of 92 respondents. The study adopted a descriptive survey in soliciting information. Both primary data and secondary data were used in this research. In this study primary quantitative data was collected by use of self-administered structured questionnaires. The secondary data derived from the audited financial statement of the SACCOs and the regulator (SASRA). The collected data was analysed with respect to the study objectives using both descriptive and inferential statistics. The researcher concluded that there is the need for the regulator to introduce credit policy for the sector, this will help in controlling credit risk among the SAACOs in the sector and reduce credit exposure on guarantors. The researcher had used two theories i.e. Stewardship Theory and Free Cash Flow Theory. The variables used in this study were independent variables were gross loan portfolio, loan delinquency, loan products and credit facility to management, dependent variable was financial performance of deposit taking SACCOs (Profit Margin and Level of operating expenses) and moderating variables was SACCOs regulation (non-compliance and updating policies).

The researcher established that the level of gross loan portfolio was average as indicated by mean of 3 and the point was confirmed by positive average of median value of 3. The level of dispersion was very high as indicated by standard deviation of 0.879 hence it showed that across the period, gross loan was varying at high levels. The researchers also established that the rate of loan default was on an increase as indicated by mean of 2.65 and also management provision mean of 3.43 which shows that management had a higher provision. Loan default was highly dispersed as shown by standard deviation of 0.787. The researcher established that accessing guarantees was not big issue as indicated by mean value of 4.68 but dispersion rate was very high as shown by standard deviation of 6.173. The level of outstanding loans in the deposit

taking SACCOs was very high as indicated by the mean of 3.04. To improve their financial performance, SACCOs have moved forward to diversify their loan product, the researcher established that the following were the main loan products offered by the SACCOs were staff members loan, nominal loan, investment loan, agribusiness loan, personal loan, premier loan, fanikisha loan, tosa pride loan, mortgage loan, normal loan, micro credit loan, business loan and development loan. This reviewed that there was high demand of funds by their members hence the need to diversify their loan products portfolio. The study shows positive relationship between loan repayment and financial performance of deposit taking SACCOs in Mount Kenya region as indicated by correlation. The huge percentage of credit risk was on the guarantors but the sector was on upward trend on growth. There was need to strengthen the sector by adoption of better and efficient credit management system and will ensure the sector was competitive across the Kenya financial sector.

Rustam (2015) conducted study on lending rate pass-through and bank heterogeneity in a high interest rate environment. The study shows the on-going policy discourse on the challenges of monetary policy transmission in environments with consolidated financial sectors and high credit rates. It shows empirically investigate the lending rate pass-through in Azerbaijan a small resource rich economy transition by taking advantage of a unique set of high-frequency bank –level data. The bottom line policy message is the following. First lending rates are considerably irresponsive to monetary policy shocks and the interest rate channel ought to be somehow improved. Second macroeconomic fundamentals and the concentrated bank sector are surprisingly not among the reasons behind the policy market disconnect. Third domestic commercial banks are able to exert substantial monopolistic pricing capacities and keep credit rates high, particularly when the central bank loosens its policy stance. Fourth the underlying cause of both monetary policy inefficacy and high interest rate stickiness appears to be structural excess liquidity. The empirical result shows that pass-through is substantially higher for less liquid it bank. The researcher had used the beauty of the Pooled Mean Group (PMG) approach which was applicability to both stationary and non-stationary heterogeneous dynamic panels. It includes macroeconomic variables such as the GDP and the Consumer Price Index (CPI), size and policy are independent variables and dependent variables such as lending rates on agricultural, industrial, consumer and trade sector loans. The study

uses dataset on 15 commercial banks of Azerbaijan for the period from 2005:1 till 2009:12. The sample constitutes over 75% of overall bank sector's total assets. All the data was in monthly format and had been collected from internal sources of the Central Bank of the Republic of Azerbaijan. The median, coefficient standard error and P-value were used to collect the data. Result had shown that liquidity had a consistently negative and significant effect on the interest rate pass-through. The finding was largely expected and confirms the detrimental impact of excess structural liquidity on the workability of interest rate channel of monetary policy transmission. The results shows that microeconomic events do not explained the persistently high lending rates in any reasonable way. The policy-market disconnect cannot be attributed to the considerably in the banking sector.

Ayieyo (2016) examined determined of lending behavioural in selected commercial banks in kenya. The main objective of this study was an investigation of the relationship that exists between the loan and advances of commercial banks and each of the other explanatory variables that have been identified through literature and theory i.e. volume of deposits, interest rate, and liquidity ratio. The dependent variables of this research were volume of deposit and interest rate and independent variable was Quality of loan advanced. In this study diagnostic test was used for research purpose. The study employed a correlation research design and was informed by theory of Money Supply. The study conducted by taking sample of all the ten banks listed at the Nairobi Securities Exchange (NSE) as at the year 2012. A census technique was used to constitute a sample size of nine commercial banks. The study focused on a ten-year period analysis (2002-2011) of the comprehensive financial statements of the sample size and adopted an econometric approach to test the degree of correlation between the variables by employing the multiple regression analysis of the Ordinary Least Square (OLS) method. The study used descriptive statistical analysis, correlation statistics and hypothesis testing for analysis data. The researcher had shown the volume of deposit and quantity of loan exhibited an upward trend from the base year 2002 to 2011. The volume of deposit has the highest impact and influence on the lending behaviour of commercial banks and a change in it will yield the highest change in banks' loans and advances. The study findings revealed that the banks' interest rates have an inverse relationship with total loans advanced by commercial banks such that high interest rates discourage borrowing and vice versa.

The findings indicated that lending interest rates are negatively related and significantly affect the total loans advanced. Based on the findings of the study it was evidenced that Interest Rate has an immense effect on the total advanced loans by commercial banks. Thus, commercial banks must find other innovative ways of expanding their loan book in order to maximize on interest income. Further, volume of deposit in commercial banks has a significant and positive effect on the total loan advanced. Therefore, commercial banks must innovate ways of increasing their profit through fee incomes and commissions since incomes from interest rate tend to decline with increase in the lending interest rate. This study established the determinants of lending behaviour in selected commercial banks in Kenya.

Bhattarai (2016) investigated the determinants of commercial banks' lending behaviour in the Nepalese context. The findings of this study may enable bank executives understand the major determinants of commercial bank lending and they may then adopt the appropriate lending strategies. This study had adopted descriptive and causal comparative research design. The convenience sampling method was used in choosing the banks for the study. The pooled data of 4 commercial banks for the period 2007 to 2014 have been analysed using regression model. The banks selected for the study are: Nabil Bank Ltd., Everest Bank Ltd., Nepal SBI Bank Ltd and Machhapuchchhre Bank Ltd. This study assumes that the study population (i.e. listed commercial banks of Nepal) has been fairly represented by the selected sample. The researcher had taken data from the annual reports of the banks. The data include time-series and cross-sectional data, i.e. pooled data set and pooled data regression has been used to examine the determinants of lending policy of Nepalese commercial banks. Data analysis had been done using the Statistical Package for Social Sciences (SPSS)-16, computer software. The dependent variable used in the study was loan advance (LOA) and the independent variables used were: bank size, liquidity, investment portfolio, cash reserve ratio and deposit to capital ratio. This study concludes that the major determinants of commercial banks' lending behaviour in Nepal are: bank size, liquidity, investment portfolio, and cash reserve ratio. The result had been carrying out by using descriptive statistics, correlation analysis and regression. The result shows that the average value of the loans and advances which is measured by natural logarithm of total assets were 21.767 and 24.725 respectively. The results indicate that sample commercial banks selected for the study are not very

much different with regard to size. The study had shown correlation between the dependent and the independent variables and to ascertain whether or not multicollinearity exists as a result of the correlation among variables. The result further implies that large size bank with enough cash reserve can provide more loans and advances to their clients. The researcher had study the estimated regression model reveals that bank size had positive and statistically significant relationship between commercial bank lending (loan and advances). Liquidity had negative and statistically significant impact on commercial bank lending (loan and advances). Likely, investment portfolio had negative and statistically significant impact on commercial bank lending (loan and advances). Moreover, cash reserve ratio had also negative and statistically significant impact on commercial bank lending (loan and advances). However, deposit to capital ratio (deposit) had negative but statistically insignificant relationship with commercial bank lending (loan and advances). The regression results reveal that bank size has significant positive effect on loans and advances whereas liquidity ratio, investment portfolio and cash reserve ratio have significant negative effect on banks' loan advances (LOA). This study recommends that commercial banks in Nepal should enhance their capacity in loan analysis and loan administration while the regulatory authority should pay more attention to the banks' supervision focusing on the compliance of relevant provisions and directives towards the banking activities.

Dhungana and Pradhan (2017) conducted effect of bank lending on inflation in Nepal. The study adopts causal-comparative research design in order to determine the effect of bank lending on inflation. The dependent variable is inflation and the independent variables are bank lending and interest rate. This study is based on secondary data. The researcher had used secondary data from commercial banks for the period 1996-2015. The main sources of secondary data were Banking and Financial Statistics, Quarterly Economic Bulletin, Monetary Policies and NRB Directives published by Nepal Rastra Bank, and the annual report and website of the selected commercial banks. The study includes 30 commercial banks of Nepal listed in Nepal Stock Exchange (NEPSE) limited to the end of 2015. This study uses data of 24 commercial banks with 369 observations from 1996 to 2015. The researcher had used method of analysis in this study consists of estimating the econometric models, and correlation analysis. The econometric models were used to examine the impact of bank lending

on inflation, while correlation analysis is used to establish the relationship between dependent and independent variables used in the study. For data collection the researcher had used descriptive statistics, correlation analysis and regression analysis. This study applied descriptive statistics associated with bank lending and inflation during the sample period. . The descriptive statistics such as mean, standard deviation minimum and maximum values have been used to describe the characteristics of bank lending and inflation during the period of 1996 to 2015. Correlation analysis has been basically adopted to identify the direction and magnitude of relationship between bank lending and inflation in this study. This relationship has been explained by using Pearson correlation coefficient. Classical linear regression model has a number of assumptions. Important assumptions are the significance of regression coefficients as well as overall significance. This study has employed t-statistic to conduct significance test of regression coefficients. The study has conducted correlation and regression analysis using panel data of twenty four commercial banks during the period of 1996 -2015. The study investigates in the area of bank lending and inflation in Nepal. This study attempts to identify whether the bank lending affects inflation. Thus the main objective of this study is to assess the effects of bank lending on inflation as well as to suggest ways of improving the bank lending to achieve price stability in Nepal. The empirical results show that bank lending has positive effect on the inflation in Nepal. The study implies that central bank willing to contain inflation should curtail excessive bank lending on unproductive and speculative sector.

Laseinde and Olokoyo (2018) investigated the influence of deposit money bank loan recovery strategies on customer relationship. The objectives of the study were to examine the effect of careful consideration of loan application, regular visits to the customer's shop and house, use of litigation, the use of collateral and the overall loan recovery strategies adopted by banks on customer relationship. The researchers study the descriptive design and questionnaires were the research instrument. The structured questionnaires contained closed ended questions which were used as the primary research instrument to make it easy for respondents to understand the objective of the study and also for easier analysis. In this study six banks were selected they are Zenith, Access, UBA, Fidelity, Union and Sterling Bank. For the sampling purpose 394 respondents were chosen from six banks as the sample size using Yamane's formula. The data gathered were analysed using statistical method while the

relationship between the variable were done using regression models. The dependent variable is customer relationship and independent variable is loan recovery strategy. The study shows customer relationship was a function of each loan recovery strategies. The results were analysed by descriptive statistics for careful consideration of loan application and customer relationship, descriptive statistics for regular visits to the customer's shop and house and customer relationship, descriptive statistic for careful consideration of loan application and customer relationship, descriptive statistic for the use of collateral and customer relationship. The findings of the study showed that the loan recoveries strategies had an effect on customer relationship. This shows that the choice of recovery strategies employed can be adapted to retain the borrowing customers. The study suggested that banks carefully select the loan recoveries strategies depending on the situation or the type of customer and also for banks to develop closer relationships with their customers. Further studies should be carried on other banks not considered in the study to get a broader view.

Nguyen, Tripe and Thanh (2018) examined operational efficiency of bank loans and deposits: a case study of Vietnamese banking system. The researchers examined whether there was a causal relationship between bank loans and deposits in the Vietnamese banking system and the efficiency of the use of loans and deposits by the Vietnamese banks. In a country such as Vietnam, where inter-bank money markets are relatively underdeveloped, one would expect a reasonably strong relationship between deposits and loans. There were two variables loan and deposit which examine the effect of some instrumental variables on the efficiency of the two basic activities as Z1 and Z2. Ratio used for this study was total assets, the ratio of loan to customers to total assets, the ratio of deposits from customers to total liabilities, the number of branches a bank has (BRANCH), the ratio of deposits and borrowings from other credit institutions to total liabilities, the lending rate, the unemployment rate, and the type of the bank (TYPE, a dummy variable that is 1 if the bank is an SOCB; otherwise, it is zero). The descriptive statistics was used in this research. The correlations between the variables were low, except for loan, deposit, and total assets. A pooled cross-sectional sample of financial ratios was collected from annual reports of 44 Vietnamese banks covering the period 2008–2015. SME analysis results had accounted for the causal relationship between bank loans and deposits and that the findings reveal the operational efficiency of Vietnamese banks' fund mobilisation and

utilisation activities simultaneously. The explanatory power of instrumental variables in relation to the endogenous variables is tested. A deterministic frontier model based on corrected ordinary least squares, estimated by three-stage least squares on a simultaneous equations model, and was employed to derive the frontiers for the sampled banks as well as to estimate the causality between bank loans and deposits. Our findings suggest that, in an underdeveloped banking system such as Vietnam, bank deposits have a positive and significant impact on bank loans, but the reverse relationship is not significant. It is further suggested that in deposit-taking and loan-creating activities, Vietnamese banks performed moderately well over the period examined; however, in the near future, they should start to focus more on deposit-taking activities. The researcher includes challenges in collecting data from banks with foreign ownership, which led to the small data sample (only 297 observations). The researcher shows in-depth study on the efficiency of using loans and deposits based upon other factors such as customer behaviour is also suggested.

Altavilla, Paries and Nicoletti (2019) examined loan supply, credit markets and the euro area financial crisis. The researchers had derive a measure of loan supply shocks from proprietary bank-level information on credit standards from the euro area Bank Lending Survey controlling for both macroeconomic and bank-specific demand factors. Using this indicator as an external instrument in a Bayesian vector autoregressive model, researchers found a tightening of credit standards – i.e. banks’ internal guidelines or loan approval criteria – leads to a protracted contraction in credit volumes intermediated by banks and higher lending margins. This fosters firms’ incentives to substitute bank loans with market finance, ultimately producing a significant increase in debt securities issuance and higher corporate bond spreads. Researcher had shown that widely-used measures of financial uncertainty do not influence or drive our results. Soft information from surveys has been used in previous studies to disentangle credit supply from demand. The researchers had used individual data from the Senior Loan Officer Opinion Survey. However, as the BLS was fully anonymous at bank level, we cannot match banks’ balance sheet items to our individual BLS responses as proposed in Basset. The studied had shown a propensity score model explaining how likely it is for each bank to tighten credit based on prevailing economic conditions; the model includes bank-level information from the BLS as well as country-level and euro area-wide economic conditions. This

information is then used to reweight each bank's response so as to mimic the conditions of a randomised experiment. The measure obtained by reweighting the individual credit standard responses is labelled the loan supply indicator measure for each individual bank across banks and across countries to obtain a measure of changes in lending standards for the euro area. The model includes measures of firms' costs of financing derived from both bonds and bank loans, volumes of bank lending to new business (adjusted for sales and securitisation) and corporate securities (as notional stocks), as well as the policy interest rate, GDP and the GDP deflator¹³. The model is estimated in log-levels for real GDP, the GDP deflator, loans to NFCs, and debt issuance by NFCs. The short-term interest rate, the composite lending rate to NFCs and the spread between the NFCs' BBB bonds and the AAA government bond are instead taken in levels.

The researchers analysed possible cross-country heterogeneity in the transmission of loan supply shocks. Country specific analysis allows us to control for potentially heterogeneous transmission mechanisms of loan supply shocks in different countries, which could have been a relevant feature especially over the sovereign crisis period, characterised by fragmentation, i.e. a very different behaviour of Northern versus Southern countries. It excludes lending rates and short term policy rate as monetary policy in the euro area is not supposed to react to country specific developments. Including the monetary policy rate with country-specific information would provide a distorted estimate of the systematic behaviour of monetary policy. The results had highlighted that following a credit tightening, firms tend to substitute bank loans with debt securities issuance. More specifically, tighter supply of bank loans to non-financial corporations had been found to explain a large part of the substitution between loans and bonds (i.e. surge in corporate bond issuance and increase in bond spreads) during the financial crisis. Firms substitute loans with bonds at times of banks' distress. This substitution is however incomplete. Focusing on cross-country differences, the analysis showed that countries with more developed corporate bond markets have been more resilient to negative loan supply shocks.

Chen, Ma and Wa (2019) conducted bank credit and trade credit: evidence from natural experiments. Prior studies find mixed evidence about the substitution relation between bank credit and trade credit. Researcher had used two bank interest rate deregulations in China, it revisits the substitution hypothesis by examining how

exogenous increases in the availability of bank credit affect trade credit. The studied had found that firms with higher credit risk increased their use of bank credit and reduced their use of trade credit after the 2004 bank interest rate ceiling deregulation, whereas firms with lower credit risk increased their use of bank credit and reduced their use of trade credit after the 2013 bank interest rate floor deregulation. Our results provide supportive evidence for the substitution hypothesis that firms reduce their use of trade credit after the relaxation of bank credit and suggest that bank credit was more favourable short-term financing than trade credit. Chinese commercial banks had limited flexibility in setting their own interest rates before 2001 because the central bank set base rates along with upper and lower boundaries. With the constraints of offering lower interest rates to high-quality borrowers and charging higher interest rates to low-quality borrowers, banks still need to form a portfolio that maximizes the expected return under a truncated range of interest rates, resulting in a lower maximum expected return. Eliminating the upper limit on interest rates gives banks option to extend their loans to low-quality borrowers by charging higher interest rates, and consequently increasing the overall expected return of the portfolio. The study had shown removal of interest rate ceiling shifts the equilibrium to the right, resulting in a higher portfolio interest rate and a higher portfolio expected return.

Researchers had shown removal of the bank interest rate ceiling leads to a significant increase of bank credit for low-quality firms. According to the substitution hypothesis, because bank credit was relatively cheaper than trade credit and there was a substitution relation between these two, we expect that low-quality firms would significantly reduce their use of trade credit after the bank interest rate ceiling deregulation. The result in this study had shown that borrowing amounts significantly increase for low-quality firms after the bank interest rate ceiling deregulation. For high-quality firms, we expect that with the increase of lending to low-quality firms, banks adjust their overall lending portfolio by reducing their lending to high-quality firms. Although the result in this was negative, it is not significant at the traditional level. One possible explanation was that banks increase their overall credit supply after the bank interest rate ceiling deregulation. While banks increase their lending to low-quality firms, they do not significantly reduce their lending to high-quality firms. The finance literature proposes a substitution hypothesis that because the cost of trade

credit is much higher than that of bank credit, firm's first use relatively inexpensive bank loans and then expensive trade credit after bank loans become unavailable. The studies mainly focus on financial shocks to bank credit availability and examine how trade credit changes during financial contractionary periods. However, the results of these studies are mixed. In addition, another aspect of the substitution hypothesis is that firms reduce their use of trade credit after the relaxation of bank credit because the cost of bank credit is cheaper than that of trade credit.

Guo and Wu (2019) investigated the role of credit risk in the relationship between short-selling activity and future stock returns. The study found the predictive power of short interest for future returns was concentrated in the worst-rated stocks. Low-grade stocks with the largest short interest decrease outperform those with the largest short interest increase by 1.09 percent in the following month. This return spread was robust to controls for cross-sectional effects and firm characteristics, and was much more pronounced during periods of high investor sentiment and low liquidity. Distressed firms with large short interest increases experience a worse performance subsequently. The study used computer database for data source, which provides stocks' monthly short interest levels beginning in 1973. The research shown merges the short interest data with data from the Centre for Research in Security Prices (CRSP) by the cusip number. Each stock's short interest level was divided by its total shares outstanding to obtain the short interest ratio (SIR). When the change in short interest ratio SIR it was positive, the amount of stock being shorted was higher than the amount of stock covered in month. The main reason for short selling was to exploit the overpricing of stocks. This researcher explores the role of firm-level distress risk in driving the predictive relation between short interest and future stock returns. The study first examine the effects of short interest levels and credit ratings, and find that the well-established pattern of return predictability is most evident in the group of speculative-grade stocks. The researcher then propose changes in short interest as an alternative return predictor, which is a detrended variable that better captures variations in short-sellers' beliefs. The study found that the predictive power of short interest changes for future returns is stronger, and return predictability is more pronounced for firms with a rating. The long-short portfolio generates economically significant returns for distressed stocks. For speculative-grade firms, a portfolio that longs stocks with the largest decrease in the short interest ratio and

shorts stocks with the largest increase in the short interest ratio delivers an abnormal return (alpha) of about 15% per annum. The return predictability associated with short interest changes is robust to controlling for various cross-sectional effects. In contrast, the long-short portfolio generates no significant payoffs for investment-grade stocks. The researchers investigate the economic sources of short interest predictive power for stock returns of distressed firms. The study found that stock returns were more sensitive to changes in a distressed firm's earnings, which increases the profitability of trading on information in short interest. In addition, short interest changes predict the future profitability of distressed firms. The study contributes to the current literature by uncovering new evidence that the short interest anomaly was linked to financial distress. The study shows that financial distress leads to the high sensitivity of stock prices to changes in earnings and drives the return predictability of short interest. The study shows that results confirm previous findings about the importance of firm-level distress risk effects in asset pricing and lend support to the argument that there exist commonalities across asset pricing anomalies.

Table 1

Review of empirical studies

Study	Major Findings
Choi (2002)	<ul style="list-style-type: none"> • VAR had negative coefficient i.e. as the variance or uncertainty increases the relative amount of lending and decrease ALAA. • CORR had positive coefficient i.e. as the correlation increases uncertainty decreases and the relative amount of lending increases
Ahtila (2005)	<ul style="list-style-type: none"> • The profits are independent across customers, the bank maximizes the expected present value of its profits by maximizing the product of the probability of the customer staying with the bank • The findings suggest that the contribution of the banking system to the efficiency of resource allocation is likely to be smaller than has commonly been perceived.
Roseline, Esman and Anne (2011)	<ul style="list-style-type: none"> • The variables selected in this study are the volume of loan granted and the quality of precaution reserve they choose to hold. • The findings of this study will therefore inform policy makers of the effectiveness of their policy decision and facilitate timely monetary policy actions.
Akinyomi (2014)	<ul style="list-style-type: none"> • Shows the essential role of banks in the economic which shows intermediate funds between surplus and deficit economic units. • The results revealed a positive and significant relationship between deposit volume and loan and advances in the selected banks.
Ansari and Goyal (2014)	<ul style="list-style-type: none"> • Finding is that loan interest rates spread are positively impacted by policy variables, more competition reduces transmission by reducing the loan rate but positive policy shock increases the cost of funds and reduces the spread. • Results highlight the role of operating efficiency, risk aversion, asset-liability management and credit risk management in commercial banks loan pricing.
Fadiran (2014)	<ul style="list-style-type: none"> • Determines and compares the rate (speed) and size of monetary response to interest shocks, and further determines the presence of asymmetry on interest rates adjustments to shocks.

- South Africa can benefit from an expansion in intra BRICS trade, hence benefiting from the financial sector as more credit and loans can be made locally following potential of improvement and competition within the financial sector
- Eke,Eke and Inyang (2015)
- Empirical result obtained for the interest rate regulation era showed that interest rate spread and statutory liquidity ratio had negative and significant effect on the volume of commercial banks' loans, while fixed exchange rate had negative and insignificant impact on banks' loans and advances.
 - Comparative analysis of the empirical results for the two periods suggests that the role of interest rates in determining banks loans was more pronounced at the interest regulation regime.
- Mukoya, Muturi, Oteki and Wamalwa (2015)
- Stated that a commercial should advance only short-term self-liquidating productive loan to business firms.
 - Principle would ensure the proper degree of liquidity for each bank and the proper money, supply for the whole economy.
- Njeru, Njeru, Member and Ondabu (2015)
- High demand of funds by their members hence the need to diversify their loan products portfolio.
 - There was need to strengthen the sector by adoption of better and efficient credit management system and will ensure the sector was competitive across the Kenya financial sector.
- Rustam (2015)
- Liquidity had a consistently negative and significant effect on the interest rate pass-through.
 - Finding was largely expected and confirms the detrimental impact of excess structural liquidity on the workability of interest rate channel of monetary policy transmission.
- Ayieyo (2016)
- The volume of deposit has the highest impact and influence on the lending behaviour of commercial banks.
 - Findings indicated that lending interest rates are negatively related and significantly affect the total loans advanced.
- Bhattarai (2016)
- Findings of this study may enable bank executives understand the major determinants of commercial bank lending and they may then adopt the appropriate lending strategies.
 - Results reveal that bank size has significant positive effect on loans and advances whereas liquidity ratio, investment portfolio and cash reserve ratio have significant negative effect on banks' loan advances (LOA).
- Dhungana and Pradhan, (2017)
- Econometric models were used to examine the impact of bank lending on inflation, while correlation analysis is used to establish the relationship between dependent and independent variables used in the study.
 - The empirical results show that bank lending has positive effect on the inflation in Nepal.
- Laseinde and Olokoyo (2018)
- The findings of the study showed that the loan recoveries strategies had an effect on customer relationship.
 - Suggested that banks carefully select the loan recoveries strategies depending on the situation or the type of customer and also for banks to develop closer relationships with their customers.
- Nguyen, Tripe and Thanh (2018)
- Findings reveal the operational efficiency of Vietnamese banks' fund mobilisation and utilisation activities simultaneously.
 - Findings suggest that, in an underdeveloped banking system such as Vietnam, bank deposits have a positive and significant impact on bank loans, but the reverse relationship is not significant.
- Altavilla, Paries, and Nicoletti(2019)
- The results had highlighted that following a credit tightening, firms tend to substitute bank loans with debt securities issuance.
 - The study focused on cross-country differences, the analysis showed that countries with more developed corporate bond markets have been more resilient to negative loan supply shocks.
- Chen, Ma and Wa(2019)
- The results had provided supportive evidence for the substitution hypothesis that firms reduce their use of trade credit after the relaxation of bank credit and suggest that bank credit was more favourable short-term financing than trade credit.
 - The studies mainly focus on financial shocks to bank credit availability and examine how trade credit changes during financial contractionary periods.
- Guo and Wu, (2019)
- This researcher explores the role of firm-level distress risk in driving the predictive relation between short interest and future stock returns.
 - The study shows that financial distress leads to the high sensitivity of stock prices to changes in earnings and drives the return predictability of short interest.
-

CHAPTER III

RESEARCH METHODOLOGY

This chapter present a description of the methodology that used in the study. It spells out the techniques and methods of sampling, data collection, processing analysis and the area in which the study will be carried out. The chapter also highlight the limitations and problems that is encountered while collecting data in final report.

3.1 Research framework and definition of variables

A theoretical framework was used to help focus on the variables in the study. The figure shows different variables i.e. interest rate, deposit volume, non-performing loan and lending of commercial banks of Nepal.

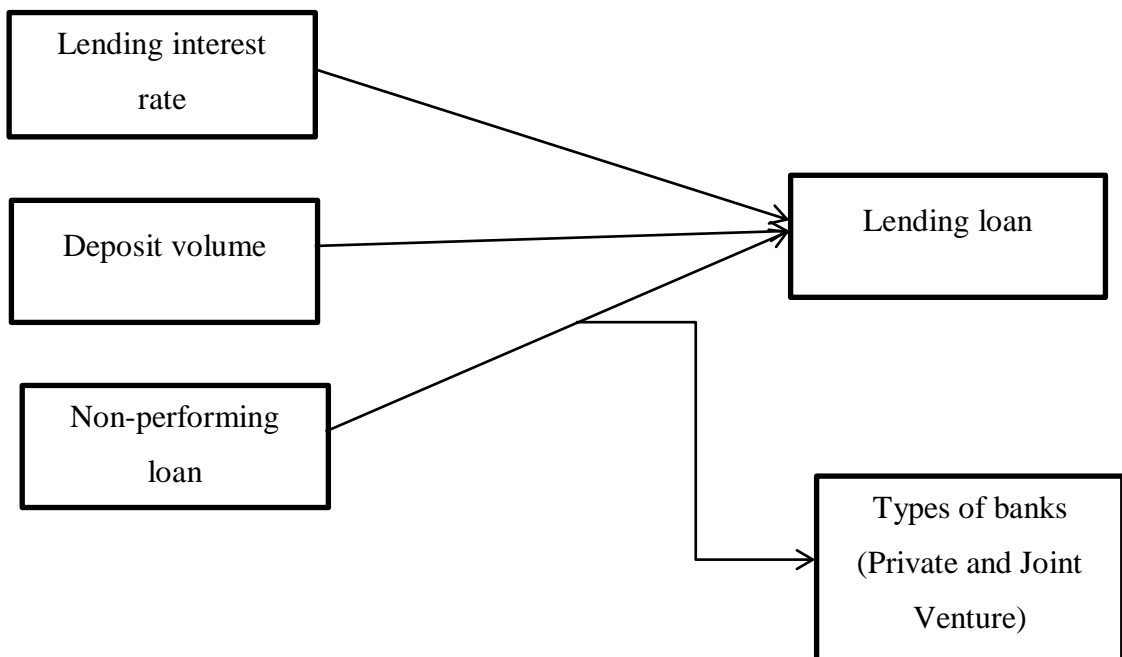


Figure 1 Conceptual Framework

Various variables are used in this study in the form of dependent and independent variables. The definitions of each variable used in this study are as follows:

3.1.1 Interest rate

An interest rate is the percentage of principal charged by the lender for the use of its money. The principal is the amount of money lent. As a result, banks pay an interest rate on deposits. They are borrowing that money from you. Anyone can lend money and charge interest, but it's usually banks. They use the deposits from savings or checking accounts to fund loans. They pay interest rates to encourage people to make deposits. Banks charge borrowers a little higher interest rate than they pay depositors so they can profit. At the same time, banks compete with each other for both depositors and borrowers. The resulting competition keeps interest rates from all banks in a narrow range of each other (Amadeo, 2019).

3.1.2 Deposit volume

A deposit is a financial term that means money held at a bank. A deposit is a transaction involving a transfer of money to another party for safekeeping. However, a deposit can refer to a portion of money used as security or collateral for the delivery of a good. A deposit encompasses two different meanings. One kind of deposit involves a transfer of funds to another party for safekeeping. Using this definition, deposit refers to the money an investor transfers into a savings or checking account held at a bank or credit union. In this usage, the money deposited still belongs to the person or entity that deposited the money, and that person or entity can withdraw the money at any time, transfer it to another person's account, or use the money to purchase goods. Often, a person must deposit a certain amount of money in order to open a new bank account, known as a minimum deposit. Depositing money into a typical checking account qualifies as a transaction deposit, which means that the funds are immediately available and liquid, without any delays. The other definition of deposit refers to when a portion of funds is used as a security or collateral for the delivery of a good. Some contracts require a percentage of funds paid before the delivery as an act of good faith. For example, brokerage firms often require traders to make an initial margin deposit in order to enter into a new futures contract (Kagan, 2019).

3.1.3 Non- performing loan

A non-performing loan, or NPL, is one that is in or close to default. This typically happens when principal and interest payments on the loan are overdue by 90 days or more. Non-performing loans are generally considered bad debt because the chances of them getting paid back are minimal. The more non-performing loans a bank has on its books, the more its stock price is likely to be affected. A large percentage of non-performing loans can affect a bank negatively, but it can also affect outside would-be borrowers. When loans become non-performing, banks stop collecting interest on them, which is how they make money. When a bank has too many non-performing loans on its books, it doesn't just lose money, but it also has less money available for new loans, which can leave prospective borrowers with fewer options. Banks with a large amount of non-performing loans relative to their total assets are also a less attractive stock investment than those whose books paint a more favourable picture. If a bank's percentage of non-performing loans increases, it could cause its stock price to go down. Banks that see an increase in non-performing loans should reevaluate their lending practices and take steps to better vet their borrowers to protect their own best interests and those of their stockholders (Gardner, 2016).

3.1.4 Lending loan

Lending (also known as "financing") is the temporary giving of money or property to another person with the expectation that it will be repaid. In a business and financial context, lending includes many different types of commercial loans. Lenders are businesses or financial institutions that lend money, with the expectation that it will be paid back. The lender is paid interest on the loan as a cost of the loan. The higher the risk of not being paid back, the higher the interest rate. Lending to a business (particularly to a new start up business) is risky, which is why lenders charge higher interest rates and often they don't give small business loans. Types of Commercial Loans are Bank financing for small business start-up and working capital, Asset financing for equipment and machinery or business vehicles, Mortgages, Credit card financing, Vendor financing (through trade credit), Personal (unsecured) loan (Murray, 2018).

3.2 Research design

The main purpose of this research is to know about the impact of volume of deposits and interest rate changes on Lending in Commercial Banks of Nepal. In this research two foreign joint venture banks i.e. Himalayan Bank Limited and Everest Bank Limited and three private banks i.e. Prime Bank Limited, Kumari Bank Limited and NMB Bank Limited as sample survey organizations. The research is using hypothesis test to determine relationship and provide a conclusion about the tested variables. The research is based on quantitative analysis in which the data is collected from statistically analysed using MS excel, SPSS. The data is aimed to collect from secondary sources through annual report published in website.

The research design is the specific action of methods and procedure for acquiring the information needed to structure of solve problems. In other word, it is the conceptual framework within which research is conducted. In this study, descriptive, relational, casual and analytical research designs are applied to achieve the research objectives. For analytical purposes, the annual reports published by the related banks. After tabulation, they will analyse by applying both financial ampmed statically tools. Descriptive research is the systematic collection and presentation of data to give a clear picture of a particular situation. Relational research design is selected to determine if there is relationship between the independent variables and dependent variable under the study. It involves measuring variables and assessing the relationship between them, with no manipulation of an independent variable. Casual research also known as explanatory research was also conducted in order to identify the extent and nature of cause-and effect relationship between the variables. The research determines how dependent variables are influenced by change to independent variables.

3.3 Population and sample, and sampling design

Population refers to the entire group people, events or things of interest that a researcher wishes to investigate. There are 28 commercial banks (including government owned, public and joint venture) are operating in Nepal. It is difficult to study all of them regarding the study topic because of limited time and resources factors too. So only following five banks are selected as sample.

Table 2

Sample of banks

S.N	Banks	Category	No of Observations	Year
1	Kumari Bank		10	2009-2018
2	NMB Bank	Private	10	2009-2018
3	Prime Bank		10	2009-2018
4	Himalayan Bank		10	2009-2018
5	Everest Bank	Joint Venture	10	2009-2018

3.4 Nature and sources of data, and the instrument of data collection

This study based only on secondary data. To collect the secondary data, published annual reports, balance sheet, prospectus, journals, magazines, articles, government and university publications, NRB as well as websites of sampled banks have been used as the sources of secondary information to examine the impact of interest rate, deposit volume and non-performing loan on lending loan.

3.5 Method of analysis

The thesis will cover and include the statistical tools to analyse the data in order to reach the conclusion of the research. For the analysis of the data, MS WORD, SPSS and MS EXCEL will be used. For the data of five years were taken as sample from 2013/14 to 2017/18. Firstly, the collected data are presented in proper forms, grouped in various table and then compared with other to interpret results. For this study statistical tools are going to be used.

3.5.1 Arithmetic Mean or Average

The Mean or average value is a single value within the range of data is used to represent all the values in the series. It represents the entire data which lies almost between the two extremes. An average is somewhere within the range of the data, it is also called a measure of central value. In this study, mean is calculated to find out the average of the variables used in research they are interest rate, deposit volume, non-performing loan and lending loan. It is calculated an all samples:

$$\text{Mean } (\bar{X}) = \frac{\sum x}{N}$$

Where, x = Value of responses of each independent or dependent variable

N = Number of observations

Σ = Sum of value of all items

3.5.2 Median

Median is a tool to measure the centre of a numerical data set. It summarizes large amounts of data into a single value. It can be defined as the middle number of a group of numbers that have been sorted in ascending order. In other words, the median is the number which would have the same amount of numbers both above and below it in the specified data group. It is commonly used measure of data sets in statistics and probability theory. In this study, median is calculated to find out the mid value of the variable used in the research they are interest rate, deposit volume, non-performing loan and lending loan. The formula for the median is as follows:

$$\text{Median (Md)} = \frac{(N+1)}{2^{\text{th terms}}}$$

Where, N = Number of observations

3.5.3 Standard Deviation

The standard deviation is the measure that is most often used to describe the variability in data distributions. It can be thought of as a rough measure of the average amount by which observation deviate on either side of the mean. It is calculated for selected dependent and independent variable specified. It is positive square root of mean squared deviation from the arithmetic mean. The more spread out the data, the higher the standard deviation. In this study, standard deviation is calculated of the variable used in the research they are interest rate, deposit volume, non-performing loan and lending loan. The formula for the standard deviation is as follows:

$$SD = \sqrt{\frac{\Sigma(x-x)^2}{n-1}}$$

Where, SD = Standard Deviation

$\sum(x - \bar{x})^2$ = Sum of square of the standard deviation measured from arithmetic average

n = Total number of observations

3.5.4 Coefficient of Variation

Coefficient of Variation (CV) reflects the relation between standard deviation and mean. The relative measure of dispersion based on the standard deviation is known as coefficient of standard deviation. The coefficient of dispersion based on the standard deviation multiplied by 100 is known as CV. It is used for comparing variability of two distributions. If the \bar{X} is the arithmetic mean and standard deviation of the distribution. In this study, coefficient of variance is calculated of the variable used in the research they are interest rate, deposit volume, non-performing loan and lending loan. The formula for the coefficient of variation is as follows:

$$C.V. = \left(\frac{SD}{Mean} \right) \times 100\%$$

3.5.5 ANNOVA

Analysis of variance (ANOVA) is a statistical technique that is used to check if the means of two or more groups are significantly different from each other. ANOVA checks the impact of one or more factors by comparing the means of different samples. ANOVA is a collection of statistical models and their associated estimation procedures used to analyse the differences among group means in a sample. The ANOVA is based on the law of total variance, where the observed variance in a particular variable is partitioned into components attributable to different sources of variation.

3.5.6 Correlation

Correlation is a statistical tool designed to measure the degree of association between two or more variables. In other words if the changes in one variable affects the change in another variable, then the variable are said to be co-related when it is used to measure the relationship between two variables, then it is called simple correlation. The coefficient of correlation measure the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's method is

applied in the study. In this study, correlation is calculated for the observation to find out the degree of relation between independent and dependent variables for all samples. It is expressed as:

$$r = \frac{\sum x_1 x_2 x_3}{\sqrt{\sum x_1^2 \sum x_2^2 \sum x_3^2}}$$

Where,

r = Coefficient of Correlation

$$\sum x_1 = x_1 - \bar{X}_1$$

$$\sum x_2 = x_2 - \bar{X}_2$$

$$\sum x_3 = x_3 - \bar{X}_3$$

3.5.7 Regression

Regression is a statistical measure that attempts to determine the strength of the relationship between one dependent variable and one or more variables. It includes many techniques for modelling and analysing several variables to understand the relationship between variables. In this study, regression is calculated for the observation to find out direction of relationship between independent variables and dependent variable for all samples. The theoretical model for the relationship is formulated as equation below:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3$$

Where,

Y = Lending

a= intercept

X_1 = Interest Rate

X_2 = Deposit Volume

X_3 = Non-Performing Loan

b_1 = Coefficient of Interest Rate

b_2 = Coefficient of Deposit Volume

b_3 = Non-Performing Loan

CHAPTER IV

RESULTS AND DISCUSSION

This chapter will present the data on table and figure. The main objective of the study is to present data and analyse them with the help of various financial and statistical tools. This chapter consists of analysis and presentation of empirical data. The important variables are very sensitive and taken into consideration, so this chapter will present the analysis of components of deposit volume, interest rate and non-performing loan and its impact on lending loan. The strength and weakness of this organization and historical performance and present financial condition can be determined by this analysis. The financial tools included graphical presentation as well as trend analysis between some variables. Moreover, the variables affecting to financial performance is also considering in the study. The analysis is made through the data presentations and various financial tools reflecting the relationship among variables affecting financial performance.

4.1 Analysis of data

Secondary data was collected and analysed in systematic way to derive the empirical findings. It includes published annual reports, balance sheet, prospectus, journals, magazines, articles, government and university publications, NRB as well as websites of sampled banks have been used as the sources of secondary information to examine the impact of interest rate, deposit volume and non-performing loan on lending loan.

4.1.1 Descriptive statistics of lending interest rate

The table reveals the descriptive status for the lending interest rate. It is found that mean value of Prime bank is highest among the other banks with mean value of 10.80 followed by Kumari bank with mean value of 10.45, Himalayan bank with mean value of 10.39, Everest bank with mean value of 9.65 and NMB bank with mean value of 9.34. Similarly, the highest mean value is 12.96 in fiscal year 2012 and lowest mean value is 7.68 in 2016. The mid value of Prime bank is highest among the other banks with mean value of 10.75 followed by Kumari bank with mean value of 10.55, Himalayan bank with mean value of 10.51, Everest bank with mean value of 9.95 and NMB bank with mean value of 9.21. The highest mid value is 13.12 in fiscal year 2011 and lowest mid value is 7.26 in fiscal year 2016. The standard deviation of

Prime bank is highest with standard deviation of 2.224, NMB bank with standard deviation of 2.103, Himalayan bank with standard deviation of 1.974, Kumari bank with standard deviation of 1.898 and Everest bank with standard deviation of 1.805. The highest standard deviation is 1.316 in fiscal year 2009 and lowest is 0.433 in fiscal year 2017. The coefficient of variance of NMB bank is found to higher with coefficient of variance 0.225 followed by prime bank with coefficient of variance 0.206, Himalayan bank with coefficient of variance 0.19, Everest bank with coefficient of variance 0.187 and Kumari bank with coefficient of variance 0.182. The highest coefficient of variance is 0.171 in fiscal year 2009 and lowest coefficient of variance is 0.05 in 2017.

Table 3

Descriptive statistics of lending interest rate

Bank/Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Mean	Median	SD	CV
Everest	7.57	9.95	12.22	12.30	10.49	10.11	8.76	6.94	8.19	9.94	9.65	9.95	1.805	0.187
Himalayan	9.18	10.81	13.12	13.14	11.27	10.21	8.35	7.26	8.94	11.64	10.39	10.51	1.974	0.19
Kumari	8.34	11.58	13.75	12.26	11.72	10.19	8.81	8.56	8.36	10.91	10.45	10.55	1.898	0.182
NMB	5.63	9.15	11.50	12.72	10.25	9.10	7.86	7.16	9.26	10.78	9.34	9.21	2.103	0.225
Prime	7.86	11.32	13.54	14.38	12.47	10.17	9.61	8.46	8.63	11.51	10.80	10.75	2.224	0.206
Mean	7.72	10.56	12.83	12.96	11.24	9.96	8.68	7.68	8.68	10.96	-	-	-	-
Median	7.86	10.81	13.12	12.72	11.27	10.17	8.76	7.26	8.63	10.91	-	-	-	-
SD	1.316	1.005	0.945	0.871	0.91	0.48	0.646	0.77	0.43	0.678	-	-	-	-
CV	0.171	0.095	0.074	0.067	0.08	0.048	0.074	0.1	0.05	0.062	-	-	-	-

Note: Data collected from annual reports of studied banks.

4.1.2 Descriptive statistics of deposit interest rate

The table reveals the descriptive status for the deposit interest rate. It is found that mean value of Prime bank is highest among the other banks with mean value of 6.12 followed by Kumari bank with mean value of 5.93, NMB bank with mean value of 5.21, Himalayan bank with mean value of 3.96 and Everest bank with mean value of 3.83. Similarly, the highest mean value is 7.38 in fiscal year 2011 and lowest mean value is 2.97 in 2016. The mid value of Kumari bank is highest among the other banks with mean value of 5.77 followed by Prime bank with mean value of 5.69, NMB bank with mean value of 4.79, Himalayan bank with mean value of 3.74 and Everest bank with mean value of 3.67. The highest mid value is 7.88 in fiscal year 2011 and lowest mid value is 3.08 in fiscal year 2016. The standard deviation of NMB bank is highest with standard deviation of 1.738, Prime bank with standard deviation of 1.698,

Kumari bank with standard deviation of 1.485, Himalayan bank with standard deviation of 1.445 and Everest bank with standard deviation of 1.322. The highest standard deviation is 1.341 in fiscal year 2011 and lowest is 0.82 in fiscal year 2017. The coefficient of variance of Himalayan bank is found to higher with coefficient of variance 0.365 followed by Everest bank with coefficient of variance 0.345, NMB bank with coefficient of variance 0.334, Prime bank with coefficient of variance 0.278 and Kumari bank with coefficient of variance 0.253. The highest coefficient of variance is 0.367 in fiscal year 2016 and lowest coefficient of variance is 0.182 in 2011.

Table 4

Descriptive statistics of deposit interest rate

Bank/Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Mean	Median	SD	CV
Everest	2.98	4.18	6.05	5.75	3.72	3.61	2.52	1.93	3.13	4.45	3.83	3.67	1.322	0.345
Himalayan	2.70	4.13	5.90	5.90	3.99	3.48	2.66	1.79	3.42	5.61	3.96	3.74	1.445	0.365
Kumari	5.10	6.51	8.14	8.20	5.87	5.67	4.47	4.00	4.51	6.85	5.93	5.77	1.485	0.25
NMB	3.54	5.33	7.88	7.86	4.86	4.49	3.63	3.08	4.71	6.73	5.21	4.79	1.738	0.334
Prime	4.79	6.67	8.93	8.57	6.05	5.32	4.52	4.07	4.98	7.25	6.12	5.69	1.698	0.278
Mean	3.82	5.36	7.38	7.26	4.90	4.51	3.56	2.97	4.15	6.18	-	-	-	-
Median	3.54	5.33	7.88	7.86	4.86	4.49	3.63	3.08	4.51	6.73	-	-	-	-
SD	1.074	1.219	1.341	1.331	1.059	0.984	0.955	1.091	0.822	1.142	-	-	-	-
CV	0.281	0.227	0.182	0.183	0.216	0.218	0.268	0.367	0.198	0.185	-	-	-	-

Note: Data collected from annual reports of studied banks.

4.1.3 Descriptive statistics of credit to deposit ratio

The table reveals the descriptive status for the credit to deposit ratio. It is found that mean value of Kumari bank is highest among the other banks with mean value of 79.45 followed by Prime bank with mean value of 78.86, NMB bank with mean value of 78.84, Himalayan bank with mean value of 77.43 and Everest bank with mean value of 76.24. Similarly, the highest mean value is 84.79 in fiscal year 2011 and lowest mean value is 76.56 in 2011. The mid value of Prime bank is highest among the other banks with mean value of 82.61 followed by Kumari bank with mean value of 80.24, NMB bank with mean value of 78.23, Himalayan bank with mean value of 77.40 and Everest bank with mean value of 76.11. The highest mid value is 87.87 in fiscal year 2011 and lowest mid value is 75.37 in fiscal year 2015. The standard deviation of NMB bank is highest with standard deviation of 5.570, Kumari bank with standard deviation of 5.214, Himalayan bank with standard deviation of 4.912, Prime

bank with standard deviation of 4.684 and Everest bank with standard deviation of 2.367. The highest standard deviation is 8.761 in fiscal year 2009 and lowest is 1.267 in fiscal year 2011. The coefficient of variance of NMB bank is found to higher with coefficient of variance 0.071 followed by Kumari bank with coefficient of variance 0.066, Himalayan bank with coefficient of variance 0.063, Prime bank with coefficient of variance 0.059 and Everest bank with coefficient of variance 0.031. The highest coefficient of variance is 0.109 in fiscal year 2009 and lowest coefficient of variance is 0.016 in 2010.

Table 5

Descriptive statistics of credit to deposit ratio

Bank/Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Mean	Median	SD	CV
Everest	73.43	76.24	76.98	73.22	76.57	75.06	69.47	76.24	76.94	75.98	76.24	76.11	2.366	0.031
Himalayan	73.58	77.43	80.57	75.36	77.36	71.82	75.37	79.12	83.59	88.31	77.43	77.40	4.912	0.063
Kumari	94.17	79.45	87.87	82.33	79.47	82.70	81.00	79.34	78.69	76.54	79.45	80.24	5.214	0.066
NMB	76.78	78.44	88.16	78.01	76.20	76.73	75.32	84.07	85.50	90.56	78.44	78.23	5.569	0.071
Prime	83.45	78.86	90.35	80.41	75.56	81.76	81.63	85.00	89.12	87.53	78.86	82.61	4.684	0.059
Mean	80.28	78.08	84.79	77.87	77.03	77.61	76.56	80.75	82.77	83.78	-	-	-	-
Median	76.78	78.44	87.87	78.01	76.57	76.73	75.37	79.34	83.59	87.53	-	-	-	-
SD	8.761	1.267	5.713	3.684	1.51	4.58	4.97	3.68	4.98	6.96	-	-	-	-
CV	0.109	0.016	0.067	0.047	0.02	0.06	0.06	0.05	0.06	0.08	-	-	-	-

Note: Data collected from annual reports of studied banks.

4.1.4 Descriptive statistics of non-performing loan

The table reveals the descriptive status for the Non- Performing Loan. It is found that mean value of Himalayan bank is highest among the other banks with mean value of 2.36 followed by Kumari bank with mean value of 1.71, NMB bank with mean value of 1.11, Prime bank with mean value of 1.08 and Everest bank with mean value of 0.49. Similarly, the highest mean value is 2.09 in fiscal year 2013 and lowest mean value is 0.72 in 2009. The mid value of Himalayan bank is highest among the other banks with mean value of 2.13 followed by Kumari bank with mean value of 1.20, Prime bank with mean value of 0.87, NMB bank with mean value of 0.79 and Everest bank with mean value of 0.43. The highest mid value is 2.35 in fiscal year 2013 and lowest mid value is 0.50 in fiscal year 2009. The standard deviation of Kumari bank is highest with standard deviation of 1.159, Himalayan bank with standard deviation of 1.085, Prime bank with standard deviation of 0.851, NMB bank with standard deviation of 0.757 and Everest bank with standard deviation of 0.276. The highest

standard deviation is 1.663 in fiscal year 2011 and lowest is 0.433 in fiscal year 2018. The coefficient of variance of Prime bank is found to higher with coefficient of variance 0.789 followed by NMB bank with coefficient of variance 0.684, Kumari bank with coefficient of variance 0.678, Everest bank with coefficient of variance 0.563 and Himalayan bank with coefficient of variance 0.461. The highest coefficient of variance is 1.486 in fiscal year 2010 and lowest coefficient of variance is 0.440 in 2016.

Table 6

Descriptive statistics of non-performing loan

Bank/Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Mean	Median	SD	CV
Everest	0.48	0.16	0.34	0.84	0.62	0.97	0.66	0.38	0.25	0.20	0.49	0.43	0.276	0.563
Himalayan	2.16	3.53	4.22	2.09	2.89	1.96	3.22	1.23	0.85	1.40	2.36	2.13	1.085	0.461
Kumari	0.44	0.50	1.12	2.21	2.89	4.03	2.49	1.15	1.24	1.01	1.71	1.20	1.159	0.678
NMB	0.51	0.70	0.27	2.45	1.80	0.55	0.42	1.81	1.68	0.88	1.11	0.79	0.757	0.684
Prime	0.00	0.00	0.57	0.76	2.23	2.43	1.83	1.23	0.88	0.85	1.08	0.87	0.851	0.789
Mean	0.72	0.98	1.30	1.67	2.09	1.99	1.72	1.16	0.98	0.87	-	-	-	-
Median	0.50	0.60	0.73	2.15	2.35	1.47	1.58	1.19	1.05	0.95	-	-	-	-
SD	0.832	1.453	1.664	0.805	0.941	1.367	1.190	0.510	0.529	0.433	-	-	-	-
CV	1.159	1.486	1.276	0.482	0.451	0.687	0.691	0.440	0.539	0.499	-	-	-	-

Note: Data collected from annual reports of studied banks.

4.1.5 Descriptive statistics of deposit

The table reveals the descriptive status for the deposit. It is found that mean value of Everest bank is highest among the other banks with mean value of 66.87 followed by Himalayan bank with mean value of 63.14, prime bank with mean value of 36.33, NMB bank with mean value of 35.36 and Kumari bank with mean value of 30.36. Similarly, the highest mean value is 86.13 in fiscal year 2018 and lowest mean value is 20.47 in 2009. The mid value of Everest bank is highest among the other banks with mean value of 59.91 followed by Himalayan bank with mean value of 58.87, prime bank with mean value of 31.42, Kumari bank with mean value of 26.45 and NMB bank with mean value of 24.64. The highest mid value is 83.97 in fiscal year 2018 and lowest mid value is 15.71 in fiscal year 2009. The standard deviation of NMB bank is highest with standard deviation of 25.82, Everest bank with standard deviation of 25.7, Himalayan bank with standard deviation of 21.69, prime bank with standard deviation of 18.68 and kumari bank with standard deviation of 13.13. The highest standard deviation is 24.1 in the fiscal year 2016 and lowest is 12.5 in fiscal

year 2010. The coefficient of variance of NMB bank is found to higher with coefficient of variance 0.73 followed by prime bank with coefficient of variance 0.51, Kumari bank with coefficient of variance 0.43, Everest bank with coefficient of variance 0.38 and Himalayan bank with coefficient of variance 0.34. The highest coefficient of variance is 0.623 in fiscal year 2009 and lowest coefficient of variance is 0.255 in 2018.

Table 7

Descriptive statistics of deposit

Bank/Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Mean	Median	SD	CV
Everest	33.32	36.93	41.13	50.01	57.72	62.11	83.09	93.74	95.09	115.51	66.87	59.91	25.703	0.384
Himalayan	34.68	37.61	40.92	47.73	53.07	64.67	73.54	87.34	92.88	98.99	63.14	58.87	21.693	0.344
Kumari	15.71	17.43	16.99	21.99	25.32	27.58	33.42	37.95	47.69	59.55	30.36	26.45	13.133	0.433
NMB	6.88	10.11	12.80	15.98	22.19	27.09	36.72	64.78	73.04	83.97	35.36	24.64	25.816	0.730
Prime	11.78	17.88	18.94	23.99	28.80	34.05	41.01	48.34	65.86	72.64	36.33	31.42	18.678	0.514
Mean	20.47	23.99	26.15	31.94	37.42	43.10	53.56	66.43	74.91	86.13	-	-	-	-
Median	15.71	17.88	18.94	23.99	28.80	34.05	41.01	64.78	73.04	83.97	-	-	-	-
SD	12.75	12.51	13.75	15.75	16.66	18.75	23.01	24.10	19.73	21.92	-	-	-	-
CV	0.62	0.52	0.53	0.49	0.45	0.44	0.43	0.36	0.26	0.25	-	-	-	-

Note: Data collected from annual reports of studied banks.

4.1.6 Descriptive statistics of lending

The table reveals the descriptive status for the lending. It is found that mean value of Everest bank is highest among the other banks with mean value of 49.90 followed by Himalayan bank with mean value of 48.44, prime bank with mean value of 30.55, NMB bank with mean value of 28.89 and Kumari bank with mean value of 26.28. Similarly, the highest mean value is 74.57 in fiscal year 2018 and lowest mean value is 15.64 in 2009. The mid value of Everest bank is highest among the other banks with mean value of 45.48 followed by Himalayan bank with mean value of 42.52, prime bank with mean value of 24.17, Kumari bank with mean value of 20.63 and NMB bank with mean value of 18.48. The highest mid value is 72.71 in fiscal year 2018 and lowest mid value is 14.59 in fiscal year 2009. The standard deviation of NMB bank is highest with standard deviation of 24.66, Everest bank with standard deviation of 22.3, Himalayan bank with standard deviation of 20.73, prime bank with standard deviation of 19.16 and kumari bank with standard deviation of 15.03. The highest standard deviation is 16.94 in the fiscal year 2016 and lowest is 8.615 in fiscal year 2009. The coefficient of variance of NMB bank is found to higher with

coefficient of variance 0.853 followed by prime bank with coefficient of variance 0.627, kumara bank with coefficient of variance 0.572, Everest bank with coefficient of variance 0.447 and Himalayan bank with coefficient of variance 0.428. The highest coefficient of variance is 0.551 in fiscal year 2009 and lowest coefficient of variance is 0.158 in 2018.

Table 8

Descriptive statistics of lending

Bank/Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Mean	Median	SD	CV
Everest	23.88	27.56	31.06	35.91	43.39	47.57	54.48	67.96	77.29	89.93	49.90	45.48	22.295	0.447
Himalayan	24.79	27.98	31.57	34.97	39.72	45.32	53.48	67.75	76.39	82.47	48.44	42.52	20.730	0.428
Kumari	14.59	14.77	14.63	17.61	19.37	21.90	26.25	29.49	43.56	60.60	26.28	20.63	15.031	0.572
NMB	5.19	7.81	11.21	12.07	16.49	20.47	27.29	53.02	62.65	72.71	28.89	18.48	24.656	0.853
Prime	9.73	13.95	16.89	18.90	21.23	27.10	32.62	40.27	57.71	67.14	30.55	24.17	19.164	0.627
Mean	15.64	18.41	21.07	23.89	28.04	32.47	38.82	51.70	63.52	74.57	-	-	-	-
Median	14.59	14.77	16.89	18.90	21.23	27.10	32.62	53.02	62.65	72.71	-	-	-	-
SD	8.61	8.96	9.57	10.85	12.52	13.02	14.05	16.94	14.04	11.75	-	-	-	-
CV	0.55	0.49	0.45	0.45	0.45	0.40	0.36	0.33	0.22	0.16	-	-	-	-

Note: Data collected from annual reports of studied banks.

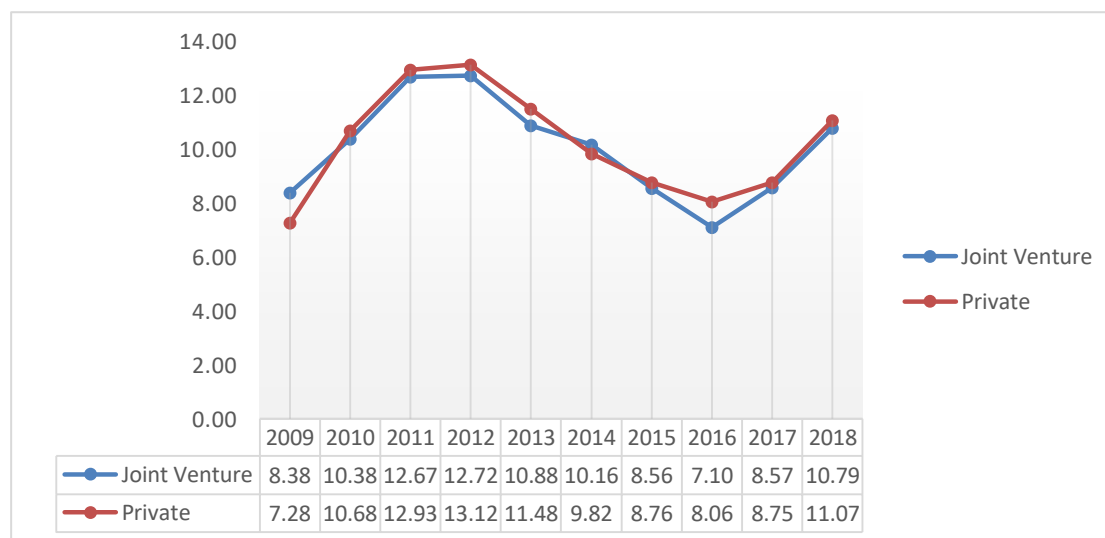
4.1.7 Lending interest rate

Figure 2

Lending interest rate

The figure shows the comparison of lending interest rate between joint venture and private banks. The lending interest rate of joint venture and private banks is increasing for first four year i.e. it is increasing from fiscal year 2009 to 2012. However, it is

started decreasing from fiscal year 2013 to 2016 and later it is increasing from 2017 to 2018. The highest lending interest rate of joint venture bank is 12.72% and private bank is 13.12% in fiscal year 2012. The lowest lending interest rate of joint venture bank is 7.10% in fiscal year 2016 and lowest lending interest rate of private bank is 7.28% in fiscal year 2009. The data shows the lending interest rate fluctuation over ten years of period.

4.1.8 Deposit interest rate

The figure shows the comparison of deposit interest rate between joint venture and private banks. The deposit interest rate of joint venture and private banks is increasing for first three year i.e. it is increasing from fiscal year 2009 to 2011. However, it is started decreasing from fiscal year 2012 to 2016 and later it is increasing from 2017 to 2018. The highest deposit interest rate of joint venture bank is 5.98% and private bank is 8.32% in fiscal year 2011. The lowest deposit interest rate of joint venture bank is 1.86% and lowest lending interest rate of private bank is 3.72% in fiscal year 2016. The data shows the deposit interest rate fluctuation over ten years of period.

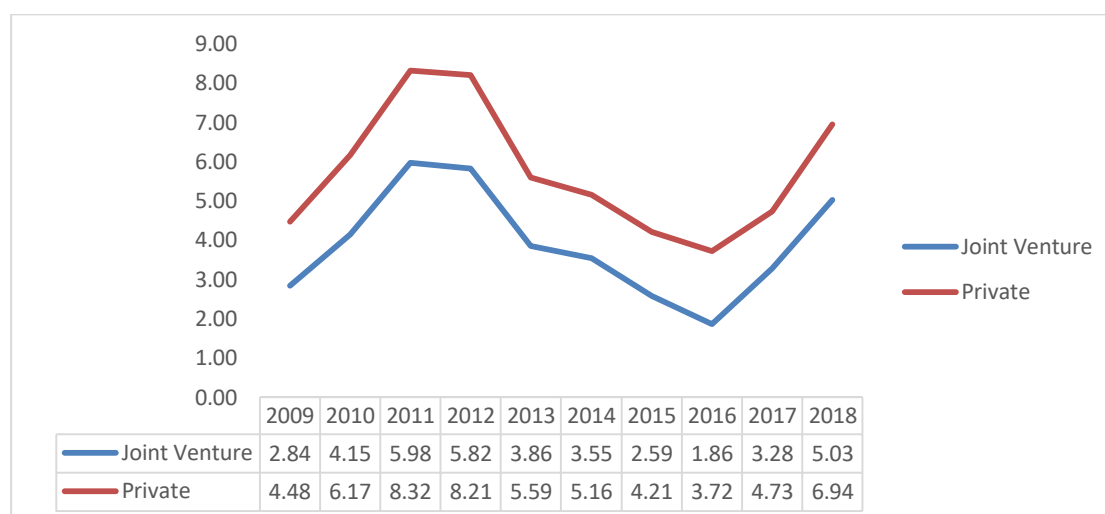


Figure 3

Deposit interest rate

4.1.9 Credit to deposit ratio

The figure shows the credit to deposit ratio of joint venture and private banks. The percentage of credit to deposit ratio of joint venture and private bank is fluctuating simultaneously. Credit to deposit ratio of joint venture bank is increasing from first three year i.e. increasing from 2009 to 2011, decreasing to 2012, increasing to 2013,

decreasing to 2014 to 2015 and then again increasing from 2016 to 2018. Credit to deposit ratio of private bank is decreasing form 2009 to 2010, increasing to 2011, decreasing to 2012 to2013, increasing to 2014, decreasing to 2015 and then again increasing from 2015 to 2018 The highest percentage of credit to deposit ratio of joint venture bank is 82.15% in fiscal year 2018 and of private bank is 88.79% in fiscal year 2011. The lowest percentage of credit to deposit ratio of joint venture bank is 72.42% in fiscal year 2015 and of private bank is 77.08% in fiscal year 2013.

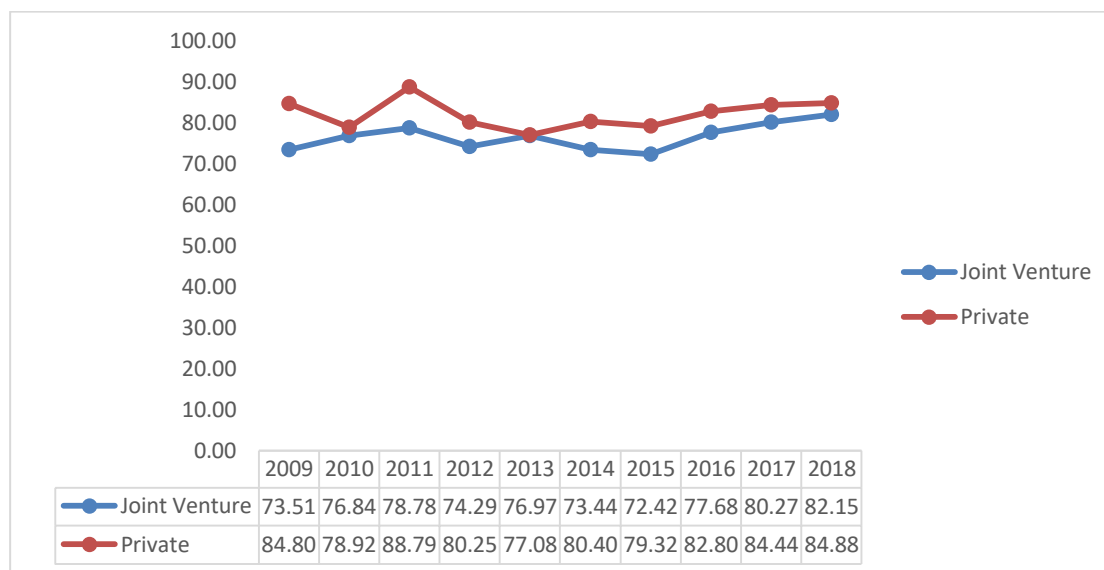


Figure 4

Credit to deposit ratio

4.1.10 Non-performing loan

The figure shows the percentage increasing of non-performing loan of joint venture bank from 2009 to 2011, decreasing to 2012, increasing to 2013, decreasing to 2014, increasing to 2015, decreasing from 2016 to 2017 and lastly increasing to 2018. The percentage increasing of non-performing loan of private bank from 2009 to 2014 and decreasing from 2015 to 2018. The highest percentage of non-performing loan of joint venture bank is 2.28% in fiscal year 2011 and lowest percentage is 0.55% in fiscal year 2017. The highest percentage of non-performing loan of private bank is 2.34% in fiscal year 2014 and lowest percentage is 0.32% in fiscal year 2009.

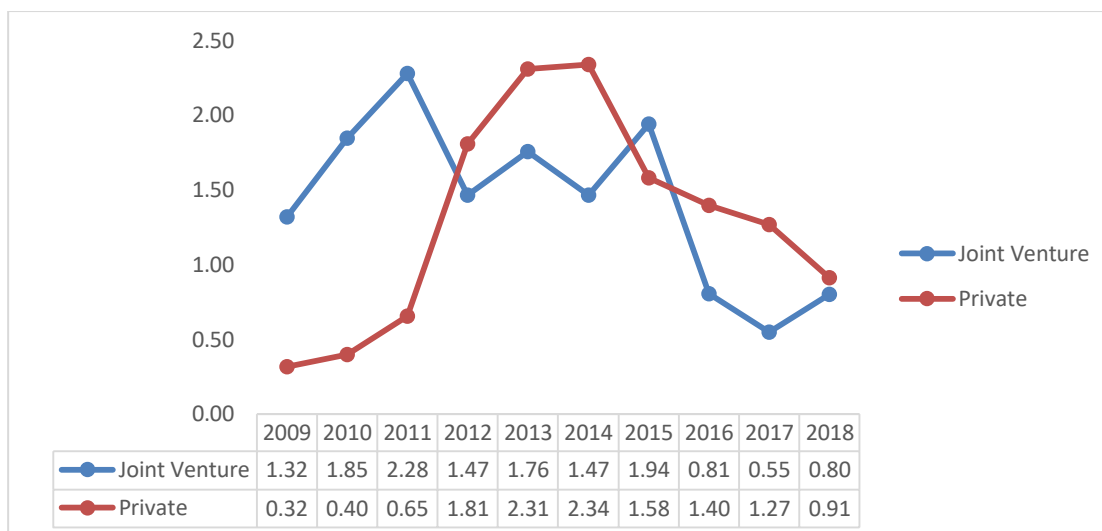


Figure 5

Non-performing loan

4.1.11 Deposit amount of commercial banks

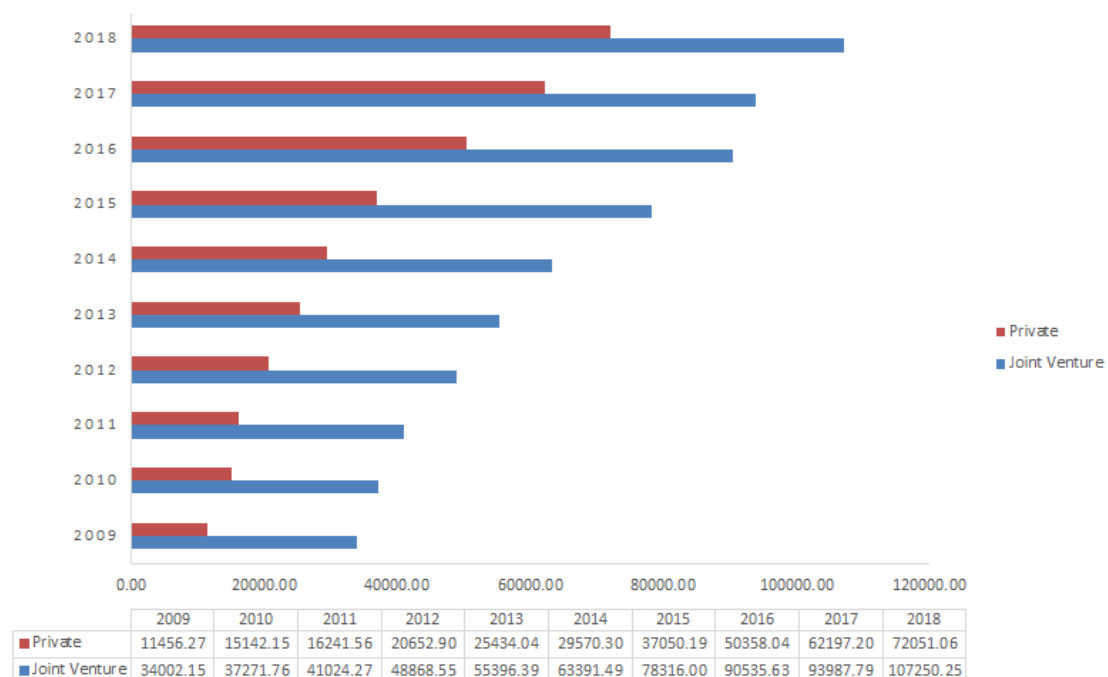


Figure 6

Deposit amount of commercial banks

The figure shows increment of deposit of both joint venture bank and private bank from fiscal year 2009 to 2018. The highest deposit of joint venture bank is 107250.25 and of private bank is 72051.06 from fiscal year 2018. The lowest deposit of joint venture bank is 34002.15 and of private bank is 11456.27 from fiscal year 2009.

Deposit has been increased year after year of both joint venture bank and private bank. The increment of deposit volume helps the bank to use the deposit for lending which helps in generating profit.

4.1.12 Lending amount of commercial banks

The figure shows increment of lending of both joint venture bank and private bank from fiscal year 2009 to 2018. The highest lending of joint venture bank is 86201.28 and of private bank is 66815.39 from fiscal year 2018. The lowest lending of joint venture bank is 24338.91 and of private bank is 9840.05 from fiscal year 2009. Lending has been increased year after year of both joint venture bank and private bank. The increment of lending helps in generating profit of banks.

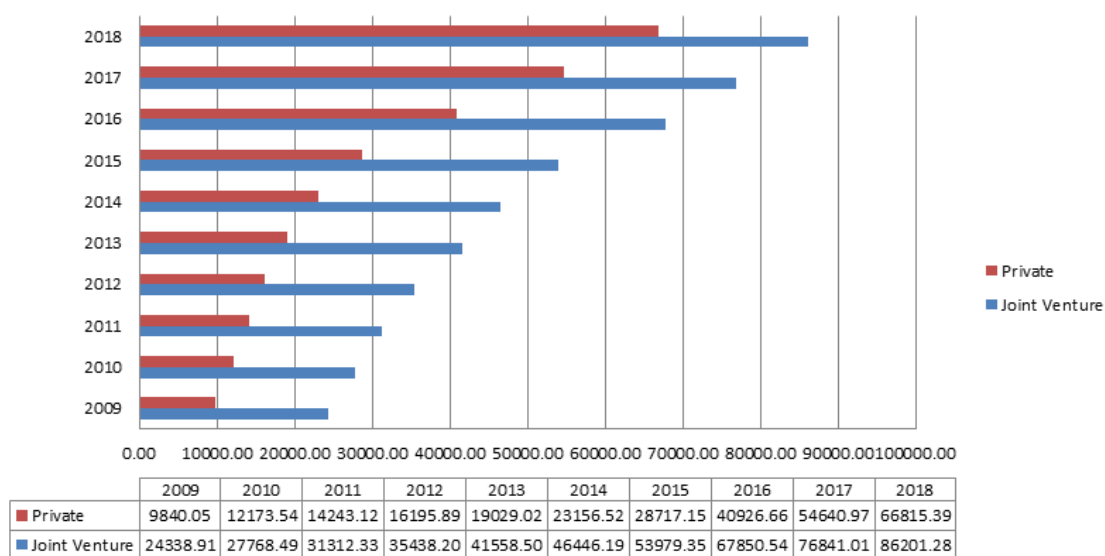


Figure 7

Lending amount of commercial banks

4.1.13 Deposit and lending

The figure shows the relationship between deposit and lending of banks. The deposit and lending has been increasing from 2009 to 2018. Higher the volume of deposit higher chance of lending and lower the volume of deposit lower the chance of deposit. In banks both deposit and lending plays an important role in generating profit.

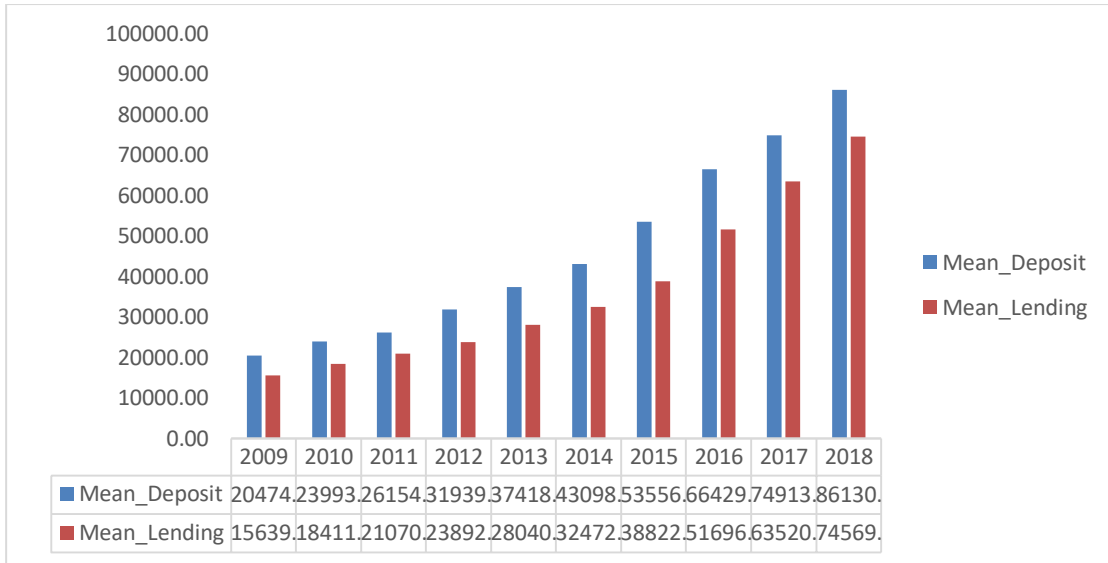


Figure 8

Deposit and lending

4.1.14 Lending interest rate and deposit interest rate

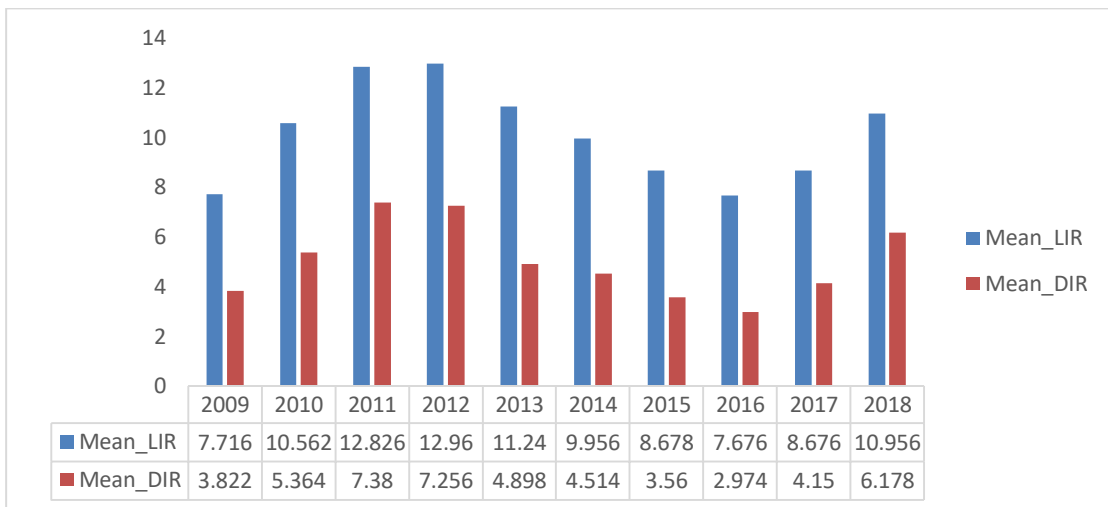


Figure 9

Lending interest rate and deposit interest rate

The figure shows the relationship between lending interest rate and deposit interest rate of banks. The increment of deposit interest rate lets increment of lending interest rate and decreasing of deposit interest rate lets decreasing of lending interest rate. There is always the lending interest rate is greater in percentage than deposit interest rate. Here when deposit interest rate increases from 2009 to 2011 the lending interest rate increase from 2009 to 2011,when deposit interest rate decrease from 2012 to

2016 the lending interest rate decrease from 2012 to 2016 and again deposit interest rate increase from 2017 to 2018 the lending interest rate also increase from 2017 to 2018.

4.1.15 Descriptive statistics of the variables under study

The table depicts the descriptive statistics mean, standard deviation and standard error of the variables under study of all sample respondents.

Table 9

Descriptive statistics of the variables

	Type	N	Mean	Std. Deviation	Std. Error Mean
LIR	Private	30	10.19	2.10	0.38
	Joint Venture	20	10.02	1.88	0.42
Deposit	Private	30	34015.37	21277.70	3884.76
	Joint Venture	20	65004.43	25599.82	5724.29
NPL	Private	30	1.30	0.95	0.17
	Joint Venture	20	1.42	1.23	0.27
Lending	Private	30	28573.83	19389.89	3540.09
	Joint Venture	20	49173.48	20966.23	4688.19

Note: Data collected from annual reports of studied banks.

The table shows the descriptive status for the whole sample. The mean values of lending interest rate of private banks are 10.19 and joint venture banks are 10.02 and standard deviation of private banks are 2.10 and joint venture banks are 1.88. Standard errors of private banks are 0.38 and joint venture banks are 0.42. The mean values of deposit of private banks are 34015.37 and joint venture banks are 65004.43 and standard deviation of private banks is 21277.70 and joint venture banks are 25599.82. Standard errors of private banks are 3884.76 and joint venture banks are 5724.29. The mean values of non-performing loan of private banks are 1.30 and joint venture banks are 1.42 and standard deviation of private banks is 0.95 and joint venture banks are 1.23. Standard errors of private banks are 0.17 and joint venture banks are 0.27. The mean values of lending of private banks are 28573.83 and joint venture banks are 49173.48 and standard deviation of private banks are 19389.89 and joint venture banks are 20966.23. Standard errors of private banks are 3540.09 and joint venture banks are 4688.19.

4.1.16 Mean difference test

The table shows the mean differences between different independents and dependents variables.

Table 10

Mean difference test

Variables	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	
LIR	Equal variances assumed	.46	.50	.30	48.00	.76	.18	.58
	Equal variances not assumed			.31	43.90	.76	.18	.57
Deposit	Equal variances assumed	1.92	.17	-4.65	48.00	.00	-30989.05	6664.21
	Equal variances not assumed			-4.48	35.59	.00	-30989.05	6918.01
NPL	Equal variances assumed	1.98	.17	-.40	48.00	.69	-.12	.31
	Equal variances not assumed			-.38	33.72	.70	-.12	.33
Lending	Equal variances assumed	.42	.52	-3.56	48.00	.00	-20599.65	5781.79
	Equal variances not assumed			-3.51	38.62	.00	-20599.65	5874.64

Note: Data collected from annual reports of studied banks.

The table shows p-value of 0.50 for levene's test for equality of variances for the lending interest rate indicates the variances across commercial banks of Nepal seems to be equal. The mean difference of 0.18 for the variable lending interest rate seems to be insignificant as its p-value is 0.76. The p-value of 0.17 for levene's test for the deposit indicates the variances across commercial banks of Nepal seem to be equal. The mean difference of -30989.05 for the variable deposit seems to be significant as its p-value is 0. The p-value of levene's statistic 0.17 indicates there exists equal variances for the variable non-performing loan. The mean difference of 0.12 for the variable non-performing loan seems to be insignificant as its p-value is 0.69. The p-value of levene's statistic 0.52 indicates there exists equal variances for the variable lending. The mean difference of -20599.65 for the variable lending seems to be significant as its p-value is 0.001. All the variables indicate the null hypothesis i.e. two independent variables lending interest rate and non-performing loan are

insignificant which result accepted were as independent variable deposit is significant which result rejected.

4.1.17 ANOVA-test for equality of means across variables

ANOVA is used as statistical tools to test whether there is significant mean difference or not in each of their variables under study across the variable of the study.

Table 11

ANOVA-test for equality of means across variables

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23629355731.57	3	7876451910.52	504.67	.000 ^b
	Residual	717931610.58	46	15607208.93		
	Total	24347287342.14	49			

a. Dependent Variable: Lending

b. Predictors: (Constant), NPL, Deposit, LIR

Note: Data collected from annual reports of studied banks.

The table is based on ANOVA the p-value is 0.000 which is lesser than alpha value 0.01. Therefore, the model is a good predictor of the relationship between the dependent and independent variables. As a result, the independent variables (lending interest rate, deposit and non-performing loan) are significant in explaining the variance in lending. Again, the F-ratio explains whether the results of the regression model have occurred by chance. The value of F-ratio is 504.67 and is considered significant at 1% significance level. The regression model has achieved a satisfactory level of goodness-of-fit in predicting the variance of customer loyalty in relation to 3 independent variables, as measured by the above mentioned R, R square, and F-ratio. In other words, at least one of the independent variables has important contribution on dependent variables.

4.1.18 Correlation analysis

Correlation Analysis is used to determine the relation between various independent and dependent variables associated with the research. It measures the linear correlation between any two variables. In this study, correlation analysis is done between the lending interest rate, deposit, non-performing loan and lending. The factor affecting lending under this study are lending interest rate, deposit, and non-performing loan.

Table 12

Relationship between variables for all samples

Variables		LIR	Deposit	NPL	Lending
LIR	Pearson Correlation	1			
	Sig. (2-tailed)				
Deposit	Pearson Correlation	-0.245	1		
	Sig. (2-tailed)	0.087			
NPL	Pearson Correlation	0.234	-0.079	1	
	Sig. (2-tailed)	0.102	0.587		
Lending	Pearson Correlation	-0.223	.985**	-0.098	1
	Sig. (2-tailed)	0.119	0.001	0.500	

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

Note: Data collected from annual reports of studied banks.

The table shows the Pearson Correlation Coefficient of the variables under study which is conducted for the whole sample. The correlation between lending and lending interest rate is -0.223, which signifies that the two variables are negatively correlated which stated that when independent variable lending interest rate increases dependent variable lending decrease or vice versa. Further, this value indicates there is low correlation between these two variables. The correlation is significant at 1% level of Significance as the p- value is higher than alpha i.e. $0.119 > 0.01$ so it accept null hypothesis. The correlation between lending and deposit is 0.985, which signifies that two variables are positively correlates which stated that when independent variable deposit increases dependent variable lending increases. Further, this value indicates there is high correlation between these two variables. The correlation is significant at 1% level of Significance as the p- value is less than alpha i.e. $0.001 < 0.01$ so it reject null hypothesis. The correlation between lending and lending interest rate is -0.098, which signifies that the two variables are negatively correlated which stated that when independent variable non-performing loan increases dependent variable lending decreases. Further, this value indicates there is low correlation between these two variables. The correlation is significant at 1% level of Significance as the p- value is higher than alpha i.e. $0.500 > 0.01$ so it accept null hypothesis. The correlation analysis shows the negative relationship between lending interest rate, non-performing loan and lending where as positive and significant relationship between deposit and lending.

4.1.19 Regression analysis

The general purpose of multiple regressions is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable. While correlation analysis assumes no causal relationship between variables, regression analysis assumes causal relationship between two or more variables. Simple linear regression shows the effect of an independent variable on single dependent variable while multiple linear regressions show the effects of multiple independent variables on single dependent variable. Correlation analysis only provides the degree of relationship between two variables. Thus, regression analysis is done to have better understanding of the strength of relationship between two or multiple variables.

Table 13

Impact of variables for all samples

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-2453.752	3375.198		-0.727	0.471
	LIR	278.561	298.619	0.025	0.933	0.356
	Deposit	0.801	0.021	0.989	37.854	0.000
	NPL	-538.073	547.243	-0.026	-0.983	0.331

a. Dependent Variable: Lending

Note: Data collected from annual reports of studied banks.

The table shows the Beta for all attributes or independent variables undertaken in the study to determine the lending. It shows the independent variables i.e. lending interest rate, deposit and non-performing loan has Beta of 0.2, 0.99 and -0.03 respectively. The highest Beta is 0.99, which indicates that deposit have the most dominant influence on lending. The independent variables i.e. lending interest rate and non-performing loan have insignificant results since their respective p-values are more than 0.05. ($p > 0.05$) so it accept the null hypothesis. The independent variable deposit has significant result since respective p-value is less than 0.05 ($p < 0.05$) so it reject the null hypothesis.

Table 14

Impact of independent variables on lending

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.985 ^a	.97	.97	3950.60

a. Predictors: (Constant), NPL, Deposit, LIR

Note: Data collected from annual reports of studied banks.

The table shows multiple correlation coefficient (R), coefficient of determination (R square), and F-ratio which are used to predict the goodness-of-fit of the regression model. R of independent variables X1, X2 and X3 on dependent variable destination image (\hat{Y}) is 0.985, which shows that lending has positive and high overall correlation with the deposit and negative correlation with lending interest rate and non-performing loan. Further, R square is 0.97, which suggests that 97% of the variation of lending is explained by the three independent variables.

4.2 Discussion

The main objective of this study is to find and examine the impact of lending interest rate, deposit and non-performing loan on lending of commercial banks of Nepal. This study helps to determine to what extent lending interest rate, deposit and non-performing loan influence lending. Secondary data of the variables were collected through annual reports from sample size of 5 commercial banks with 3 private banks and 2 joint venture banks where 10 year data have been collected. The findings were totally based upon the banks data.

The main finding of this section in regard to the deposit are as follows The result of study confirms Ahtila (2005) allocate effect of information capital through the interest earnings on loans can be justified on efficiency grounds to the extent that it contributes to the appropriate pricing and rationing of loans. The result is consistent with Akinyomi (2014) which have positive and significant relationship between deposit volume and loan and advances in the selected banks. The study recommends that future researchers should investigate other factors which may exert some influence on the lending behaviour deposit money banks in Nigeria beside deposit volume. Altavilla, Paries and Nicoletti (2019) reveled loan supply indicator measure for each individual bank across banks and across countries to obtain a measure of changes in lending standards for the euro area. The model includes measures of firms' costs of financing derived from both bonds and bank loans, volumes of bank lending

to new business. The result of this study also support Ansari and Goyal (2014) where the main finding is loan interest rates spread are positively impacted by policy variables, more competition reduces transmission by reducing the loan rate but positive policy shock increases the cost of funds and reduces the spread. The result also consistent with Ayieyo (2016) revealed the volume of deposit has the highest impact and influence on the lending behaviour of commercial banks and a change in it will yield the highest change in banks' loans and advances. Bhattarai (2016) study concludes that the major determinants of commercial banks' lending behaviour in Nepal are: bank size, liquidity, investment portfolio, and cash reserve ratio. Mukoya, Muturi, Oteki and Wamalwa (2015) determine the effect of volume of deposit on total loan advanced of selected commercial banks in Kenya. Nguyen, Tripe and Thanh (2018) shows relationship between bank loans and deposits and that the findings reveal the operational efficiency of Vietnamese banks' fund mobilisation and utilisation activities simultaneously.

In regard to interest rate Chen, Ma and Wa (2019) studied had found that firms with higher credit risk increased their use of bank credit and reduced their use of trade credit after the 2004 bank interest rate ceiling deregulation, whereas firms with lower credit risk increased their use of bank credit and reduced their use of trade credit after the 2013 bank interest rate floor deregulation. The result of this study of Choi (2002) show that as banks increase one type of risk, e.g. interest rate risk, they decrease another type of risk e.g. lending risk as measured by loan/assets Eke, Eke and Inyang (2015) obtained for the interest rate regulation era showed that interest rate spread and statutory liquidity ratio had negative and significant effect on the volume of commercial banks' loans, while fixed exchange rate had negative and insignificant impact on banks' loans and advances. Fadiran (2014) determines and compares the rate (speed) and size of monetary response to interest shocks, and further determines the presence of asymmetry on interest rates adjustments to shocks. Guo and Wu (2019) investigate the economic sources of short interest predictive power for stock returns of distressed firms. The result also consistent Roseline, Esman and Anne (2011) indicates stickiness of policy transmission from policy interest rates to commercial bank rates both for the deposit and lending rates. Rustam (2015) shown that liquidity had a consistently negative and significant effect on the interest rate pass-through.

Findings show a negative impact of credit risk on bank lending behaviour, with regard to both credit risk measures the nonperforming loans and the loan loss provision ratio. The study focused on the relationship between non-performing loans and bank lending behaviour. Cucinelli (2015) focused on the impact of a key item on the balance sheet, NPL and loan loss provision.

The result consistent with Dhungana and Pradhan (2017) which observed bank lending has positive effect on the inflation in Nepal. Laseinde and Olokoyo (2018) shows the findings of the study showed that the loan recoveries strategies had an effect on customer relationship. Njeru, Njeru, Member and Ondabu (2015) study shows positive relationship between loan repayment and financial performance of deposit taking SACCOs in Mount Kenya region.

CHAPTER V

SUMMARY AND CONCLUSION

The chapter focuses on the overall findings and conclusion of the study. This chapter attempts to discuss the answer for the research questions to meet the objective of the research. It discusses the lending and how the factors affect independent variables. This chapter consists of three sub sections: Summary of the finding, Conclusion of the study and the Recommendations for future research.

5.1 Summary

This part of the study covers the discussion of findings generated from the study. Detailed findings have been highlighted the factors influencing the lending of commercial banks of Nepal. This research includes dependent variable i.e. lending and independent variable i.e. lending interest rate, deposit and non-performing loan. In this study, descriptive, relational, casual and analytical research designs are applied to achieve the research objectives. For this secondary data was collected and analysed in systematic way to derived findings. In this study, the data was collected through annual report of commercial banks and analysed using mean, median, standard deviation, coefficient of variance, correlation, regression and ANOVA. On the basis of data analysis, the major findings of the study are as follows:

1. Lending interest rate has no significant difference across private banks and joint venture banks as the p-value is 0.50 which is greater than 0.05. Deposit has no significant difference across private banks and joint venture banks as the p-value 0.17 which is greater than 0.05. Non-performing loan has no significant difference across private banks and joint venture banks as the p-value is 0.17 which is greater than 0.05. Lending has no significant difference across private banks and joint venture banks as the p-value is 0.52 which is greater than 0.05.
2. The relationship between interest rate and lending is negative with the correlation of -0.223. The relationship between deposit and lending is positive with the correlation of 0.985 which shows deposit influences in lending. The relationship between non-performing loan and lending is negative with the correlation of -0.098.

3. The impact of lending interest rate is found to be negative. The regression of lending interest rate shows that increase in lending interest rate cause decrease in lending and decrease in lending interest rate cause increase in lending. The impact of deposit is found to be positive. The increase in deposit increase the lending and decrease of deposit decrease the lending. The impact of non-performing loan is found to be negative. It shows increase in non-performing loan cause decrease in lending and decrease in non-performing loan cause increase in lending.

5.2 Conclusion

The overall performance of the sample banks is found to be satisfactory. Financial institutional are intermediary between the individual who level and who borrow the fund. The financial institutions accept deposits and provide loan to people who are in need. Lending is one of the important factors of financial institutions, it helps in generating profit. Many researchers have been conducted in order to find the factors affecting the lending. According to these, the most common factor affecting lending are lending interest rate, deposit and non-performing loan. Thus the main aim of the study was to evaluate the significance level of this factor towards the lending of commercial bank of Nepal. The study was conducted on five banks out of 27 banks with ten fiscal years.

With the aim of achieving above mentioned objective the secondary data were collected through annual report. The analysis of data provided the finding as per the objective. Correlation was used in this study to find out the relationship between the dependent and independent variables. Likewise, regression analysis was used to examine impact of independent variables in dependent variable. Thus, research objective are met and the hypothesis was also tested. Three independent variables have been used in order to measure its impact on lending. Independent variables lending interest rate and non-performing loan shows the negative relationship while independent variable deposit shows positive relationship with the dependent variable lending.

From the test results of regression, it can be seen that the overall model is fit. Factor based on significant scale in a sequence level lending interest rate (278.56), deposit (0.80) and non-performing loan (-538.07). It is shown that deposit has higher influence on lending because without deposit lending cannot be grant to people.

Lending interest rate and non-performing loan has lower influencing on lending. All the variables are confirmed in accordance with the model. Thus, it can be concluded that Lending interest rate, deposit and non-performing loan have impact on lending of commercial banks of Nepal.

5.3 Implication

Based on the analysis, interpretation and conclusions, a number of recommendations meant for the concerned authorities, future researchers, academicians, bankers have been made. The lending interest rate is too high in Nepal. Commercial Banks are suggested to decrease the lending interest rate as far as possible so that the people who want to lend the money should lend it. This will help to generate the profit of bank and also helps in enhance the economic condition in the long run. Deposit plays very important role for the growth of financial institutions. Without deposit banks cannot able to lend the loan to the customers. The banks are suggested to increase the deposit so that they could provide loan to needy customers. If the non-performing loan increases the bank image have been not consider too good. Due to this customer did not grant loan which effects on bank growth and profitability. A stable government is needed to create the investment opportunity so excess liquidity can be utilized both in private, public and joint venture banks. Lending institutions are suggested to invest on new areas as well as to introduce competitive customer oriented schemes on lending and borrowing so that more lending and borrowing can be promoted. It is suggested to all the sample banks that they use well- trained manpower which helps in proving better service to customers by increasing productive work operations.

Banks plays a vital role in development of economic of the country. However all the banks have satisfactory performance, there is situation of inflation which is a cause of narrow scope operation. Therefore NRB has to come up with strong supervision and monitoring with one window service in lending and investment activities.

References

- Ahtila, P. (2005, November). The New Theory of Commercial Bank and Bank Lending Behaviour. *Scottish Journal of Political Economy*, 52(5), 769-792.
- Altavilla, C., Paries, M. D., & Nicoletti, G. (2019, December). Loan supply, credit markets and the euro area financial crisis. *Journal of Banking and Finance*, 109, 2-40.
- Ayieyo, J. O. (2016, September). Determants of Lending in selected Commercial Banks in Kenya. *Inteernational Journal of Economics, Commerce and Management*, 4(9), 767-781.
- Banton, C. (2019, May 28). *Investopedia*. Retrieved May 28, 2019, from Investopedia Web Site: <https://www.investopedia.com/terms/i/interestrte.asp>
- Business Jargon*. (n.d.). Retrieved from Business Jargon Web site: <https://businessjargons.com/commercial-bank.html>
- Chen, S., Ma, H., & Wa, Q. (2019, December). Bank credit and trade credit: Evidence from natural experiments. *Journal of Banking and Finance*, 1-16.
- Connell, B. O. (2018, December 12). *The Street*. Retrieved December 12, 2018, from The Street Web site: <https://www.thestreet.com/personal-finance/education/what-is-interest-rate-14807391>
- Gardner, D. a. (2016, September 23). *The Motely Fool*. Retrieved September 23, 2016, from The Motely Fool Website: <https://www.fool.com/knowledge-center/what-are-non-performing-loans.aspx>
- Glossary. (2019, November). *Bankrate*. Retrieved November 2019, from Bankrate Web site: <https://www.bankrate.com/glossary/i/interest-rate/>
- Guo, X., & Wu, C. (2019, 9 30). Short interest, stock returns and credit ratings. *Journal of Banking and Finance*, 108, 1-14.
- Hanks, G. (2018, November 21). *Biz Fluent*. Retrieved November 21, 2018, from Biz Fluent Web site: <https://bizfluent.com/how-8533153-calculate-npl-ratio.html>

- Heakal, R. (2019, August 5). *Investopedia*. Retrieved August 5, 2019, from Investopedia Web site: <https://www.investopedia.com/insights/forces-behind-interest-rates/>
- Kagan, J. (2019, October 1). *investopedia*. Retrieved from investopedia web site: <https://www.investopedia.com/terms/d/deposit.asp>
- Khan. (2019). *Khan Academy*. Retrieved from Khan Academy Website: <https://www.khanacademy.org>
- Kumar, M. (2019). *Economic Discussion*. Retrieved from Economic Discussion Web site: <http://www.economicdiscussion.net/theories/loanable-funds-theory-with-diagram/7504>
- Lacoma, T. (2019). *Sampling*. Retrieved 2019, from Sampling Web site: <https://www.sapling.com/8495140/importance-bank-deposits-money-supply>
- Lacoma, T. (2019). *Sampling*. Retrieved 2019, from Sampling Web site: <https://www.sapling.com/8059663/happens-interest-rates-during-deflation>
- Lee, M. (2018, December 31). *Cerberus*. Retrieved December 2018, 2018, from Cerberus Web site: <https://www.cerberus.com/investment-platforms/non-performing-loans/>
- Malkiel, B. G. (2019). *The Library of Economic and Liberry*. Retrieved 2019, from The Library of Economic and Liberry Web Site: <https://www.econlib.org/library/Enc/InterestRates.html>
- Pettinger, T. (2017, October 11). *Economics help*. Retrieved October 11, 2017, from Economics help Website: <https://econ.economicshelp.org/2007/05/interest-rates-explained.html>
- Pritchard, J. (2018, December 3). *The Balance*. Retrieved December 3, 2018, from The Balance Web site: <https://www.thebalance.com/deposit-definition-315425>
- Richer, W. (2018, May 1). *Business Insider*. Retrieved May 1, 2018, from Business Insider Web site: <https://www.businessinsider.com/banks-are-vying-for-deposits-and-the-fight-marks-a-shifting-industry-2018-4>

- Saquib, S. (2019). *Economic Discussion*. Retrieved 2019, from Economic Discussion Web site: <http://www.economicdiscussion.net/interest-rate-theories/interest-meaning-definition-and-types-economics/13927>
- Segal, T. (2019, August 11). *Investopedia*. Retrieved August 11, 2019, from Investopedia Web site: <https://www.investopedia.com/terms/n/nonperformingloan.asp>
- Silundika, G., & Nujoma, S. (2013, October 29). *The Herald*. Retrieved October 29, 2013, from The Herald Web site: <https://www.herald.co.zw/importance-of-deposits-in-banking/>
- Singh, J. (2019, June 8). *Economics Discussion*. Retrieved June 8, 2019, from Economics Discussion Web site: <http://www.economicdiscussion.net/banks/commercial-bank-definition-function-credit-creation-and-significances/607>
- Stanly, C. (2019, August 11). *lopol.org*. Retrieved from lopol.org website: <https://www.lopol.org/article/meaning-of-banking>
- Starkey, M. (2018). *The Economics Creation*. Retrieved 2018, from The Economics Creation: https://www.economicnetwork.ac.uk/archive/starkey_banking#starkey
- Timalsina, N. (2017). *Determinants of Bank Lending in Nepal*. Kathmandu: NRB.

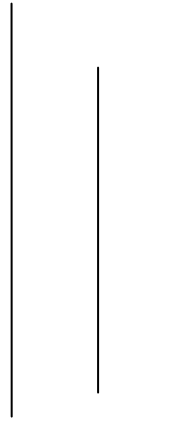
**IMPACT OF INTEREST RATE, DEPOSIT AND NON-PERFORMING
LOAN ON LENDING OF COMMERCIAL BANKS OF NEPAL**

A Thesis Proposal Submitted to

Peoples Campus

Faculty of Management

Tribhuvan University



SUBMITTED BY

SHAILI SHAHI

Campus Roll No: 26/074

T.U. Registration No: 7-2-271-416-2011

*In partial fulfillment of the requirement for the Degree of Master of Business Studies
(MBS)*

Kathmandu, Nepal

CHAPTER I

INTRODUCTION

1.1 Background

Amadeo (2019) says an interest rate is the percentage of principal charged by the lender for the use of its money. The principal is the amount of money lent. As a result, banks pay an interest rate on deposits. They are borrowing that money from you. Anyone can lend money and charge interest, but it's usually banks. They use the deposits from savings or checking accounts to fund loans. They pay interest rates to encourage people to make deposits. Banks charge borrowers a little higher interest rate than they pay depositors so they can profit. At the same time, banks compete with each other for both depositors and borrowers. The resulting competition keeps interest rates from all banks in a narrow range of each other.

Murray (2018) says lending (also known as "financing") is the temporary giving of money or property to another person with the expectation that it will be repaid. In a business and financial context, lending includes many different types of commercial loans. Lenders are businesses or financial institutions that lend money, with the expectation that it will be paid back. The lender is paid interest on the loan as a cost of the loan. The higher the risk of not being paid back, the higher the interest rate. Lending to a business (particularly to a new start up business) is risky, which is why lenders charge higher interest rates and often they don't give small business loans. Types of Commercial Loans are Bank financing for small business start-up and working capital, Asset financing for equipment and machinery or business vehicles, Mortgages, Credit card financing, Vendor financing (through trade credit), Personal (unsecured) loan.

Khan (2019) Suggest when the Federal Reserve raises or lowers its target interest rate, the change affects consumers too. The federal rate helps determine the interest you pay on loans and earn on savings, so it matters to just about everyone. Here's what might change when rates rise or fall. Mortgage payments - If there will be a fixed-rate mortgage, then it won't be affected by a rate change. However, with an adjustable-rate mortgage, rate and payments can potentially increase or decrease. If interest rates are rising, check with lender to find out how much payment will increase and if it benefits

to refinance into a fixed-rate loan. If planning to refinance a mortgage or searching for a new fixed-rate loan, doing so after the Fed has trimmed rates might allow to lock in a lower interest rate. However, other factors also play a role, such as credit score. Car loans - A low interest rate environment is good news for those looking to finance a car because people can borrow money more cheaply, but a rate increase makes financing a car more expensive. People with higher-interest car loans might benefit from refinancing if rates drop, depending on how big the difference is and the length of the loan term. Credit card rate - The annual percentage rate (APR) on most credit cards is variable. That means an increase in the target rate will likely drive up the interest pay on account balance, while a decrease can potentially lower the interest pay—which may make it easier to pay down debt more quickly. Private student loans - Interest rates on federal student loans are fixed, so those rates remain locked. If taken out private loans, however, interest payments may increase or decrease with rate changes. Whether loans are private or public, a lower interest rate environment might be a good time to check options for consolidation to see if it can get a lower overall rate. Returns on savings - One positive effect of a target rate increase may be higher interest rates banks pay customers in savings vehicles such as CDs, money market accounts and basic savings accounts. Although higher rates are good news for savers, don't expect an immediate, dramatic change; rates tend to move gradually. When rates move lower savings vehicles could generate smaller returns.

1.2 Statement of the problem

Interest rate is the amount a lender charge for the uses of asset expressed as a percentage of the principle. Interest rate changes plays an important role in making lending decisions for any individuals or any institutions. Interest rate changes posses certain impact on lending activities of commercial banks.

The research is the vast investigation of the problem. The possible problems are faced by policy maker of commercial banks will be mentioned below:

1. Is there significant difference on interest rate, deposit volume, non-performing loan and lending loan across types of banks?
2. What is the relationship between interest rate, deposit volume and non-performing loan with lending loan?
3. How does the interest rate, deposit volume and non-performing loan effect on lending loan?

1.3 Objective of the study

The major objective of the study is to find out the impact of interest rate changes on lending. Besides, the overall objectives of this study are as follows:

1. To analyse the difference on interest rate, deposit volume, non-performing loan and lending across private banks and joint venture banks.
2. To examine the relationship between interest rate, deposit volume and non-performing loan with lending of sample banks.
3. To examine the effect of interest rate, deposit volume and non-performing loan on lending.

CHAPTER II

REVIEW OF LITERATURE

2.1 Related theory

2.1.1 Loanable fund theory

The neo-classical theory of interest or loanable fund theory of interest was first developed by the Swedish economist Kunt Wicksell. Later economists Ohlin, Myrdal, Lindahl, Robertson and J. Viner had considerably contributed to this theory. According to this theory, rate of interest is determined by the demand for and supply of loanable funds. This theory was more realistic and broader than the classical theory of interest. Loanable funds theory differs from the classical theory in the explanation of demand for loanable funds. According to this theory demand for loanable funds arises for the following three purposes i.e.; Investment, hoarding and dissaving. Investment is the main source of demand for loanable funds is the demand for investment. Investment refers to the expenditure for the purchase of making of new capital goods including inventories. The price of obtaining such funds for the purpose of these investments depends on the rate of interest. An entrepreneur while deciding upon the investment is to compare the expected return from an investment with the rate of interest. If the rate of interest is low, the demand for loanable funds for investment purposes will be high and vice-versa. This shows that there is an inverse relationship between the demands for loanable funds for investment to the rate of interest. The demand for loanable funds is also made up by those people who want to hoard it as idle cash balances to satisfy their desire for liquidity. The demand for loanable funds for hoarding purpose is a decreasing function of the rate of interest. At low rate of interest demand for loanable funds for hoarding will be more and vice-versa. Dissaving's is opposite to an act of savings. This demand comes from the people at that time when they want to spend beyond their current income. Like hoarding it is also a decreasing function of interest rate.

The supply of loanable funds is derived from the basic four sources as savings, dishoarding, disinvestment and bank credit. Savings constitute the most important

source of the supply of loanable funds. Savings is the difference between the income and expenditure. Since, income is assumed to remain unchanged, so the amount of savings varies with the rate of interest. Individuals as well as business firms will save more at a higher rate of interest and vice-versa. Disharding is another important source of the supply of loanable funds. Generally, individuals may dishoard money from the past hoardings at a higher rate of interest. Thus, at a higher interest rate, idle cash balances of the past become the active balances at present and become available for investment. If the rate of interest is low disharding would be negligible. Disinvestment occurs when the existing stock of capital is allowed to wear out without being replaced by new capital equipment. Disinvestment will be high when the present interest rate provides better returns in comparison to present earnings. Thus, high rate of interest leads to higher disinvestment and so on. Banking system constitutes another source of the supply of loanable funds. The banks advance loans to the businessmen through the process of credit creation. The money created by the banks adds to the supply of loanable funds.

According to loanable funds theory, equilibrium rate of interest is that which brings equality between the demand for and supply of loanable funds. In other words, equilibrium interest rate is determined at a point where the demand for loanable funds curve intersects the supply curve of loanable funds.

2.2 Review of empirical literature

Roseline, Esman and Anne (2011) studied the interest rate pass-through Kenya. The study aims to quantitatively measure the size and speed of monetary policy interest rate transmission to long term interest rates in Kenya. The study used autoregressive distributed lag specification re-parameterized as an error correction model and mean adjustment lag methods. In this study the researcher had found incomplete pass-through of policy rates both in the short and the long run. It is approximately between 11 months to two years for policy interest rate to be fully transmitted to long term interest rates. The variables selected in this study are the volume of loan granted and the quality of precaution reserve they choose to hold. Lending interest rate and deposit interest rate are taken as independent variable where the interbank rate, 91-day rate and REPO rate were entered alternately. The MAL formula is used to show the result of incomplete interest rate pass-through both in short and long run. The study sought to provide some insight into the relationship between policy rates and commercial bank

interest rates. The study indicates stickiness of policy transmission from policy interest rates to commercial bank rates both for the deposit and lending rates. The magnitude of transmission is less than 0.34 for both lending and deposit rates. The findings of this study will therefore inform policy makers of the effectiveness of their policy decision and facilitate timely monetary policy actions.

Ansari and Goy (2014) Studied bank completion, managerial efficiency and the interest rate pass-through in India. The study shows how banks solve an intertemporal problem under adverse selection and moral hazard with bank specific factors, regulatory and supervisory features, market structure and macroeconomic factors can be expected to affect banks loan interest rates and their spread over deposit interest rates. To examine interest rate pass-through for India banks in a period following extensive financial reform, after controlling for all factors, the researchers estimate the determinants of commercial banks loan pricing decisions using the dynamic panel data methodology with annual data for a sample of 33 banks over the period from 1996 to 2012. The result shows commercial banks consider several factors apart from the policy rate. The independent variables are loan interest rate and deposit interest rate and dependent variables are loan maturity, product diversification and managerial inefficiency, return on equity, liquidity and size. The researcher use descriptive statistics for data analysis. Here APRD measures estimating marginal costs using Translog Cost Function which quantifies the impact of marginal costs on performance, measured in terms of market shares. The absolute value of the ARPD measure is used in our regression since it used straightforward interpretation. Higher the coefficient in absolute sense, higher is the competition. The competition in the banking sector increased from 2002 where in 2006 and 2007 marginal decrease. The main finding is that loan interest rates spread are positively impacted by policy variables, more competition reduces transmission by reducing the loan rate but positive policy shock increases the cost of funds and reduces the spread. The interaction between policy rate and competition in the banking sector had a negative and highly significant coefficient, which is the impact of competition on interest rate pass-through. An exogenous shock forced banks to minimize costs, offer services at lower prices and at the same time increase profits. Efficient banks will increase in size and market share at the expense of less efficient banks. MI interaction puts significant downward pressure on loan pricing which leads to increased share in competitive loan market which helps in increase in profit. Cost of deposit affect on loan rate. The results highlight the role of

operating efficiency, risk aversion, asset-liability management and credit risk management in commercial banks loan pricing.

Proposed Research Framework

The research will be based upon the International Journal of development “Interest Rate Pass-through in Kenya” which was conducted by M.N. Roseline, M.N. Esman & K.W. Anne in 2011 and Contemporary Study in the economy and financial analysis “Bank Competition Managerial Efficiency and the interest rate pass-through in India” which was conducted by J. Ansari and A. Goyal in 2014.

2.3.1 Specification of variables

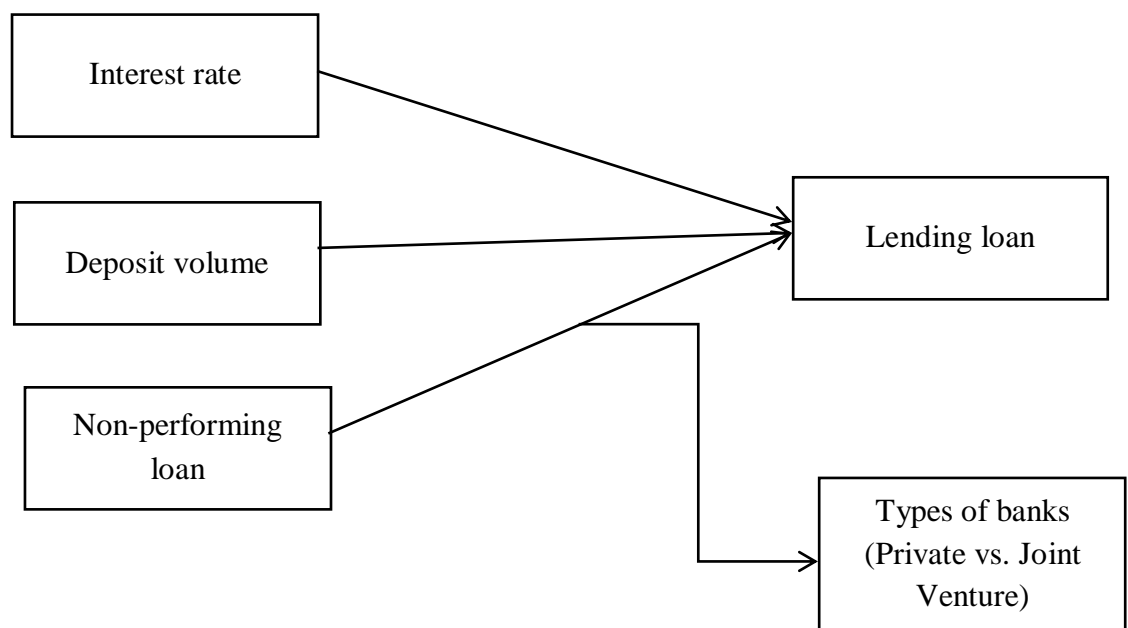


Figure 2.1: Conceptual frame work

1. Independent variables
 1. Interest rate
 2. Deposit volume
 3. Non-performing loan

2. Dependent variable
 1. Lending loan

3. Moderate variable
 1. Private Banks
 2. Joint Venture Banks

Table 2.1

Review of empirical studies

Study	Major Findings
Roseline, Esman, & Anne(2011)	The study shows quantitatively measure the size and speed of monetary policy interest rate transmission to long term interest rates in Kenya.
Ansari & Goyal (2014)	Loan interest rates spread are positively impacted by policy variables, more competition reduces transmission by reducing the loan rate but positive policy shock increases the cost of funds and reduces the spread

CHAPTER III

Research Methodology

This chapter will present a description of the methodology that will be used in the study. It spells out the techniques and methods of sampling, data collection, processing analysis and the area in which the study will be carried out. The chapter will also highlight the limitations and problems that will be encountered while collecting data in final report.

3.1 Research design

The main purpose of this research is to know about the impact of interest rate changes on Lending in Commercial Banks of Nepal. Two Foreign Joint Venture Bank i.e Himalayan Bank Limited and Everest Bank Limited and three private banks i.e. Prime Bank Limited, Kumari Bank Limited and NMB Bank Limited as sample survey organizations. The research will use hypothesis test to determine relationship and provide a conclusion about the tested variables.

The research will be based on quantitative analysis in which the data collected will be statistically analyzed using MS excel, SPSS. The data is aimed to collect from secondary sources through annual report published in website.

The research design is the specific action of methods and procedure for acquiring the information needed to structure of solve problems. In other word, it is the conceptual framework within which research is conducted. In this study, descriptive and analytical research designs are applied to achieve the research objectives. For analytical purposes, the annual reports published by the related banks. After tabulation, they will analyze by applying both financial anpred statically tools. Descriptive research is the systematic collection and presentation of data to give a clear picture of a particular situation.

3.2 Nature and sources of data

This study based only on secondary data. To collect the secondary data, published annual reports are viewed in websites of sampled banks.

3.3 Population and sample method

Population refers to the entire group people, events or things of interest that a researcher wishes to investigate. There are 28 commercial banks (including government owned, public and joint venture) are operating in Nepal. It is difficult to study all of them regarding the study topic because of limited time and resources factors too. So only following five banks are selected as sample. They are as follows:

- Himalayan Bank Limited
- Everest Bank Limited
- Prime Bank Limited
- Kumari Bank Limited
- NMB Bank Limited

3.4 Method of analysis

The thesis will cover and include the financial and statistical tools to analyse the data in order to reach the conclusion of the research. For the analysis of the data, MS WORD, SPSS and MS EXCEL will be used. For the data of five years were taken as sample from 2013/14 to 2017/18. Firstly, the collected data are presented in proper forms, grouped in various table and then compared with other to interpret results. For this study statistical tools are going to be used.

3.4.1 Statistical tools

Various statistical tools related to this study will be drawn to make the conclusion more reliable according to the available financial data. Statistic tool is also used to test the hypothesis that is set to know the information of population. For this, following statistical tools will be used.

1. Arithmetic Mean or Average (A.M):- The Mean or average value is a single value within the range of data is used to represent all the values in the series. It

represents the entire data which lies almost between the two extremes. An average is somewhere within the range of the data, it is also called a measure of central value. In this study, mean is calculated to find out the average of the variables used in research they are interest rate, deposit volume, non-performing loan and lending loan. It is calculated an all samples:

$$\text{Mean } (\bar{X}) = \frac{\sum x}{N}$$

Where, x = Value of responses of each independent or dependent variable

N = Number of observations

\sum = Sum of value of all items

2. Median:- Median is a tool to measure the centre of a numerical data set. It summarizes large amounts of data into a single value. It can be defined as the middle number of a group of numbers that have been sorted in ascending order. In other words, the median is the number which would have the same amount of numbers both above and below it in the specified data group. It is commonly used measure of data sets in statistics and probability theory. In this study, median is calculated to find out the mid value of the variable used in the research they are interest rate, deposit volume, non-performing loan and lending loan. The formula for the median is as follows:

$$\text{Median (Md)} = \frac{(N+1)}{2^{th} \text{ terms}}$$

Where, N = Number of observations

3. Standard Deviation (S.D.): - The standard deviation is the measure that is most often used to describe the variability in data distributions. It can be thought of as a rough measure of the average amount by which observation deviate on either side of the mean. It is calculated for selected dependent and independent variable specified. It is positive square root of mean squared deviation from the arithmetic mean. The more spread out the data, the higher the standard deviation. In this study, standard deviation is calculated of the variable used in the research they are interest rate, deposit volume, non-performing loan and lending loan. The formula for the standard deviation is as follows:

$$SD = \sqrt{\frac{\sum(x-x)^2}{n-1}}$$

Where, SD = Standard Deviation

$\sum(x-x)^2$ = Sum of square of the standard deviation measured from arithmetic average

n = Total number of observations

4. Coefficient of Variation (CV):- Coefficient of Variation (CV) reflects the relation between standard deviation and mean. The relative measure of dispersion based on the standard deviation is known as coefficient of standard deviation. The coefficient of dispersion based on the standard deviation multiplied by 100 is known as CV. It is used for comparing variability of two distributions. If the \bar{X} is the arithmetic mean and standard deviation of the distribution. In this study, coefficient of variance is calculated of the variable used in the research they are interest rate, deposit volume, non-performing loan and lending loan. The formula for the coefficient of variation is as follows:

$$C.V. = \left(\frac{SD}{Mean}\right) \times 100\%$$

5. Correlation (r):- Correlation is a statistical tool designed to measure the degree of association between two or more variables. In other words if the changes in one variable affects the change in another variable, then the variable are said to be co- related when it is used to measure the relationship between two variables, then it is called simple correlation. The coefficient of correlation measure the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's method is applied in the study. In this study, correlation is calculated for the observation to find out the degree of relation between independent and dependent variables for all samples. It is expressed as:

$$r = \frac{\sum x_1 x_2 x_3}{\sqrt{\sum x_1^2 \sum x_2^2 \sum x_3^2}}$$

Where,

r = Coefficient of Correlation

$$\sum x_1 = x_1 - \bar{X}_1$$

$$\sum x_2 = x_2 - \bar{X}_2$$

$$\sum x_3 = x_3 - \bar{X}_3$$

6. Regression: - Regression is a statistical measure that attempts to determine the strength of the relationship between one dependent variable and one or more variables. It includes many techniques for modelling and analysing several variables to understand the relationship between variables. In this study, regression is calculated for the observation to find out direction of relationship between independent variables and dependent variable for all samples. The theoretical model for the relationship is formulated as equation below:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Where,

Y = Lending

a= intercept

X_1 = Interest Rate

X_2 = Deposit Volume

X_3 = Non-Performing Loan

b_1 = Coefficient of Interest Rate

b_2 = Coefficient of Deposit Volume

b_3 = Non-Performing Loan

3.5 Limitation of the study

As we know that every activity has limitations due to time and resources, this thesis also pass through some boundaries. The main limitations of study are mentioned below:

1. The samples are taken only from five commercial banks, other financial intermediaries are not included in the study.
2. The lending amounts of commercial banks are influenced by several factors. However, this study mainly focuses on the interest rate changes, deposit and non- performing loan.
3. The study is based on secondary data only.
4. The study only covers ten fiscal years, i.e. 2008/09 to 2017/18.

CHAPTER IV

Organization of the Study

It deals with the holistic concept of research report. It is explained the research report as a complete form. This study is divided into five chapters which are as follows:

Chapter One

Introduction

In this section, the chapter will introduce the major issues related to the study, general background and statement of the problems, objectives, significance of study and organization of the study.

Chapter Two

Review of literature

Review of Literature will be important tasks for thesis writing. This Chapter will provide a brief review of literature related to study. It will include a related theories, review of empirical literature and theoretical framework. It will also provide an overview of the related literature done in the past related to this study.

Chapter Three

Research Methodology

In this chapter, the focus will be mainly related to research design, population and sample of study, nature and sources of data, definition of the variable, and methods of data analysis and limitation of the study. It will include the financial analysis of a firm where we need the various data and different statistical tools.

Chapter Four

Data Presentation and Analysis of Data

This chapter comprises of presentation and analysis of the data obtained during the study. Different tools and techniques are used for the purpose of data analysis which includes figures and diagrams as well. In this chapter, the collected and processed data are presented, analyzed and interpreted using analytical tools, charts and figures.

Chapter Five

Summary, Conclusion and Discussion

This will be the end section of the report. This chapter finally summarizes the study in a few paragraphs and tries to conclude the whole study; that is the result of the research. Conclusion of the study is also included in this chapter and possible viable discussion is also presented.

Bibliography, appendixes and other related materials are presented at the end of the thesis report.

References

- Amadeo, K. (2019, 05 12). *the balance*. Retrieved May 12, 2019, from the balance Website: <https://www.thebalance.com>
- Ansari, J., & Goyal, A. (2014). Bank Competition Managerial Efficiency and the interest rate pass- through in India. *Contemporary Study in Economic and Financial Analysis*, 96, 317-339.
- Barone, A. (2019, 4 23). *Investopedia*. Retrieved April 23, 2019, from Investopedia Web site: <https://www.investopedia.com>
- Fadiran, G. (2014). Bank competition interest rate pass-through in the BRICS. *International Journal of Emerging Markets*, 9(4), 471-487.
- Khan. (2019). *Khan Academy*. Retrieved from Khan Academy Website: <https://www.khanacademy.org>
- Murray, J. (2018, 11 22). *Small Business*. Retrieved October 22, 2018, from Small Business Web site: <https://www.thebalancesmb.com>
- Roseline, M. N., Esman, N. M., & Anne, K. W. (2011). Interest Rate Pass-through in Kenya. *International Journal of Development*, 10(2), 170-182.

CHAPTER I

INTRODUCTION

1.1 Background

Amadeo (2019) says an interest rate is the percentage of principal charged by the lender for the use of its money. The principal is the amount of money lent. As a result, banks pay an interest rate on deposits. They are borrowing that money from you. Anyone can lend money and charge interest, but it's usually banks. They use the deposits from savings or checking accounts to fund loans. They pay interest rates to encourage people to make deposits. Banks charge borrowers a little higher interest rate than they pay depositors so they can profit. At the same time, banks compete with each other for both depositors and borrowers. The resulting competition keeps interest rates from all banks in a narrow range of each other.

Murray (2018) says lending (also known as "financing") is the temporary giving of money or property to another person with the expectation that it will be repaid. In a business and financial context, lending includes many different types of commercial loans. Lenders are businesses or financial institutions that lend money, with the expectation that it will be paid back. The lender is paid interest on the loan as a cost of the loan. The higher the risk of not being paid back, the higher the interest rate. Lending to a business (particularly to a new start up business) is risky, which is why lenders charge higher interest rates and often they don't give small business loans. Types of Commercial Loans are Bank financing for small business start-up and working capital, Asset financing for equipment and machinery or business vehicles, Mortgages, Credit card financing, Vendor financing (through trade credit), Personal (unsecured) loan.

Khan (2019) Suggest when the Federal Reserve raises or lowers its target interest rate, the change affects consumers too. The federal rate helps determine the interest you pay on loans and earn on savings, so it matters to just about everyone. Here's what might change when rates rise or fall. Mortgage payments - If there will be a fixed-rate mortgage, then it won't be affected by a rate change. However, with an adjustable-rate mortgage, rate and payments can potentially increase or decrease. If interest rates are rising, check with lender to find out how much payment will increase and if it benefits

to refinance into a fixed-rate loan. If planning to refinance a mortgage or searching for a new fixed-rate loan, doing so after the Fed has trimmed rates might allow to lock in a lower interest rate. However, other factors also play a role, such as credit score. Car loans - A low interest rate environment is good news for those looking to finance a car because people can borrow money more cheaply, but a rate increase makes financing a car more expensive. People with higher-interest car loans might benefit from refinancing if rates drop, depending on how big the difference is and the length of the loan term. Credit card rate - The annual percentage rate (APR) on most credit cards is variable. That means an increase in the target rate will likely drive up the interest pay on account balance, while a decrease can potentially lower the interest pay—which may make it easier to pay down debt more quickly. Private student loans - Interest rates on federal student loans are fixed, so those rates remain locked. If taken out private loans, however, interest payments may increase or decrease with rate changes. Whether loans are private or public, a lower interest rate environment might be a good time to check options for consolidation to see if it can get a lower overall rate. Returns on savings - One positive effect of a target rate increase may be higher interest rates banks pay customers in savings vehicles such as CDs, money market accounts and basic savings accounts. Although higher rates are good news for savers, don't expect an immediate, dramatic change; rates tend to move gradually. When rates move lower savings vehicles could generate smaller returns.

1.2 Statement of the problem

Interest rate is the amount a lender charge for the uses of asset expressed as a percentage of the principle. Interest rate changes plays an important role in making lending decisions for any individuals or any institutions. Interest rate changes posses certain impact on lending activities of commercial banks.

The research is the vast investigation of the problem. The possible problems are faced by policy maker of commercial banks will be mentioned below:

1. Is there significant difference on interest rate, deposit volume, non-performing loan and lending loan across types of banks?
2. What is the relationship between interest rate, deposit volume and non-performing loan with lending loan?
3. How does the interest rate, deposit volume and non-performing loan effect on lending loan?

1.3 Objectives of the study

The major objective of the study is to find out the impact of interest rate changes on lending. Besides, the overall objectives of this study are as follows:

1. To analyse the difference on interest rate, deposit volume, non-performing loan and lending across private banks and joint venture banks,
2. To examine the relationship between interest rate, deposit volume and non-performing loan with lending of sample banks,
3. To examine the effect of interest rate, deposit volume and non-performing loan on lending,

CHAPTER II

REVIEW OF LITERATURE

2.1 Related theory

2.1.1 Loanable fund theory

The neo-classical theory of interest or loanable fund theory of interest was first developed by the Swedish economist Kunt Wicksell. Later economists Ohlin, Myrdal, Lindahl, Robertson and J. Viner had considerably contributed to this theory. According to this theory, rate of interest is determined by the demand for and supply of loanable funds. This theory was more realistic and broader than the classical theory of interest. Loanable funds theory differs from the classical theory in the explanation of demand for loanable funds. According to this theory demand for loanable funds arises for the following three purposes i.e.; Investment, hoarding and dissaving. Investment is the main source of demand for loanable funds is the demand for investment. Investment refers to the expenditure for the purchase of making of new capital goods including inventories. The price of obtaining such funds for the purpose of these investments depends on the rate of interest. An entrepreneur while deciding upon the investment is to compare the expected return from an investment with the rate of interest. If the rate of interest is low, the demand for loanable funds for investment purposes will be high and vice-versa. This shows that there is an inverse relationship between the demands for loanable funds for investment to the rate of interest. The demand for loanable funds is also made up by those people who want to hoard it as idle cash balances to satisfy their desire for liquidity. The demand for loanable funds for hoarding purpose is a decreasing function of the rate of interest. At low rate of interest demand for loanable funds for hoarding will be more and vice-versa. Dissaving's is opposite to an act of savings. This demand comes from the people at that time when they want to spend beyond their current income. Like hoarding it is also a decreasing function of interest rate.

The supply of loanable funds is derived from the basic four sources as savings, dishoarding, disinvestment and bank credit. Savings constitute the most important

source of the supply of loanable funds. Savings is the difference between the income and expenditure. Since, income is assumed to remain unchanged, so the amount of savings varies with the rate of interest. Individuals as well as business firms will save more at a higher rate of interest and vice-versa. Disharding is another important source of the supply of loanable funds. Generally, individuals may dishoard money from the past hoardings at a higher rate of interest. Thus, at a higher interest rate, idle cash balances of the past become the active balances at present and become available for investment. If the rate of interest is low disharding would be negligible. Disinvestment occurs when the existing stock of capital is allowed to wear out without being replaced by new capital equipment. Disinvestment will be high when the present interest rate provides better returns in comparison to present earnings. Thus, high rate of interest leads to higher disinvestment and so on. Banking system constitutes another source of the supply of loanable funds. The banks advance loans to the businessmen through the process of credit creation. The money created by the banks adds to the supply of loanable funds.

According to loanable funds theory, equilibrium rate of interest is that which brings equality between the demand for and supply of loanable funds. In other words, equilibrium interest rate is determined at a point where the demand for loanable funds curve intersects the supply curve of loanable funds.

2.2 Review of empirical literature

Roseline, Esman and Anne (2011) studied the interest rate pass-through Kenya. The study aims to quantitatively measure the size and speed of monetary policy interest rate transmission to long term interest rates in Kenya. The study used autoregressive distributed lag specification re-parameterized as an error correction model and mean adjustment lag methods. In this study the researcher had found incomplete pass-through of policy rates both in the short and the long run. It is approximately between 11 months to two years for policy interest rate to be fully transmitted to long term interest rates. The variables selected in this study are the volume of loan granted and the quality of precaution reserve they choose to hold. Lending interest rate and deposit interest rate are taken as independent variable where the interbank rate, 91-day rate and REPO rate were entered alternately. The MAL formula is used to show the result of incomplete interest rate pass-through both in short and long run. The study sought to provide some insight into the relationship between policy rates and commercial bank

interest rates. The study indicates stickiness of policy transmission from policy interest rates to commercial bank rates both for the deposit and lending rates. The magnitude of transmission is less than 0.34 for both lending and deposit rates. The findings of this study will therefore inform policy makers of the effectiveness of their policy decision and facilitate timely monetary policy actions.

Ansari and Goy (2014) Studied bank completion, managerial efficiency and the interest rate pass-through in India. The study shows how banks solve an intertemporal problem under adverse selection and moral hazard with bank specific factors, regulatory and supervisory features, market structure and macroeconomic factors can be expected to affect banks loan interest rates and their spread over deposit interest rates. To examine interest rate pass-through for India banks in a period following extensive financial reform, after controlling for all factors, the researchers estimate the determinants of commercial banks loan pricing decisions using the dynamic panel data methodology with annual data for a sample of 33 banks over the period from 1996 to 2012. The result shows commercial banks consider several factors apart from the policy rate. The independent variables are loan interest rate and deposit interest rate and dependent variables are loan maturity, product diversification and managerial inefficiency, return on equity, liquidity and size. The researcher use descriptive statistics for data analysis. Here APRD measures estimating marginal costs using Translog Cost Function which quantifies the impact of marginal costs on performance, measured in terms of market shares. The absolute value of the ARPD measure is used in our regression since it used straightforward interpretation. Higher the coefficient in absolute sense, higher is the competition. The competition in the banking sector increased from 2002 where in 2006 and 2007 marginal decrease. The main finding is that loan interest rates spread are positively impacted by policy variables, more competition reduces transmission by reducing the loan rate but positive policy shock increases the cost of funds and reduces the spread. The interaction between policy rate and competition in the banking sector had a negative and highly significant coefficient, which is the impact of competition on interest rate pass-through. An exogenous shock forced banks to minimize costs, offer services at lower prices and at the same time increase profits. Efficient banks will increase in size and market share at the expense of less efficient banks. MI interaction puts significant downward pressure on loan pricing which leads to increased share in competitive loan market which helps in increase in profit. Cost of deposit affect on loan rate. The results highlight the role of

operating efficiency, risk aversion, asset-liability management and credit risk management in commercial banks loan pricing.

Proposed Research Framework

The research will be based upon the International Journal of development “Interest Rate Pass-through in Kenya” which was conducted by Roseline, Esman & Anne in 2011 and Contemporary Study in the economy and financial analysis “Bank Competition Managerial Efficiency and the interest rate pass-through in India” which was conducted by Ansari and Goyal in 2014.

2.3.1 Specification of variables

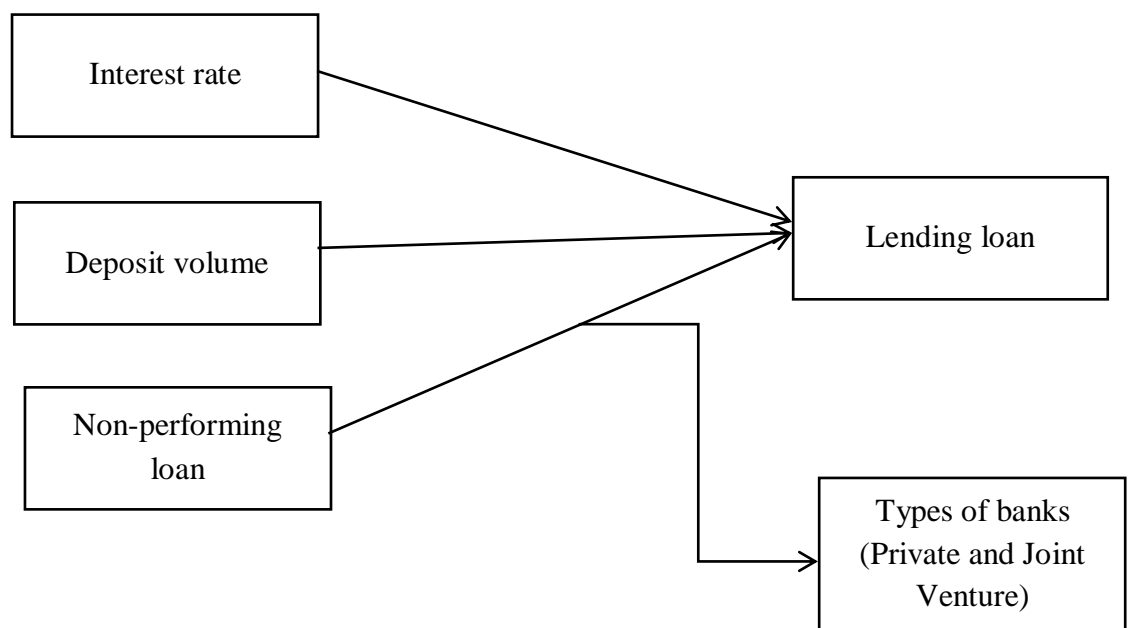


Figure 2.1: Conceptual frame work

1. Independent variables
 1. Interest rate
 2. Deposit volume
 3. Non-performing loan
2. Dependent variable
 1. Lending loan
3. Moderate variable
 1. Private Banks
 2. Joint Venture Banks

Table 2.1

Review of empirical studies

Study	Major Findings
Roseline, Esman, & Anne(2011)	The study shows quantitatively measure the size and speed of monetary policy interest rate transmission to long term interest rates in Kenya.
Ansari & Goyal (2014)	Loan interest rates spread are positively impacted by policy variables, more competition reduces transmission by reducing the loan rate but positive policy shock increases the cost of funds and reduces the spread

CHAPTER III

Research Methodology

This chapter will present a description of the methodology that will be used in the study. It spells out the techniques and methods of sampling, data collection, processing analysis and the area in which the study will be carried out. The chapter will also highlight the limitations and problems that will be encountered while collecting data in final report.

3.1 Research design

The main purpose of this research is to know about the impact of interest rate changes on Lending in Commercial Banks of Nepal. Two Foreign Joint Venture Bank i.e Himalayan Bank Limited and Everest Bank Limited and three private banks i.e. Prime Bank Limited, Kumari Bank Limited and NMB Bank Limited as sample survey organizations. The research will use hypothesis test to determine relationship and provide a conclusion about the tested variables.

The research will be based on quantitative analysis in which the data collected will be statistically analyzed using MS excel, SPSS. The data is aimed to collect from secondary sources through annual report published in website.

The research design is the specific action of methods and procedure for acquiring the information needed to structure of solve problems. In other word, it is the conceptual framework within which research is conducted. In this study, descriptive and analytical research designs are applied to achieve the research objectives. For analytical purposes, the annual reports published by the related banks. After tabulation, they will analyze by applying both financial anpred statically tools. Descriptive research is the systematic collection and presentation of data to give a clear picture of a particular situation.

3.2 Nature and sources of data

This study based only on secondary data. To collect the secondary data, published annual reports are viewed in websites of sampled banks.

3.3 Population and sample method

Population refers to the entire group people, events or things of interest that a researcher wishes to investigate. There are 28 commercial banks (including government owned, public and joint venture) are operating in Nepal. It is difficult to study all of them regarding the study topic because of limited time and resources factors too. So only following five banks are selected as sample. They are as follows:

- Himalayan Bank Limited
- Everest Bank Limited
- Prime Bank Limited
- Kumari Bank Limited
- NMB Bank Limited

3.4 Method of analysis

The thesis will cover and include the financial and statistical tools to analyse the data in order to reach the conclusion of the research. For the analysis of the data, MS WORD, SPSS and MS EXCEL will be used. For the data of five years were taken as sample from 2013/14 to 2017/18. Firstly, the collected data are presented in proper forms, grouped in various table and then compared with other to interpret results. For this study statistical tools are going to be used.

3.4.1 Statistical tools

Various statistical tools related to this study will be drawn to make the conclusion more reliable according to the available financial data. Statistic tool is also used to test the hypothesis that is set to know the information of population. For this, following statistical tools will be used.

1. Arithmetic Mean or Average (A.M):- The Mean or average value is a single value within the range of data is used to represent all the values in the series. It

represents the entire data which lies almost between the two extremes. An average is somewhere within the range of the data, it is also called a measure of central value. In this study, mean is calculated to find out the average of the variables used in research they are interest rate, deposit volume, non-performing loan and lending loan. It is calculated an all samples:

$$\text{Mean } (\bar{X}) = \frac{\sum x}{N}$$

Where, x = Value of responses of each independent or dependent variable

N = Number of observations

\sum = Sum of value of all items

2. Median:- Median is a tool to measure the centre of a numerical data set. It summarizes large amounts of data into a single value. It can be defined as the middle number of a group of numbers that have been sorted in ascending order. In other words, the median is the number which would have the same amount of numbers both above and below it in the specified data group. It is commonly used measure of data sets in statistics and probability theory. In this study, median is calculated to find out the mid value of the variable used in the research they are interest rate, deposit volume, non-performing loan and lending loan. The formula for the median is as follows:

$$\text{Median (Md)} = \frac{(N+1)}{2^{th} \text{ terms}}$$

Where, N = Number of observations

3. Standard Deviation (S.D.): - The standard deviation is the measure that is most often used to describe the variability in data distributions. It can be thought of as a rough measure of the average amount by which observation deviate on either side of the mean. It is calculated for selected dependent and independent variable specified. It is positive square root of mean squared deviation from the arithmetic mean. The more spread out the data, the higher the standard deviation. In this study, standard deviation is calculated of the variable used in the research they are interest rate, deposit volume, non-performing loan and lending loan. The formula for the standard deviation is as follows:

$$SD = \sqrt{\frac{\sum(x-x)^2}{n-1}}$$

Where, SD = Standard Deviation

$\sum(x-x)^2$ = Sum of square of the standard deviation measured from arithmetic average

n = Total number of observations

4. Coefficient of Variation (CV):- Coefficient of Variation (CV) reflects the relation between standard deviation and mean. The relative measure of dispersion based on the standard deviation is known as coefficient of standard deviation. The coefficient of dispersion based on the standard deviation multiplied by 100 is known as CV. It is used for comparing variability of two distributions. If the \bar{X} is the arithmetic mean and standard deviation of the distribution. In this study, coefficient of variance is calculated of the variable used in the research they are interest rate, deposit volume, non-performing loan and lending loan. The formula for the coefficient of variation is as follows:

$$C.V. = \left(\frac{SD}{Mean}\right) \times 100\%$$

5. Correlation (r):- Correlation is a statistical tool designed to measure the degree of association between two or more variables. In other words if the changes in one variable affects the change in another variable, then the variable are said to be co- related when it is used to measure the relationship between two variables, then it is called simple correlation. The coefficient of correlation measure the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's method is applied in the study. In this study, correlation is calculated for the observation to find out the degree of relation between independent and dependent variables for all samples. It is expressed as:

$$r = \frac{\sum x_1 x_2 x_3}{\sqrt{\sum x_1^2 \sum x_2^2 \sum x_3^2}}$$

Where,

r = Coefficient of Correlation

$$\sum x_1 = x_1 - \bar{X}_1$$

$$\sum x_2 = x_2 - \bar{X}_2$$

$$\sum x_3 = x_3 - \bar{X}_3$$

6. Regression: - Regression is a statistical measure that attempts to determine the strength of the relationship between one dependent variable and one or more variables. It includes many techniques for modelling and analysing several variables to understand the relationship between variables. In this study, regression is calculated for the observation to find out direction of relationship between independent variables and dependent variable for all samples. The theoretical model for the relationship is formulated as equation below:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Where,

Y = Lending

a= intercept

X_1 = Interest Rate

X_2 = Deposit Volume

X_3 = Non-Performing Loan

b_1 = Coefficient of Interest Rate

b_2 = Coefficient of Deposit Volume

b_3 = Non-Performing Loan

3.5 Limitation of the study

As we know that every activity has limitations due to time and resources, this thesis also pass through some boundaries. The main limitations of study are mentioned below:

1. The samples are taken only from five commercial banks, other financial intermediaries are not included in the study.
2. The lending amounts of commercial banks are influenced by several factors. However, this study mainly focuses on the interest rate changes, deposit and non- performing loan.
3. The study is based on secondary data only.
4. The study only covers ten fiscal years, i.e. 2008/09 to 2017/18.

CHAPTER IV

Organization of the Study

It deals with the holistic concept of research report. It is explained the research report as a complete form. This study is divided into five chapters which are as follows:

Chapter One

Introduction

In this section, the chapter will introduce the major issues related to the study, general background and statement of the problems, objectives, significance of study and organization of the study.

Chapter Two

Review of literature

Review of Literature will be important tasks for thesis writing. This Chapter will provide a brief review of literature related to study. It will include a related theories, review of empirical literature and theoretical framework. It will also provide an overview of the related literature done in the past related to this study.

Chapter Three

Research Methodology

In this chapter, the focus will be mainly related to research design, population and sample of study, nature and sources of data, definition of the variable, and methods of data analysis and limitation of the study. It will include the financial analysis of a firm where we need the various data and different statistical tools.

Chapter Four

Data Presentation and Analysis of Data

This chapter comprises of presentation and analysis of the data obtained during the study. Different tools and techniques are used for the purpose of data analysis which includes figures and diagrams as well. In this chapter, the collected and processed data are presented, analyzed and interpreted using analytical tools, charts and figures.

Chapter Five

Summary, Conclusion and Discussion

This will be the end section of the report. This chapter finally summarizes the study in a few paragraphs and tries to conclude the whole study; that is the result of the research. Conclusion of the study is also included in this chapter and possible viable discussion is also presented.

Bibliography, appendixes and other related materials are presented at the end of the thesis report.

References

- Amadeo, K. (2019, 05 12). *the balance*. Retrieved May 12, 2019, from the balance Website: <https://www.thebalance.com>
- Ansari, J., & Goyal, A. (2014). Bank Competition Managerial Efficiency and the interest rate pass-through in India. *Contemporary Study in Economic and Financial Analysis*, 96, 317-339.
- Barone, A. (2019, 4 23). *Investopedia*. Retrieved April 23, 2019, from Investopedia Web site: <https://www.investopedia.com>
- Fadiran, G. (2014). Bank competition interest rate pass-through in the BRICS. *International Journal of Emerging Markets*, 9(4), 471-487.
- Khan. (2019). *Khan Academy*. Retrieved from Khan Academy Website: <https://www.khanacademy.org>
- Murray, J. (2018, 11 22). *Small Business*. Retrieved October 22, 2018, from Small Business Web site: <https://www.thebalancesmb.com>
- Roseline, M. N., Esman, N. M., & Anne, K. W. (2011). Interest Rate Pass-through in Kenya. *International Journal of Development*, 10(2), 170-182.