

# **IMPACT OF INTEREST RATE CHANGES ON PROFITABILITY OF COMMERCIAL BANK IN NEPAL**

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

By

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Kathmandu, Nepal

July, 2024

## **CERTIFICATION OF AUTHORSHIP**

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled **“IMPACT OF INTEREST RATE CHANGES ON PROFITABILITY OF COMMERCIAL BANKS IN NEPAL”**. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes.

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.

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Date:

## REPORT OF RESEARCH COMMITTEE

Mr. Hark Bahadur Saud has defended research proposal entitled “**IMPACT OF INTEREST RATE CHANGES ON PROFITABILITY OF COMMERCIAL BANKS IN 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 professor, Sirjana Khadka and submit the thesis for evaluation and viva voce examination.

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## **ACKNOWLEDGEMENTS**

I express my heartfelt appreciation to my supervisor, Prof. Sirjana Khadka whose steadfast guidance, continual motivation, and insightful assistance were instrumental throughout this project. His expertise significantly influenced the outcome, and I am deeply grateful for his support.

I also thank Asso. Prof. Sajeeb Kumar Shrestha, PhD, Chairperson of the Research Committee, and Asso. Prof. Krishna Prasad Acharya, PhD, Campus Chief, along with the entire academic and administrative staff at Shanker Dev Campus, for fostering an environment conducive to learning and personal development. Their dedication greatly enriched my academic journey.

My profound gratitude extends to my family for their unwavering love and encouragement, which served as the cornerstone of my endeavors. Additionally, I acknowledge the invaluable support and camaraderie of my friends and colleagues. Their contributions were instrumental in navigating through challenges and achieving milestones throughout this journey.

To all those who contributed to this endeavor, whether through sacrifices, encouragement, or belief in my capabilities, I express my sincerest gratitude. Your support played a pivotal role in the successful completion of my dissertation.

Hark Bahadur Saud

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## **ABBREVIATIONS**

ATM	Automatic Tailor Machine
BAFIA	Bank and Financial Institution Act
CEO	Chief Executive Officer
EBIT	Earnings Before Interest and Tax
EPS	Earnings Per Share
L&A	Loan and Advanc
No.	Number
NPAT	Net Profit After Tax
ROA	Return on Assets
ROE	Return on Equity
NIM	Net Interest Margin
TA	Total Assets
BSR	Base interest Rate
ISR	Interest Spread Rate
NRB	Nepal Rastra Bank

## **Abstract**

The aim of this study is to determine the relationship between interest rate changes and profitability of banks in the context of commercial banks in Nepal. The specific objectives of this study are to examine the effect of interest rate changes on profitability of commercial banks in Nepal, to analyze the relation between the interest rate and profitability of commercial banks, A descriptive research design was used with a sample of seven commercial banks out of 20 commercial banks were selected and ten recent years data ( FY 2013/14 to FY 2022/23) were used for analysis. The major source of data was secondary and collected from authentic websites. Using descriptive statistics, correlation analysis and multiple regression analysis this study investigates the effects of interest rate on profitability of commercial banks. The major findings of the study are; Variables like Base interest rate (BSR) and profitability ratios (ROA, ROE and NIM) of bank have negative relationship and interest spread rate (ISR) and profitability ratios of banks have positive relationship. The independent variables i.e. BSR and ISR are significantly associated with dependent variable i.e. ROA, ROE and NIM of seven sample commercial banks. Finally, the study concludes that base interest rate has insignificant negative effect on profitability of commercial banks. But there is significant positive effect of Interest spread rate on profitability of commercial banks.

**Keywords:** Profitability, Profit, interest rate

# **CHAPTER-1**

## **INTRODUCTION**

### **1.1 Background of the study.**

Bank profitability is a key factor shaping financial development and economic growth. The profitability of banking sector is important because the financial system of the country is largely based on banking system. Economic that have a profitable banking sector are better able to with stand negative shocks and contribute to the stability of the financial system. The profitable banks positively participate in the gross domestic product (GDP) of a country. Therefore, it is essential to study the indicator that have any impact on the profitability of the banks as the ever changing social, legal and microeconomic environment may cause these factors to change low profitability weakness, the ability and willingness of bank to finance the wider economy. Banks cannot function without being profitable. That not only helps them to cover the expenses and losses but also rewards investor and depositors. Most of the studies classified the determinant of banking profitability as internal factors and external factors. That various studies have used different indicators as measures and proxies of banks profitability. The direct impact of lower rates on bank profitability, after controlling for other factors that operate indirectly through monetary policy's independent impact on aggregate demand. All else equal, lower interest rates are likely to directly impact bank profitability by eroding banks' net interest margins (NIMs). Windsor, Jokipii and Bussiere (2023).

Several methods may be used to measure bank profitability, all of which have some advantages and shortcomings. Profitability is generally measured using accounting ratios with the commonly used profitability ratio being ROA. ROA determines the amount of the profit earned per selling of assets. This reflects the efficiency with which the bank's managers use bank's investment resources or assets in generation of income. ROA simply connect the management efficiency and depicts how effective and efficiently the bank management operate as they employ the

organization's assets into the earnings. A high ROA ratio is a clear indicator a good performance or profitability of a banking entity Yuan et al (2022). Another commonly used measure of profitability is rate of return on equity (ROE). It tells how well an institution is doing in an accounting sense. This gives ideas to the stockholders about how well their investment has been utilized to give them return on their money. During the last two decades the banking sector has experienced worldwide major transformations in its operating environment. Both external and internal factors have affected in its structure and performance. Despite the increased trend toward bank disintermediation observed in many countries, the role of banks remains central in the financing economic activity in general and different segments of the market in particular. A second and profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Therefore, the determinants of bank profitability performance have attracted the interest of academic research as well as of bank management, financial markets and bank supervisors.

Nepalese banking sector consists of 20 scheduled commercial banks; including 14 domestic banks, 6 foreign owned banks at the mid-January 2024. Nepal Rastra Bank is the Central Bank of the country and has authority to regulate and supervise all banking companies operating in Nepal. Commercial banks need to be aware of all those factors (internal and external) that affect their profitability performance. Whereas, internal 3 factors related to profit and loss account shows that how competent bank's management is in creating revenues and controlling costs. Even though a lot of literatures are developed to examine the determinants of banks profitability performance, those studies show different and even contradictory results. Furthermore, Since Nepalese banking sector has shown a rapid progress in terms of number of banks, total assets and capital, widening their branch network, increasing their outreach to remote areas and continuously reporting profits of different magnitude, the examination of the determinants of profitability performance is very necessary.

## **Interest**

Interest is the price you pay to borrow money or the return earned on an investment. For borrowers, interest is most often reflected as an annual percentage of the amount of a loan. This

percentage is known as the interest rate on the loan. For investors or savers, interest comes in the form of an annual percentage yield (APY).

For example, a bank will pay you interest when you deposit your money in a high-yield savings account. The bank pays you to hold and use your money to invest in other transactions. Conversely, if you borrow money to pay for a large expense, the lender will charge you interest on top of the amount you borrowed.

Banks profitability, Return on assets (ROA), Return on equity (ROE), Net interest margin (NIM).

Bank profitability is fundamentally about analyzing financial data to gauge the revenue earned from bank operations against the expenses incurred. Here are some key metrics commonly used to measure bank profitability and how they are calculated:

Net Interest Margin (NIM):

This is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their interest-earning assets. It's calculated as:  $(\text{Interest Income} - \text{Interest Expense}) / \text{Average Earning Assets}$ .

Return on Assets (ROA):

This metric gives an idea of how efficiently a bank is using its assets to generate earnings. It's calculated by dividing the net income of the bank by its total assets:  $\text{Net Income} / \text{Total Assets}$ .

Return on Equity (ROE):

ROE measures a bank's profitability by revealing how much profit a bank generates with the money shareholders have invested. It's calculated as:  $\text{Net Income} / \text{Shareholder's Equity}$ .

Understanding and tracking these metrics is crucial for effective budgeting and strategic planning, as they provide a snapshot of a bank's financial health and operational efficiency. For a more detailed analysis on market interest rate changes, which is fundamental in accurately determining

profitability, cost management software is an invaluable tool that can transform complex financial data into clear, actionable insights.

### **1.1.1 Profile of Selected Banks under Study**

#### **Nepal bank ltd. (NBL)**

Nepal Bank Limited is the first commercial bank of Nepal. It was established in 1937, by Juddha Shumsher, which marked the beginning of an era of formal banking in Nepal.

When NBL was established, it was formed under the principle of Joint venture (Joint venture between Government and general public). NBL's authorized capital was NPR 100 million & issued capital NPR 2.5 million of which paid-up capital was NPR 842,000 with 10 shareholders. The bank has been providing banking through its branch offices in the different geographical locations of the country.

The bank established with objective of facilitate the financial service within customers as like provide loans and financial support to businesses, mobilization of money (by accept the deposit from public and providing loans to corporates and individuals), Enhance operational efficiency, provide financial literacy and ease the banking activities by providing digital services.

The bank make ease on banking activities by providing several services to its customers, as like internet banking, m-banking, safe deposit locker, ATM/Debit card, credit card and QR code payment service.

--[www.nepalbank.com.np](http://www.nepalbank.com.np)

#### **Rastriya Banijya Bank Limited (RBBL)**

Rastriya Banijya Bank Limited (RBBL) has a history of serving its customers far and wide across the nation for more than half a century. The bank then fully owned by Government of Nepal, was established on 10 Magh 2022 (23 January 1966) under the special statute "Rastriya Banijya Bank Act, 2021" and had operated under "Commercial Bank Act,2031" until it was re-registered as public limited company on 6 Baishak 2063 (19 May 2006). At present, the Bank operates as

"A" class financial institution licensed by Nepal Rastra Bank and carries out commercial banking activities as per the provisions of the "Bank and Financial institutions Act 2073," (2017). The Bank stand as one of the most preferred bank in Neplease banking sector with the highest number of customers all 77 districts and 7 provinces of the country.

The RBBL providing digital payment services to customers named RBB digital sansar and providing USSD mobile banking, POS service, debit and credit card services.

RBBL set these objectives for the organization:

- 1)Focus on providing innovative financial services.
- 2)Increase in capital base of the Bank by meeting the minimum capital requirement.
- 3)Business growth and increase in market share.
- 4)Enhance operational efficiency and Sustainable increase in profits.
- 5)Focus on empowerment of deprived class

-- [www.rbb.com.np](http://www.rbb.com.np)

### **Prabhu Bank Limited. (PBL)**

The Bank has gone through the various phases of its growth trajectory over a short period of its existence. Growth of Prabhu Bank was phenomenal, especially after merger of Grand Bank Nepal Limited, Kist Bank Ltd, Prabhu Bikash Bank Ltd, Gaurishankar Development Bank Ltd and Zenith Finance Ltd in, 2016, attaining the status of "A" class financial institution licensed and regulated by the central bank of Nepal, Nepal Rastra Bank.

The Bank has completed years of journey since the inception and has accommodated seven different financial institutions in its making.

The bank is an 'A' class commercial bank licensed by Nepal Rastra Bank and has 302 branches all across the nation with its head office in Kathmandu which provides entire commercial banking

services. Prabhu Capital Ltd. The bank has been maintaining harmonious correspondent relationships with various international banks from various countries to facilitate trade, remittance, and other cross border services. Through these correspondents, the bank is able to provide services in any major currencies in the world

Prabhu bank limited is merged with Century Bank in January 2023 and become the the best bank of the year 2023. Prabhu bank limited acquired Kist bank and others 2 banks (Prabhu Bikash Bank) in 2016 and 2015 respectively.

The mission of the bank is to become the leading commercial bank in Nepal by providing the finest quality financial products and service to their customers; Enhance shareholders value and create continuous learning and growth opportunity for people.

//www.prabhubank.com

### **Everest Bank Limited. (EBL)**

Everest bank ltd. was registered on November 17, 1992, come into operation on October 18, 1994 with an objective of extending professionalized, and efficient banking services to various segments of the society. Today the bank has grown to become one of the leading banks in Nepal. The bank has 128 Branches, 164 ATM Counters, 32 Revenue Collection Counters and 4 Extension Counters across the country making it a very efficient and accessible bank for its customers, anytime, anywhere (Everest Bank Ltd., 2021). The bank provided 20% of its total share capital own by Panjab National Banks; A national banks of India and remaining 80% capital own by the other stakeholders of banks.

The bank operating with vision of ‘To be a Leading Commercial Bank with Pan Nepal presence and become a household name, providing wide range of financial products and services under one roof.’ And with mission of ‘Growth through Banking for ALL’

The bank facilitate its service through E-banking; retail and internet banking, QR code payment, E- paicho fonelone, e-statement, electronic cheque deposit machine and different types of loan service, remittance service.

--www.everestbankltd.com

### **Nepal SBI Bank Limited. (SBI)**

Nepal SBI Bank Ltd. (NSBL) was established in July 1993 and has emerged as one of the leading banks of Nepal, with 937 skilled and dedicated Nepalese employees (as on Poush end 2080). NSBL is a subsidiary of State Bank of India (SBI) having 55 percent of ownership. The local partner viz. Employee Provident Fund holds 15% equity and General Public 30%. In terms of the Technical Services Agreement between SBI and the NSBL. The bank provides service through internet banking, mobile wallet, SMS banking, IRCTC Ticket Online Booking facility, etc. Nepal SBI Bank is providing service through total of 140 outlets that include 97 full-fledged branches, 22 extension counters, 7 Province offices, 13 branchless banking outlet and Corporate Office. With presence in 51 districts in Nepal, the Bank is providing value added services to its customers through its wide network of 122 ATMs (Nepal SBI Bank Ltd., 2021).

The Bank is moving ahead in the Nepalese Banking Industry with significant growth in Net Profit with very nominal NPA. As of 31st Ashad, 2080, the Bank has deposits of Rs. 150.72 billion and advances (including staff loan) of Rs. 125.53 billion, besides investment portfolio (including investment on subsidiary) of Rs. 34.14 billion.

NSBL set its vision to 'Be the most preferred bank for a transforming Nepal' and working on its mission of 'To provide high quality, reliable and innovative financial solutions.

--www.nsbl.statebank

### **Himalayan Bank Limited. (HBL)**

Himalayan Bank was established in 1993 in joint venture with Habib Bank Limited of Pakistan. The bank holds the legacy of introducing various banking services for the first time in Nepal from the very beginning. Products such as Premium Savings Account, HBL Proprietary Card and Millionaire Deposit Scheme besides services such as ATMs and Tele-banking were first introduced by HBL which was able to win customers' hearts during that time. Since its establishment, the bank has been highly focused on innovative approaches and customer

satisfaction. HBL has also been serving Nepali citizens living in the country and abroad through remittance service. Presently, HBL is the biggest inward remittance handling bank in Nepal. With its exclusive and proprietary online money transfer software – Himal Remit -TM, HBL is among the top remittance service providers in Nepal.

Despite the tough competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities- Loans and Deposits. Himalayan Bank is also the first commercial bank of Nepal with most of its shares held by the private sector of Nepal. Besides commercial banking services, the bank also offers industrial and merchant banking service. With its head and corporate office at Kamaladi, Kathmandu, the bank has 44 branches. Eighteen of its branches are located inside the Kathmandu Valley while the rest are spread across the nation.

HBL providing quality financial services to customers. The bank working effectively nationwide to fulfill its objective of To become the Bank of first choice in the nation.

--.himalayanbank.com

### **Nabil Bank Limited. (NABIL)**

Established in 1984 AD, Nabil Bank has carved a cornerstone in the development of the financial services industry in Nepal. The Bank has always stayed true to its three strong pillars: Service Excellence, Technology, and Product innovation. Nabil Bank operates through its wide network of 268 branch offices, 317 ATMs, numerous POS terminals, remittance agents spread across the nation. The Bank also has more than 200 international correspondent banking relationships. The Bank operates its investment banking arm through its subsidiary Nabil Investment Banking Ltd, Nabil stock dealer ltd. and Nabil retirement fund.

Nabil investment banking is a Provider of Complete Financial Solutions, they have ventured into capital market related activities and incepted a subsidiary- Nabil investment banking ltd. along with CG Finco Pvt. Ltd. as the institutional shareholder to render investment banking related services

Nabil Stock Dealer Ltd. (NSDL) is a wholly owned subsidiary of Nabil Bank and was established on 4th Shrawan 2078 with a capital base of NPR 1.52 billion. NSDL has been licensed from Securities Exchange Board of Nepal (SEBON) as a stock dealer company and has obtained operating license from Nepal Stock Exchange (NEPSE) as a stock broker company (broker number 77). NSDL stands as one of the largest and most comprehensive stock dealers providing a wide range of services including stock dealer operation, brokerage and advisory services, margin trading, portfolio management, and more, all accessible through a single platform.

Nabil Bank Limited Retirement Fund (Nabil-RF) is an approved Retirement Fund from Inland Revenue Department (IRD) and Nepal Rastra Bank (NRB) to manage the retirement funds of staff of Nabil Bank Limited and corporate customers of Nabil Bank Ltd. They accept the Provident Fund deposit in monthly basis and also other defined retirement fund i.e. Gratuity Fund /Retirement Fund as per the concerned organization contribution policy.

The main objective of the bank is to be first choice of its stakeholder. (customers, shareholders, regulators, communities and staff)

--[www.nabilbank.com](http://www.nabilbank.com)

## **1.2 statement of the problems.**

One of the problems that has raised the interest of economists and bank professionals is to know the profitability of financial institution through interest incomes. Attracting and retaining profitable customers, and increasing revenue from those customers, is a priority of the managers of all banks in today's globalized marketplace. It is particularly important in the highly competitive retail financial services market, where the core business of banking continues to be the profitable management of risk Hogan, (2001). The interest rate changes and spread rate changes intermediation causes the income generator of a bank's income statement to be mismatched and therefore expose the bank to variation in market rates. Banks' income statement' maturity structure of 'using assets and equity capital' is argued to be the main source of the interest rate risk faced by commercial banks. The relationship between interest rate spread and profitability of commercial banks found out that comprehensive set of bank characteristics such as size, leverage, type of business, foreign ownership, macro indicators, such as taxation and regulatory variables, financial

structure variables, and legal and institutional indices influence bank interest rate spread and profitability Ndiritu et al. (2024). Assumptions of these theories were different and different factors were considered as crucial in different time. As a developing country, Nepalese market has not reached its maturity but in recent years institution is determining their interest rate themselves. Thus, it is important to know whether the interest rate is determined by market forces or by managerial discretion. Some of the previous researcher in their thesis had studied in the limited areas such as interest rate structure, impact of interest on portfolio of policies etc. In the area of ‘market interest rate changes and its effect on profitability of financial institutions’ is a essential subject to discover in recent scenarios.

Profitability in commercial banks is determined by the various other factors; among them majorly ability of the banks to earn interest income is key factor. It impact to absorb loan losses, support future growth of assets and provide return to investors. The largest source of income to these banks is the interest income which is earned through lending activities less interest paid on deposits and debt. Bank of has set some standard measures of profitability such as: Return on equity (ROE) which directly reflects corporate competitiveness strength and sustainable growth. It is an important indicator to show the attractiveness of the equity to the investors. The other one is Return on Assets (ROA), which effectively reflects corporate profitability and it, can be used to evaluate the performance of management in the utilization of the assets. More specifically this study is an attempt to address the following questions:

- 1) What is the structure and pattern of Interest rate changes, Net interest margin on Earning assets amount, Return ratio on shareholders equity capital, Return rate on assets amount and profitability of Neplease commercial banks?
- 2) Is there any relationship between Interest rate changes and Net interest income to Total Deposit, Return on equity capital, Return on Assets amount with profitability of sample commercial banks?
- 3) How do changing interest impact on profitability in Nepalese commercial banks.

### **1.3 Objectives of the Study.**

The overall objective of this study is to evaluate the profitability of seven 'A' classes commercial banks in Nepal i.e., NBL, RBBL, PBL, EBL, SBI, HBL and NABIL Bank. The specific objectives are as following:

- 1) To assess the structure and pattern of Interest rate changes, Return on assets, Return on equity capital, Net interest margin and profitability of sample commercial banks.
- 2) To examine the relation between Return on assets, Return on equity capital, Net interest margin and Interest rate changes of Neplease commercial banks.
- 3) To analyze the impact of changes on interest rates on profitability of Nepalese commercial banks.

### **1.4 Rationale of the study.**

This research study is concerned with the profitability analysis in public and private commercial banks which analyze the proper applicability of profitability position in the banks. Increase in profitability represent the overall financial performance of an organization by the help of the best utilization of resources. The financial performance of an organization depends purely on the use of these resources. The knowledge of market interest is the key to productive financial planning steps forwards. Profit significantly contributes to improve the profitability with the help of best utilization of resources. If the process of an organization is effective and result oriented, the pace of development expedites naturally. To make effective managerial decision earning and profitability aspect play crucial role to operation of every financial organization. Profitability is the heart of organization. It tells us that profit is the most important indicator for judging managerial efficiency and does not just happen. For this, every organization has to manage its profit. In the above light, this research study may be useful for those who want to know and compare the role of market interest on profitability of Nepalese commercial banks. It may also be helpful for future researches as the reference material. The findings will also be of importance to literature, as it will add on to the existing literature on profitability and market interest rate of banking industry. Finally, future scholars and researchers may also use these findings as a basis for additional research.

### **1.5 Limitations of the Study.**

Every study defines some boundaries. They have to study within this research framework so, there are some limitations as follows;

- 1) Out of 20 commercial banks there are only 7 banks NBL, RBBL, PBL, EBL, SBI, HBL and NABIL are taken for the study.
- 2) The study covers ten fiscal years from 2013/14 to 2022/23.
- 3) The study is mostly based on secondary data i.e. published documents like annual reports, related journals. Magazines, booklets etc.
- 4) The study focuses on the profitability and interest rate changes aspect only.
- 5) Only limited financial and statistical tools are used in the analysis.

## **CHAPTER -2**

### **REVIEW OF LITERATURE**

Review of literature is studies or understanding of previous research work on related area of research work. Reviewing research studies or other relevant propositions in the related area of the study so that all the past studies, their conclusions and deficiencies may be known and further research can be conducted. It is an integral and mandatory process in research works. The main reason of review of research in the past is to know the outcomes of those investigations in areas where similar concepts and methodologies had been used successfully. Further an extensive or even exhaustive process of such review may offer vital links with the various trends and phases in the researches in one's area of specialization, familiarizing with the characteristic percepts, concepts and interpretation with the special terminology, with the rationale for the understanding one's proposed investigation. In this connection, a review of previous related research projects will help the researcher to formulate a satisfactory structure for the project Wolf & Pant, (2002). Review of literature is stock taking of available literature in one's field of research. It comprises the concept of financial analysis, conceptual review and review of related study.

#### **2.1. Theoretical Review**

Financial analysis is the process of determining the significant operating and financial characteristics of a firm from accounting data and the financial statement. The goal of such analysis is to determine the efficiency and the performance of the firm management, as reflected in the financial reports and records. The analysis is attempting to measure the market interest scenarios, profitability and other indicators that describes the business is conducted in a rational and orderly way or not. The theoretical review contributes to a better understanding of the concept and the meaning of major impact of interest rate changes in Nepalese commercial banks and its impact on profitability performance of commercial banks. Concept and the meaning about these factors from different sources are linked together to formulate a meaningful and magnificent material in this section.

### **2.1.1 Concept of interest rate**

#### **2.1.2 Interest Rate**

Interest rate is the amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets. Interest rates are typically noted on an annual basis, known as the annual percentage rate (APR). The assets borrowed could include, cash, consumer goods, large assets, such as a vehicle or building. Interest is essentially a rental, or leasing charge to the borrower, for the asset's use. In the case of a large asset, like a vehicle or building, the interest rate is sometimes known as the "lease rate". When the borrower is a low-risk party, they will usually be charged a low interest rate; if the borrower is considered high risk, the interest rate that they are charged will be higher (Vane Horne, 2001). The rate of interest is the price a borrower must pay to secure scarce loanable funds from a lender for an agreed- upon time period. It is the price of credit. The rate of interest is the ratio of two quantities: the money cost of borrowing divided by the amount of money actually borrowed, usually expressed on an annual percentage basis. Interest rates send price signals to borrowers, lenders, savers and investors. For example, higher interest rates generally bring forth a greater volume of saving and stimulate the lending of funds. Lower rate of interest, on the other hand, tend to dampen the flow of saving and reduce lending activity. Higher interest rates tend to reduce the volume of borrowing and capital investment, and lower interest rates stimulate borrowing and investment spending.

An interest rate, or rate of interest, is the amount of interest due per period, as a proportion of the amount lent, deposited or borrowed (called the principal sum). The total interest on an amount lent or borrowed depends on the principal sum, the interest rate, the compounding frequency, and the length of time over which it is lent, deposited or borrowed. It is defined as the proportion of an amount loaned which a lender charges as interest to the borrower, normally expressed as an annual percentage. It is the rate a bank or other lender charges to borrow its money, or the rate a bank pays its savers for keeping money in an account. The neo- classical economist, however, define it as a price for the user loanable funds but the modern economist in their effort to avoid these divergent and controversial

### 2.1.3 Meaning of Interest

As we know that interest rate is one of the important variables in economics and finance. Generally, a payment made by a borrower to the lender for the money borrowed and is expressed as a rate percent per year is simply known as interest. But in economics widely different views have been put forth from the time to Aristotle to present day. Aristotle recognized only animal husbandry and stock rising as two legitimate industries whose product could be lent and interest earned on them Jhingan, (2000).

In economics interest has been defined in a variety of ways. Commonly interest is regarded as the payment for the use or service of capital. If retained by the owner, it can be used by him/her for further production and the additional product he/she gets through the employment of his capital to someone else; if he/she would have received interest in returns. As Carver said that interest is the income which goes to the owner of capital. In economics interest has been defined in a variety of ways. Commonly interest is regarded as the payment for the use or service of capital. If retained by the owner, it can be used by him/her for further production and the additional product he/she gets through the employment of his capital to someone else; if he/she would have received interest in returns. As Carver said, “interest is the income which goes to the owner of capital”.

According to classical economists Wicksell (2006) it is only by postponing consumption that capital can be created. Since to abstain consumption is disagreeable and painful, for this the lender is paid a reward in the form of interest. Where people abstain consumption they save and thus interest becomes the reward for saving. Saving, however doesn't involve sacrifice of abstinence on the path of rich. To avoid the fallacy, Marshall substituted the word 'waiting' for abstinence and thus interest is than rewarded for waiting. Pal(2018)

The neo-classical economists, however, define it as the price for the use of loanable funds. But the modern economists in their effort to avoid these divergent and controversial views about the nature of interest, have explained it in terms of productivity, saving, liquidity preference and money. In other words, interest is simultaneously the reward for the pure yield of capital, for saving, for the foregoing of liquidity and the supply of money. (Spahija 2016)

- **Gross and Pure Interest**

The payment, which the borrower makes to the lender excluding the principal, is gross interest. Net interest is the payment for the use of capital or money only. It is normally the same during a period even in different markets.

- **Reward for Risk**

Taking The lender exposes himself to risk when he/she lends money. Gross interest includes the reward for risk-taking. The greater the risk element the higher will be the rate of gross interest. Unsecured loans are more risky than secured loans and they carry high premium rate i.e. interest rate.

- **Reward for Inconvenience**

When a lender loans money he/she forgoes its use for the duration of the loan. His/her money is locked up and cannot be used for purpose that is more profitable or, if he/she needs this amount for his personal use, he/she will have to undergo the inconvenience of arranging it from some other sources. In fixing the rate of interest, the lender includes in it the reward for such inconvenience.

- **Reward for Management**

The lender has to incur expenditure in keeping proper accounts of the borrowers. He/she buys account books and even maintains staffs. He/she has to remind the borrowers and sometimes has to file a suit for the recovery of loans. The payment that the lender receives from the borrower also includes the expenses for management. Pure interest is what remains with the lender after deducting the reward for risk-taking, management and inconvenience from gross interest.

#### **2.1.4 Interest Rates as the Allocation Mechanism**

In market-based economics, price is the allocating mechanism. When it is the market for allocating savings, interest rates become the price mechanism. Borrowers with unusually productive investment opportunities, as measured in terms of risk and return, can pay a higher income in the form of an interest rate on the savings they borrow than borrowers with less

productive investors. The return may also be in the form of ownership in the business through the common stock of a company.

### **2.1.5 Functions of the Rate of Interest in the Economy**

The rate of interest performs several important roles or functions in the economy:

- It helps guarantee that current savings will flow into investment to promote economic growth.
- It rations the available supply of credit, generally providing loanable funds to those investment projects with the highest expected returns.
- It brings into balance the supply of money with the public's demand for money.
- It is also an important tool of government policy through its influence government maintains control over the volume of saving and investment. If the economy is growing too slowly and unemployment is rising, the government can use this tool to lower interest rates in order to stimulate borrowing and investment and accelerate the production and development. On the other hand, an economy experiencing rapid inflation has traditionally called for a government policy of higher interest rates to slow both borrowing and spending.

### **2.1.6 Theories on Interest Rate**

In the pages of the financial press, “the interest rate” is frequently used. In truth, there is no such thing as 'interest rate', for there exist thousands of different interest rates in the financial system. Even securities issued by the same borrowers often carry a variety of interest rates. In this section, we focus upon those basic forces that influence the level of different interest rates.

To uncover these basic rate-determining forces, however we must make a simplifying assumption. We assume, in this section, that there is no fundamental interest rate in the economy known as the pure or risk-free rate of interest, which is a component of all interest rates. The closest approximation to this pure rate in the real world is the market yield on government bonds. It is a

rate of return presenting little or no risk of financial losses to the investor and representing the opportunity cost of holding idle cash, because the investor can always invest in low-risk bonds and earn this minimum rate of return.

Once the pure interest rate is determined, all other interest rates may be determined from it by examining the special characteristics of the securities issued by individual borrowers. For example, only the government can borrow at approximately the pure or risk-free interest rate other borrowers pay higher than this rate due to the higher risk of losses attached to their securities. Differences in liquidity, marketability, and maturity are other important factors causing interest rates to differ from the pure or risk-free rate. First, however, we must examine the forces that determine the pure or risk-free interest rate itself. Various theories have been propounded by various economists in different times explaining the pure/risk-free interest rates. All these theories of interest rate include the notion of inflation, i.e., the decrease in purchasing power of money (Johnson, 1999).

#### **2.1.6.1 Classical theory of Interest Rates**

One of the oldest theories concerning the determinants of the pure or risk-free interest rate is the classical theory of interest rate developed during the 18th and 19th centuries by a number of British economists and elaborated by Irving Fisher (1930) earlier in this century. The classical theory argues that the rate of interest is determined by two forces: the supply of saving derived mainly from households, and the demand for investment capital coming mainly from the business sector.

##### **a) Supply of Saving**

##### **Savings by Households:**

Most of the savings in the modern industrialized-economics is carried out by households, i.e., by individuals and families. For these households, saving is simply abstinence from consumption spending. Current saving, therefore, are equal to the difference between current income and current consumption expenditure. Generally, the volume of household savings rise with income. Higher-income families and individuals tend to save more and consume less relative to their total income than families with lower income. Although income level probably dominates saving decision,

interest rate also plays an important role. According to classical theory, a rational individual, it is assumed, will always prefer current consumption of goods and services over future consumption. Therefore, the only way to encourage an individual or family to consume less now and save more is to offer a higher rate of interest on current savings. The classical theory considers the payment of interest a reward for waiting-the postponement of current consumption in favour of greater future consumption. Therefore saving is the function of interest and there is positive relationship between current saving and the interest rate offered on these savings.

### **Saving by Business:**

Not only households but also business save money in the form of retained earnings which supplies most of the money for annual investment spending by business firms. The critical element in determining the amount of business savings is the level of business profits. If profits are expected to rise, businesses retain the major part of the profits and borrow less from money and capital market. The result is a reduction in the demand for credit and a tendency toward lower interest rate. On the other hand, when profit fall but firms do not cut back on their investment plans, they are forced to make heavier use of the oney and capital markets for investment funds. The demand for credit rise and interest rate may rise as well. Hence, higher interest rate in the money and capital markets typically encourage firms to use internally generated funds more heavily in financing projects. Conversely, lower interest rates encourage greater use of external funds from the money and capital markets.

### **Saving by Government:**

Government also saves though, less frequently than households and businesses. In fact, most government saving i.e., a budget surplus, appears to be unintended saving that arises when government receipts unexpectedly exceed the actual amount of expenditure. Income flows in the economy (out of which government tax revenue arise) and the pacing of government spending programs are the dominant factors affecting government savings. Interest rates are probably not a key factor here. Demand for Investment Funds Besides business, households and government savings, the other rate-determining factor is investment spending by business firms.

### **2.1.2 Concept of profitability**

Profitability is a relative measure of profit amount to its expense amount. The organization spent certain amount of investment to generate the profit. The gross profit margin and net profit margin ratios are commonly used to its measurement. To measure the banking profitability Return on assets (ROA), Return on equity (ROE), Net interest margin (NIM) ratios are used.

#### **2.1.2.1 Determinants of profitability**

Profitability is the ability of a business to earn a profit. Profit is what is left of the revenue a business generates after it pays all expenses directly related to the generation of the revenue. Profitability determines whether a business stays in business Cheney and Mosses, (2001). Like all business, for banks profit is earning money than what they pay in expenses. The major portion of a bank's profit comes from the fees that it charges for its services and the interest that it earns on its assets. Its major expense is interest paid on its liabilities Chareles, (2009). The major assets of bank are its loans to individuals, businesses, and other organizations and the securities that it holds, while its major liabilities are its deposits and the money that it borrows, either from other banks or by selling commercial paper in the money market Bhalla, (2009).

Banks increase profit by using leverage, which helped precipitate the credit crisis that occurred in 2007 to 2009. Profit can be measured as a return on assets and return on equity. Because of leverage, banks earn a much larger return on equity than they do on assets Benerjee, ( 2004). The variables which influences on profitability achievement of business are the determinants of profitability. From the related literature reviews it is known that there are bank specific variables, industrial based variables and macroeconomic variables effecting on achieving the profit goal of banks which are also known as internal and external variables Crossee, (2006).

Internal factors are individual bank characteristics which affects the banks performance. These factors are basically influenced by internal decisions of management and the board. The external factors are sector-wide or country-wide factors which are beyond the control of the organization and affect the profitability of banks. The overall profitability performance of the banks in Nepal in the last two decade has been improving. However, this doesn't mean that all banks are profitable,

there are banks declaring losses. Studies 13 have shown that bank specific and macroeconomic factors affect the performance of commercial banks Francis, (2008).

various studies have used different indicators as measures and proxies of banks profitability. Studies like Jara-Bertin et al., (2014), Chowdhury & Rasid (2016), Al-Homaidi et al. (2018) etc. used ROA, ROE, or both as bank profitability measures. In addition to ROA and ROE, Net Interest Margin (NIM) has also widely used as an indicator of bank profitability Owoputi, (2014); Al-Homaidi et al., (2018); Islam & Shohel Rana, (2019). ROA and ROE reflect how well bank management uses the bank's real investment resources, the NIM focuses on the profit earned on interest activities. Literature revealed that earning indicators Capital Strength and Liquidity are statistically significant variables whereas management efficiency, asset structure, asset quality and economic proxies are insignificant variables to describe bank profitability measured by NIM Neupane, (2020)

#### **2.1.2.2 Profit measures of commercial banks:**

Profit is the ultimate goal of commercial banks. All the strategies designed and activities performed thereof are meant to realize this grand objective. However, this does not mean that commercial banks have no other goals. Commercial banks could also have additional social and economic goals. However, the intention of this study is related to the first objective, profitability. To measure the profitability of commercial banks there are variety of ratios used of which Return on Asset, Return on Equity and Net Interest Margin are the major ones Bedi and Mardikar, (2013). In most of the study, the profitability is measured in the form of ratios which are normally reported by commercial banks annual reports. It claims that the use of profitability ratios are not influenced by changes in price levels. And it is said that the most appropriate way of measuring profitability as one make use of time series analysis. This is because the real value of profits cannot be affected by the varying inflation rates. According to Rasiyah (2010) for one to realize how well a bank is performing it is much more useful to consider return on assets (ROA) and return on equity (ROE) Mishkin, (2017).

Profitability can be measured in terms of assets, income or equity. In the literature, more reliance has been placed on the Return on assets (ROA) to measure bank profitability. Yet, other possible

measures to reflect profitability of banks are return on equity (ROE), profit margin, interest rate margin and bank stock prices. Specific indicators of the banks, such as return on assets (ROA) and return on equity (ROE), demonstrate how 15 successfully the banks maintain their profitability. For instance, Fitch (2012) stressed that exactly ROA is one of the main indicators determining profitability of a bank. The measures of banks profitability performance are explained briefly as follows.

### **Return on Assets (ROA):**

This metric gives an idea of how efficiently a bank is using its assets to generate earnings. It's calculated by dividing the net income of the bank by its total assets:  $\text{Net Income} / \text{Total Assets}$ .

The bank profitability measured by ROA of Nepalese commercial banks is significantly affected by concentration ratio, banking sector development, GDP growth, inflation and exchange rate significantly in opposite direction rather it is not significantly affected by the internal factors like bank size, capital base, deposit, loan, off-balance sheet activities and number of branches. Neupane, (2020)

### **Net Interest Margin (NIM):**

This is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their interest-earning assets. It's calculated as:  $(\text{Interest Income} - \text{Interest Expense}) / \text{Average Earning Assets}$ . The indicator of bank profitability; NIM is significantly affected only by capital adequacy, absolute number of branches and inflation rate. Neupane, (2020)

### **Return on Equity (ROE):**

ROE measures a bank's profitability by revealing how much profit a bank generates with the money shareholders have invested. It's calculated as:  $\text{Net Income} / \text{Shareholder's Equity}$ . It is one of the major ratio to determine profitability in organization. Equity capital invested by its customers to retain proper amount of income. ROE calculation is essential to its investor and managerial decision of management to define profitability condition of organization.

## **2.2 Empirical Review**

### **2.2.1 Review of International Journals, Articles and Thesis**

Review of significant empirical studies on Interest rate structure and profitability of financial institution is the focus of this section. The interest structure has been the subject of several studies. Therefore, a thorough survey and assessment of all the empirical research as well as a review of the important topics of national and international journals are beyond the purview of this study. As a result, several significant researches are provided together with their conclusions. Review of foreign studies, particularly Indian studies, will be done in this section.

Hafidh (2022) Examining the effect of capital structure on the banks' performance in Tanzania: A case commercial banks operating in Zanzibar. Debt to equity ratio, Long term debt to total assets, ETA. When long term debts to total assets LDA measured with ROA the results were found to be negative and significant, leading the commercial banks to neglect the capital structure of form (debts to total assets LDA) since the more they base in this the less the financial performance is incurred and cause an adverse effect to the bank's profitability.

Owusu-Antwi et al. (2018) Conducted research study on the topic of 'Effect of Interest Spread Rates on Banks Profitability'. The study examined the effect of interest spread rate on banks profitability. The relationship between the Interest spread Rate (ISR) and Banks Profitability, specifically Return on Assets (ROA), Return on Equity (ROE) and Bank Size. The study methodology uses to analyze subject Linear regression analysis with descriptive statistics. The study examined the effect of interest spread rate on banks profitability. An explanatory design was employed and followed appropriately and the following conclusions can be drawn out of the research findings of the study. There was a positive relationship between the Interest Spread Rate (ISR) and Banks Profitability, specifically Return on Assets (ROA), Return on Equity (ROE) and Bank Size. Also, ISR contributes positively to ROA of GCB Bank Plc. Similarly, ISR also contributes positively to ROE of GCB Bank Plc

Windsor et al. (2023) Study on the topic of ‘The Impact of Interest Rates on Bank Profitability: A Retrospective Assessment Using New Cross-country Bank-level Data’. The study aimed to find the relationship between different level of interest rates with banks profitability and examine and provide evidence about low interest rate effect on banking business. The study using regressions analysis to bank-level data for their country. They found some evidence of nonlinearities in low interest rate environments, but only for a handful of countries in the sample. find that the effect of low interest rates on ROAs is smaller than on NIMs, suggesting that banks have found ways to offset the effect of lower interest rate margins. Similarly, focusing on the countries that moved interest rates into negative territory yields coefficients that are not economically large. Over all therefore, the evidence presented here points to smaller effects of falling and low policy rates on bank profitability than previously estimated.

Mawlood (2022) conducted research on roles of capital structure on banks profitability; case study from commercial banks in Irawq This study seeks to examine the impact of capital structure on the profitability of commercial banks in Iraqi. This research aims to increase understanding of this topic and help various stakeholders; for instance, it will help bank managers find ways to develop an optimal capital structure that will help them maximize the shareholder’s value. The study used secondary data to obtain research objectives. Commercial banks with higher debt ratios tend to have lower profitability in 19 Iraq. The finding is robust against a series of control variables, including different debt ratios and profitability measures.

Alphonsus (2021) study aimed to empirically examine impact of capital on profitability of commercial banks in Nigeria employing a co-integration approach. The study employed Ex-post facto research design was adopted. The study analyzed ordinary least square regression (OLS) model on a sample of 14 commercial banks in Nigeria from 2008 through 2019. The study found that capital structure positively and significantly impacted net profit of commercial bank in Nigeria.

Gardi et al. (2020) conducted research on the Effect of Capital Competence on the Profitability of Development and Investment Banks in Turkey. The study aimed to examine the influence of capital competence on the bank profitability of development and investment banks in Turkey. (ROA, ROE) are the dependent variable of this study and Asset quality (LAQ), bank capital (BC),

bank liquidity (BL), economic growth (EG) and inflation (INF), are independents. This study used ARDL model to estimate a capital competence-profitability using annual time-series data from the period 1961 to 2016. The study found that improvements in asset quality will have negative effects on bank performance.

Musah (2018) conducted research on ‘The impact of capital structure on profitability of commercial banks in Ghana’. The study used ROA, ROE as the dependent variable and Short term Debt Ratio, Total term Debt Ratio, Long term Debt Ratio are independent. The study contributes to literature by examining the impact of capital structure on banks profitability in the context of regulated equity capital for commercial banks both listed and non-listed. The study sampled 23 banking over a six years period from 2010 to 2015 and extracted data from the annual of these banks. Data and information are analyzed by using descriptive statistics, correlation analysis as well as panel regression analysis. The study adopts the quantitative approach of research design in line with previous studies and the objectives of the study. The findings of the study show that commercial banks in Ghana reliance on short term financing (deposits) reduces banks profitability and as such banks should shift their financing focus from deposits to other sources.

Birru (2018) Investigated the relationship between capital structure and financial performance of selected commercial banks in Ethiopia. Objective of the study is to evaluate the effect of debt ratio, total debt to equity and loan to deposit in the capital structure on financial performance of selected commercial banks and to examine the effect of bank’s size and tangibility on financial performance. The study used ROA, ROE as dependent variable and Debt ratio, debt to equity ratio, loan to deposit ratio, firm ‘s size as the independent. The study relied on of secondary sources to collect the required data from selected commercial banks. The sample banks were selected from commercial banks registered by national bank by using purposive sampling technique because the researcher only selects the banks that have five-year experience of preparing annual financial report. The study compiled, sorted, edited, classified, coded and analyzed using a computerized data analysis package known as stata12. The study found that DR, DER, SIZE and TANG have statistically significant factors affecting financial performance measured by return on assets and return on equity at 1%,5% and10% significant level and LD is statically insignificant with its respective nature of impact.

Saeed et al. (2013) conducted study on 'Impact of capital structure on banking performance (A case study of Pakistan). The purpose of conducting the study is to measure the impact of capital structure on banking performance to provide empirical evidence regarding Pakistani banking sector over a period of 2007 to 2011. ROA, and ROE are the dependent variables of the study and Long term Debt, short term Debt, and Earnings per share as the independent. The study analyzed descriptive statistics, correlation matrix and regression models for analysis of data. Findings of the study validated a positive relationship between determinants of capital structure and performance of banking industry.

Abbadi and Abu-Rub (2012) conducted research 'The effect of capital structure on the performance of Palestinian financial institutions'. The study used ROA and Market Values the dependent variable and Loans to Assets, Efficiency and bank loans are independent factors. The purpose of the study is to measure the effect of capital structure on the performance of Palestinian Banks. The banking sector in Palestine consists of 22 banks (commercial, investment and Islamic) of which only 10 are nationals and the rest are branches of foreign banks. The study covered 8 out of the 10 banks which are listed on the Palestine Securities Exchange(P-S-E). The study found that Palestinian banks have 21 a very low return to assets (.007) and return to equity (.045) ratios due to lower loans to assets (.31) and loans to deposit (.41) ratios compared to neighbouring countries (.75). This low ratio of loans has affected our findings which shows weak correlation between loans and return on equity and loans and market value. this means that bank loans has no effect on bank efficiency.

Shubita and Alsawalhah (2012), conducted research on the relationship between capital structure and profitability. The purpose of this research is to contribute towards a very important aspect of financial management known as capital structure with reference to Jordan. The study examined the relationship between capital structure and profitability of the Jordanian manufacturing firms. The study used ROE as the dependent variable and Net Income/ average equity SDA: Short-term debt/total assets. LDA: Long-term debt/total assets. DA: Total debt/total assets for the dependent. Here the relationship between capital structure practices and its effects on profitability of (39) Industrial Jordanian firms listed on Amman stock Exchange for a period of six years from 2004 – 2009 will be examined. The results reveal significantly negative relation between debt and profitability.

Rameshbhai (2016) Study on the topic of impact of change in interest rates on profitability of banking sector in India. The aim to the conduct research work is find how market interest impacts the profit of banking institution in India. The study used descriptive research design to analyse data. He takes four national banks for his study sample with 5 years data AD 2012 to 2016.

In this study the descriptive statistics method used with analysis of interest rates and profit after tax, return on assets and interest rates and return on capital employed and interest rates, it is found that there is positive co-relation between profitability and interest rates.

After calculating co-relation between profitability and interest rates, I can conclude that there is positive co-relation between profit after tax, return on assets ratio and return on capital employed ratio and interest rates. It means that there is positive co-relation between profitability and interest in banking sector in India. I can say that if interest rates increase then profitability of bank would be increase and vice-versa. Here, profitability is directly depending on interest rates that bank charged. Because interest income is the main source of income of banks. It means that if any change takes place in interest rates, it would directly affect to the profitability of banks in India.

Ranasinghe and R.A.P.D (2018) Prepare research article report on the topic of 'Impact of credit risk management profitability of commercial banks in Sri Lanka from 2014 to 2017. The research aimed to find manage the credit risk to maintain effective profitability on commercial banks in Sri-Lanka. The research found that there exists a relationship between credit risk management and profitability. findings show that the relationship between NPLR and ROE and NPLR and ROA are not significant. The Correlation, Regression Analysis, Hypothesis setting with profitability ratios methods are applied for the analysis.

**Table-1:**

**Review of International Journals, Articles and Thesis**

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<b>S. N.</b>	<b>Author/ Date</b>	<b>Research Topic</b>	<b>Objective</b>	<b>Methodology</b>	<b>Findings</b>
<b>1</b>	Owusu-Antwi et al. (2018)	Interest Rate Spread on Bank Profitability: The Case of Ghanaian Banks	The study examined the effect of change of interest spread rate on banks profitability. The relationship between Interest spread Rate (ISR) and Banks Profitability, specifically Return on Assets (ROA), Return on Equity (ROE) and Bank Size.	Linear regression analysis with descriptive statistics	The study examined the effect of interest spread rate on banks profitability. An explanatory design was employed and followed appropriately and the following conclusions can be drawn out of the research findings of the study. There was a positive relationship between the Interest Spread Rate (ISR) and Banks Profitability, specifically Return on Assets (ROA), Return on Equity (ROE) and Bank Size. Also, ISR contributes positively to ROA of GCB Bank Plc. Similarly, CIR also contributes positively to ROE of GCB Bank
<b>2</b>	Windsor et al. (2023)	The Impact of Interest Rates on Bank Profitability: A Retrospective Assessment Using New Cross-country Bank-level Data	1.The relationship between different level of interest rates with banks profitability 2.To examine and provide evidence about low interest rate effect on banking business.	regressions using bank-level data for their country.	Finding some evidence of nonlinearities in low interest rate environments, but only for a handful of countries in the sample. find that the effect of low interest rates on ROAs is smaller than on NIMs, suggesting that banks have found ways to offset the effect of lower interest rate margins. Similarly, focusing on the countries that moved interest rates into negative territory yields coefficients that are not

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				economically large. overall therefore, the evidence presented here points to smaller effects of falling and low policy rates on bank profitability than previously estimated
3	Ranasinghe and R.A.P.D (2018)	Impact of credit risk management profitability of commercial banks in Sri Lanka from 2014 to 2017.	<p>1.Find the relationship between credit risk and profitability of banks.</p> <p>2.Exmine relationship between NPLR, ROA and ROE.</p> <p>3. Ensure guideline for banking professionals in Srilanka</p>	Correlation, Regression Analysis, Hypothesis setting with profitability ratios
4	Musah (2018)	The impact of capital structure on profitability of commercial banks in Ghana	Objective of the research project is to find how the interest spread play role to determine profitability in commercial banks in Ghana.	Descriptive statistics, Regression analysis
				concluded that there exists a relationship between credit risk management and profitability. r empirical findings show that the relationship between NPLR and ROE and NPLR and ROA are not significant.
				The probability of the F-statistic is also significant suggesting that the model is well fit. The regression results also show that both measures of interest rate spread are positively associated with bank profitability (ROE) and the association is statistically

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5	Shubita and Alsawalhah (2012)	The relationship between capital structure and profitability	Examine the relationship between capital structure and profitability of the Jordanian manufacturing firms	Correlation, Regression Analysis, Hypothesis setting with profitability ratios.	significant. On the control variables, bank size is positively associated with bank profitability whiles credit risk is negatively associated with bank profitability. Both associations are statistically significant. There is also a weak association between foreign ownership and bank profitability at 10% significance level.
6	Munteanu and Ilie (2021)	The Use of ROA and ROE in Study of a Bank's Profitability	1)To Analyze bank profitability in Romania. 2) To carry out the calculation and interpretation of the indicators and the positioning of the bank in relation to the system	1)The calculation of the indicators at the level of the prestigious financial institution of the Romanian banking system has shown that the bank has the ROE indicator in the 16.45% - 19.06% range, showing a solid position throughout the analyzed period, and also a potential for attracting investors.	

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### **2.2.2 Review of Journals, Articles and Thesis in Nepalese context**

Khadka (2010) conducted research on the 'Interest rate behavior of commercial banks'. The purpose of this research is to contribute towards a very important aspect of financial management known as interest structure in financial institution in Nepal. The study examined the relationship between interest and profitability of the nepalese commercial banks. The study used ROA, ROE and NIM as the dependent variable. ROA: Net income/Total assets ROE: Net income/Equity capital. NIM: Interest income/total assets. Here the relationship between Interest structure practices and its effects on profitability of four commercial banks in Nepal for a period of five years from 2005 – 2009 will be examined. The results reveal significantly positive relation between interest income and profitability of banks.

K.C. (2023) Conduct research dissertation to central department of management, TU on the subject 'Profitability determinants of commercial banks in Nepal. The study used capital Adequacy ratio (CAR), Credit to total deposit ratio (CDR) and liquidity ratio (LR) as the independent variable and return on assets (ROA), Return on equity (ROE) are dependent. The study contributes to literature by examining the factors affect on banks profitability in the context of regulated equity capital for commercial banks in Nepal. The study sampled four banking over a ten years period from 2012 to 2022 and extracted data from the annual of these banks. Data and information are analyze using descriptive statistics, correlation analysis as well as panel regression analysis. The study adopts the quantitative approach of research design in line with previous studies and the objectives of the study. The findings of the study show that commercial banks in Nepal reliance on deposits & bank capital affects profitability of bank is in a better position to deal with unexpected losses due to availability of adequate capital.

Joshi (2022) Conducted a article on the topic "Impact of capital structure on profitability of Nepalese commercial banks," are to analyze the relationship between the capital structure and the income source of banks of the chosen commercial banks, to compare the capital structures of chosen commercial banks using financial and statistical tools, to analyze the profitability of the banks, and to offer suggestions and recommendations based on this analysis of the financial

weakness of the banks. Her thesis mostly examines secondary data. There exist the methodological and variable difference between the previous authors and present research

Acharya and Vyas (2020) conduct the research article on the topic of The Effect of Interest Rate Spread on the Profitability of Nepalese Commercial Banks. This study examines the impact of the interest rate spread on the profitability of Nepalese commercial banks by using the data from mid-July 2011/12 to 2020/21. This study employs a quantitative approach to examine the effect on twenty-six commercial banks. This study examine the effect of interest rate spread on banks profitability by analyzing relationship between Interest rate spread and ROA, ROE, EPS of the Commercial banks. They Using a sample of twenty-six Nepalese commercial banks from 2011/12 to 2020/21, this paper finds that interest rate spread significantly affects firm performance. One percentage increase in interest rate spread increases return on assets by 0.137%, return on equity by 1.373%, and earnings per share by 8.111%. Since interest rate spread is an essential determinant of banks' profitability, bank management and shareholders should continuously monitor the indicator.

Mishra et al. (2021) Study on the topic of 'Profitability in commercial bank- A case from Nepal'. They use secondary data from 2013 to 2019 from seven commercial banks. The correlation and regression along with ratio analysis have been used to assure a contributory association among return on assets (ROA), return on equity (ROE) and net interest margin (NIM). The case study aimed To analyze the structure and pattern of Interest rate, ROA, ROE and NIM profitability of sample commercial banks, To examine the relation between ROA, ROE and NIM sample commercial banks and To assess the profitability ratios and profit of Nepalese commercial banks. In findings they found with respect to ROA, the analysis of the study reveals that EBL Bank has the highest profitability ratio whereas NIC Asia Bank has the lowest profit during the sample period. With respect to NIM, the analysis of the study reveals that NIC Asia Bank has the highest profitability ratio due to less margin whereas Nabil Bank has the lowest profit during the sample period. The average bank profitability in commercial banks for the study period is 3.32 in terms of NIM

**Table-2:*****Review of Journals, Articles and Thesis in Nepalese context***

<b>S. N.</b>	<b>Author/ Date</b>	<b>Research Topic</b>	<b>Objective</b>	<b>Methodology</b>	<b>Findings</b>
1	Khadka (2010)	Interest rate behavior of commercial banks	1.To know about the effect of different factors on the behavior of interest rate. 2. To analyze whether the interest rate on Nepalese Commercial Banking sector match the established theories or not. 3. To provide some suggestions based on the findings of analysis	Correlation, Regression Analysis, Graphical approach	The relationship between interest rate on deposit and inflation rate (rbd) of all sample organization is positive. One variable assumed to be affecting interest rate on lending is amount loaned i.e. demand of fund.
2	Joshi (2022)	Impact of capital structure on profitability of Nepalese commercial banks	analyse the relationship between the capital structure and the income source of banks of the chosen commercial banks, to compare the capital structures of chosen commercial banks using financial and statistical tools.	The descriptive statistics, the central tendency has been measured through arithmetic mean. Graphical Analysis, correlation regression Analysis	Examine the relationship between capital structure and profitability, after analysis of secondary data this study found there is positive relationship between STD/TA, TD/TA has negative relationship so, it's concluded that it might not significantly related with. ROA and ROE is affected by the capital structure variable, specially; STD/TA, TD/TA, DE.

3	Mishra et al. (2021)	Profitability in Commercial Bank – A Case from Nepal	<p>To analyze the structure and pattern of Interest rate, ROA, ROE and NIM profitability of sample commercial banks.</p> <p>To examine the relation between ROA, ROE and NIM sample commercial banks.</p> <p>To assess the profitability ratios and profit of Nepalese commercial banks.</p>	<p>using financial and statistical like regression, correlation and descriptive statistical tools.</p>	<p>With respect to ROA, the analysis of the study reveals that EBL Bank has the highest profitability ratio whereas NIC Asia Bank has the lowest profit during the sample period. With respect to NIM, the analysis of the study reveals that NIC Asia Bank has the highest profitability ratio due to less margin whereas Nabil Bank has the lowest profit during the sample period. The average bank profitability in commercial banks for the study period is 3.32 in terms of NIM</p>
4	K.C. (2023)	Profitability determinants of commercial banks in Nepal	<p>The study contributes to literature by examining the factors affect on banks profitability in the context of regulated equity capital for commercial banks in Nepal.</p>	<p>Multiple regression analysis, Coefficient of determination, Karl Pearson's Coefficient Correlation Analysis</p>	<p>Capital adequacy ratio of ADBL is the highest among them. High capital adequacy ratio is good because it indicates that the bank is in a better position to deal with unexpected losses due to availability of adequate capital. The result showed that a Profitability position of NBL was found relatively better than ADBL, PCBL and CIBL Bank Limited in study period.</p>

5	Gurung1 and Gurung2 (2022)	Factors Determining Profitability of Commercial Banks: Evidence from Nepali Banking Sector	The objective of the study to observe the various aspects shaping commercial bank profitability in Nepal. As determining factors, bank related and external macroeconomic variables that influence bank profitability were taken into account.	Correlation coefficient, Regression analysis, Secondary data	The mobilization of credits, measured by the loan to deposits, is found to be satisfactory since there are lower variations in its performance. The overall profitability and interest earnings are highly contributed by the loan and advance of the commercial banks over the period under study.
6	Shrestha (2022)	Determinants of Interest Rate Spread of Nepalese Commercial Banks.	The basic objective this paper is to identify the determinants of the financial performance of Nepalese commercial banks. This paper also aims to identify the factor that plays significant role for explaining the financial performance of Nepalese commercial banks.	Descriptive statistics, correlation analysis, Regression analysis	The major conclusion of this study is that bank specific factors such as return on assets, credit risk, management efficiency and operational efficiency have a significant influence on IRS. Similarly, this study also concludes that macroeconomic variables such as inflation and growth rate of gross domestic product have significant influence on IRS. However, this study reveals no evidence of a significant relationship between the capital adequacy ratio and assets quality and the IRS of Nepalese commercial banks.

### **2.3 Research gap**

Research gap is the difference between previous works done in this field of study and the present research work. Earlier works conducted by the superiors in the matching topic ‘Impact of interest rate changes on profitability of commercial bank’ are very useful and appreciated by personnel in various related fields, including academicians, bankers, shareholders and the general public. The suggestion and recommendations given by the preceding researchers to improve and strengthen profitability of banking institutions have been really benefiting to the relevant banks. From the above review, it is found that there are no unanimous findings with regard to impact of interest rate changes. There was considerable controversy among the findings of the empirical studies about interest rate changes and its relation with banks profitability. There is huge gap about study on impact of interest rate changes. This study selected specific topic examine relation between interest rate changes and banks profitability. This study using ten years of data during 2013/014 to 2022/023 which is recently collecting and analyzing then past studies. Due to the time gap on data we find some new results in it. This study using relevant research methodology to analyze data. It has used all possible financial and statistical tools to cover the objectives of this study. Karls’s person’s correlation coefficient has been used to measure relationship between the sampled variables and coefficient of variance to measure depression of corresponding variable. Regression analysis is also used as a statistical tool for investing relationship between the variables. As a financial tool, various ratio analysis has been done to evaluating the financial position and performance of a firm. On this review, most of the studies have uses small sample size and taken few commercial banks to their studies. This study taking seven commercial banks as sample banks out of total twenty ‘A’ class commercial banks in Nepal to cover the analytical part and fulfil the objectives of the study

## **CHAPTER-3**

### **RESEARCH METHODOLOGY**

The systematic and theoretical evaluation of the study's techniques is known as research methodology. The methodology serves as the general outline and structure for the entire study. Prior to data analysis and provide conclusion, the study methodology must be identified and described. In the absence of a research design, the study will be meaningless because there will be no structure, rules, or procedures for doing the research study. Research technique aids in determining the study's correctness, validity and applicability. Therefore, the approach used in this investigation is explained in this chapter. There are five sections in this chapter. The research design for this study is described in section one. The population, sample, and choice of business for the study are all described in section two. The nature and source of the data are covered in the third part. The process of gathering data is also described in section four. The methods of analysis, including the variables in empirical models and their measurement standards, are explained in section.

#### **3.1 Research Design**

This research study used descriptive and casual comparative research design. This study examines impact of BSR and ISR on ROA, ROE and NIM of seven Neplease commercial banks. The descriptive research methodology examine the characteristics of a population or specific sample phenomenon. This study analyze pattern and volume of variable by Using descriptive research method. The causal-comparative research, explain the cause-and-effect relationships between two or more variables. It's used to identifies the impact of interest rate movement on profitability of the banks. Through these methods do the systematic and objective collection, evaluation, verification, and synthesis of previous data in order to establish a conclusion. Past evidences are equally important in case of measure the bank profitability and effective operation management.

#### **3.2 Population and sample and sampling design**

Currently, there are 20 commercial banks operating in Nepal from then ten leading commercial banks were selected for sample from fiscal years 2013/14 to 2022/23. (i.e., ten years). Total number of observations will be 70 for this proposed study. Judgmental sampling method is proposed for this study. The census of the population is neither feasible nor desirable for the study. Judgmental sampling method is proposed for this study. nature, a sample from the population has, therefore been selected for the purpose of study. The samples have been selected based on convenience sampling technique.

**Table 3:**

***Sample Banks***

<b>S. N</b>	<b>Name of Selected Bank</b>	<b>Symbol</b>
1.	Nepal bank Ltd	NBL
2.	Rastriya Banijya Bank Limited	RBBL
3.	Prabhu Bank Limited.	PBL
4.	Everest bank Limited	EBL
5.	Himalayan Bank Ltd.	HBL
6.	Nepal SBI Bank Limited	NSBI
7.	Nabil bank Ltd.	NABIL

**3.3 Nature and sources of data, and the instrument of data collection**

This research will be based on secondary data. Required data will be collected from published financial statements of the sample commercial banks in the study time period (FY2013/014 to 2022/023). The basic sources of data used are; Annual Reports, Published materials from

concerned CBs, Financial statements of concerned CBs, Related books and journals, Official websites of the sample CBs.

### **3.4 Methods of analysis**

This study is quantitative in nature and analysis all the way through will be based on the historical data. Therefore, tools of the study are selected accordingly as demanded by the purpose of the study and data nature. For the analysis of data different financial ratios will be analyzed by means of descriptive statistics as well as inferential statistics. Under the descriptive statistics, the central tendency has been measured through arithmetic mean. To measure the consistency, standard deviation and coefficient of variation will be used. To analyze the phenomena, statistical graphics will also use as per the data nature. Similarly, to draw the statistical inferences multiple regressions will be applied. It is because; this study intends to draw the inferences about the effects of credit risk on the return of the foreign joint venture commercial banks in Nepal. In addition, correlation coefficients between the variables will also examine through the correlation matrix. In this study, all the statistical parameters are planned to compute with the help of computer via Microsoft Excel, the data analysis tool pack. The present research has used mix of following tools in the analysis.

#### **I. Financial Tools**

Some financial tools used in this study are;

##### **Return on Assets:**

Interest rate and return on total assets (ROA) interrelated among the profitability variable, to company's earnings after interest and taxes (EAIT) relative to its total net assets. It is defined as the ratio between net income and total average assets, or the amount of financial and operational income a company receives in a financial year as compared to the average of that company's total assets. Higher ROA shows the better performance for the bank.

$$\text{Return on assets}(ROA) = \frac{\text{Net income}}{\text{Total assets}}$$

### **Return on Equity:**

Return on equity ratio provide relation between net income and shareholder's equity capital. It is a measure of financial performance obtained by dividing net income by shareholders equity capital. The shareholders equity calculated by subtracting a company's debt from its assets. It is a measure of company's profitability.

$$\text{Return on Equity}(ROE) = \frac{\text{Net income}}{\text{Total Equity capital}}$$

### **Net interest margin:**

Net interest margin shows the relation between banks earning from interest charges and with its earning assets. How efficiently the bank utilizing landing fund to earn interest amount is counted with NIM.

$$\text{Net Interest Margin}(NIM) = \frac{\text{Net Interest income}}{\text{Total Assets}}$$

## **II. Statistical Tools**

Brief explanations of the statistical tools used in this study are given below:

### **Arithmetic mean (AM)**

Arithmetic mean is the sum of all the numbers in the series divided by the count of all numbers in the series. The arithmetic mean is also referred to as the average or simply as the mean. Arithmetic mean is calculated by following formula:

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

Where;

$\sum X$  = sum of series

N = number of years

### **Standard Deviation (SD)**

Standard deviation is expressed as the positive square root of the variable. It is the average difference between observed values and the mean. The standard deviation is used when expressing dispersion in the same unit as the original measurements. It is used in expressing the degree to which data spread out. A small standard deviation means a high degree of uniformity of the observation. Mathematically, standard deviation is expressed as:

$$\text{Standard deviation}(SD) = \sqrt{\frac{\sum d^2}{N - 1}}$$

Where;

$$d = X - \bar{X}$$

### **Coefficient of Variance (CV)**

Coefficient of variation (CV) is statistical measure of the dispersion of data points in a data series around the mean. It is also defined as the ratio of standard deviation to the mean. It shows the extent of variability in the relation to the mean of population. Mathematically, Coefficient of variation is expressed as:

$$\text{Coefficient of Variation} = \frac{SD(\sigma)}{\text{Mean}(\bar{x})}$$

### **Correlation Coefficient**

Correlation is a term that refers to the strength of the relationship between two variables. Pearson correlation is the most widely used correlation statistic to measure the degree of the relationship between linearly related variables. It is developed by Karl Pearson. The correlation coefficient can range from -1.00 to +1.00. A value of -1.00 indicates a perfect negative correlation, which means that as the value of one variable increases, the other decreases. While a value of +1.00 represents a perfect positive relationship, meaning that as one variable increases in value, so does the other. As the correlation coefficient value goes towards 0 that represents no relationship between variables being tested. The formula used to calculate the Pearson r correlation:

$$\text{Correlation coefficient } (r) = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{(x_i - \bar{x})^2(y_i - \bar{y})^2}}$$

Where;

$r$  = correlation coefficient

$x_i$  = values of  $X$  – variable in a sample

$\bar{x}$  = mean of the values of the  $X$  – variabl

$y_i$  = values of the  $Y$  – variable in a sample

$\bar{y}$  = mean of the values of the  $Y$  – variables

### **Regression Analysis**

Regression analysis is a statistical measurement of the average relationship between two or more variable in term of the original unit of the data. Thus, it can be said that regression is the estimation or the prediction of the one variable's value from the given variable's value. It is a statistical tool that is used in prediction of value of unknown variables from known variables. The simple regression analysis describes the average relationship between only two variables. It measures the per unit change whereas multiple regression describes the two or more independent variables that

are used to estimate the unknown value of a dependent variable. Mathematically, regression is expressed as:

$$\text{Regression equation}(y) = a + b_1x_1 + b_2x_2 + \dots + b_nx_n + E_i$$

$$\text{Slope}(b) = \frac{N\sum XY - (\sum X)(\sum Y)}{N\sum X^2 - (\sum X)^2}$$

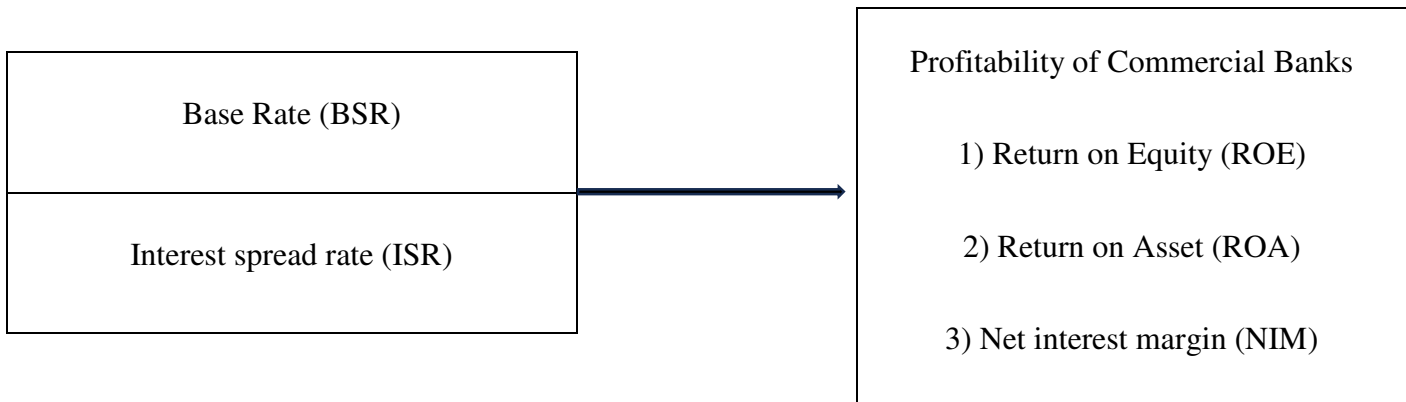
$$\text{Intercept}(a) = \frac{\sum Y - b(\sum X)}{N}$$

### 3.5 Research framework and definition of variables

Previously (Hasan et al., 2014, Nassar, 2016; Chalise and Adhikari, 2022), used to these variables to measure the profitability and capital structure following research framework were set for this proposed research work

#### Independent Variables

#### Dependent variables



#### 3.5.1 Definition of variables

##### 3.5.1.1 Independent Variables

### **I) Base Rate Ratio (BSR):**

The Base rate ratio (BSR) is a minimum rate that the bank offers to their customers before it decide on the interest rate to apply to offered loan service. It is calculated against each banks cost of fund and Fund reserve requirement along with the operating cost, liquidity premium, borrower's credit risk and profit margin. The bank decide its base rate basis on all operational cost of organization along with maintain no loss condition. Different banks charge different rates of interest to their customers. In yearly scenarios we seeing there were either rise or fall in interest rate in different years due to changing market inflation, cost of capital, liquidity mobilization. The increase in interest rates and interest income positively affect the banks profit amount and decrease rate negatively affect the institution.

### **II) Interest Spread rate (ISR):**

The Interest Spread Rate (ISR) is rate difference between 'charged interest on provided loan and interest on accepted deposit'. The central monitory institution in every nation determine the interest spread rate. Nepal Rastra Bank (NRB) determine ISR to Neplease commercial bank in every fiscal year. The high ISR is beneficial to banks due to having chance of charge high interest rate on its customers provided loan amount.

## **3.5.1.2 Dependent Variables**

### **I) Return on Equity (ROE):**

Return on equity (ROE) is a measure of financial performance calculated by dividing net income by shareholders' equity. Because shareholders' equity is equal to a company's assets minus its debt, ROE is considered the return on net assets. ROE is considered a gauge of a corporation's profitability and how efficient it is in generating profits (Khan, 2012).

### **II) Return on Assets (ROA):**

The return on assets ratio, often called the return on total assets, is a profitability ratio that measures the net income produced by total assets during a period by comparing net income to the average total assets. It's calculated by dividing the net income of the bank by its total assets:  $\text{Net Income} /$

Total Assets. In other words, the return on assets ratio or ROA measures how efficiently a company can manage its assets to produce profits during a period (Chalise and Adhikari, 2022).

### **III) Net Interest Margin (NIM):**

This is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their interest-earning assets. It's calculated as:  $(\text{Interest Income} - \text{Interest Expense}) / \text{Average Earning Assets}$ .

## CHAPTER – 4

### RESULT AND DISCUSSION

This chapter give the result with presentation, analysis and interpretation of data. It is crucial to the evaluation of study objective. To examine profitability of commercial bank of Nepal here taken seven commercial banks and analyze its data by using financial and statistical tools. Hence, a conclusion and some suggestion provide from this chapter. In order to assist readers in making financial decisions, numerous financial elements have been presented mathematically, examined, and appraised in this chapter. Different ratio analysis, arithmetic mean, standard deviation, coefficient of correlation, multiple, regression, testing of hypotheses, trend analysis, etc. have been utilized as essential tools to analyses the impact of changes in interest rate in Neplease commercial banks. The comparative analysis of interest rate and bank capital of seven sample banks presented by using following methods under study. This discussion part be a major part of the study to analyze situation of neplease commercial banks in present scenario.

#### **4.1 Ratio analysis**

Ratio analysis is a base of this study, where collected data from different banks through proposed method and presenting its calculation. There are three financial ratios, return on assets (ROA), return on equity (ROE) and net interest margin (NIM) taken to measure profitability and total debt to total assets (TDTA), total debt to equity (TDTE) ratios taken to measure banks financial structure; as will as change in interest rates (CIR) and interest spread rate (ISR) taken to measure interest rate trend of banks.

##### **4.1.1 Return equity (ROE):**

Return on equity ratio of seven commercial bank during ten fiscal years is presented in the following table.

*Table-4-*

*Return on equity (ROE) in percentage*

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	11.1	45.2	-26.88	27.45	21.51	28.81	17.2
2014/015	7.52	34.25	27.57	26.24	22.6	24.67	16.2
2015/016	43	35.12	17	22.25	20.41	33.17	17.2
2016/017	29.8	30.63	19.29	21.37	14.85	26.87	30.2
2017/018	14.38	32.94	7.69	24.38	15.81	13.16	27.45
2018/019	8.84	29.7	12.45	26.25	16.2	17.28	21.1
2019/020	7.77	29.4	7.76	26.37	10.44	14.7	22.1
2020/021	8.91	31.14	10.06	8.55	6.26	14.89	13.37
2021/022	8.21	14.02	9.93	10.87	9.57	10.75	8.03
2022/23	9.55	7.08	0.89	13.25	10.76	4.64	11.25
<b>Mean</b>	<b>14.908</b>	<b>28.948</b>	<b>8.576</b>	<b>20.698</b>	<b>14.841</b>	<b>18.894</b>	<b>18.41</b>
<b>Standard Deviation</b>	<b>11.914</b>	<b>10.830</b>	<b>14.465</b>	<b>7.113</b>	<b>5.536</b>	<b>9.053</b>	<b>6.942</b>
<b>Sample Variance</b>	<b>141.957</b>	<b>117.303</b>	<b>209.246</b>	<b>50.594</b>	<b>30.657</b>	<b>81.968</b>	<b>48.20</b>
<b>Minimum</b>	<b>7.52</b>	<b>7.08</b>	<b>-26.88</b>	<b>8.55</b>	<b>6.26</b>	<b>4.64</b>	<b>8.03</b>
<b>Maximum</b>	<b>43</b>	<b>45.2</b>	<b>27.57</b>	<b>27.45</b>	<b>22.6</b>	<b>33.17</b>	<b>30.2</b>
<b>Sum</b>	<b>149.08</b>	<b>289.48</b>	<b>85.76</b>	<b>206.98</b>	<b>148.41</b>	<b>188.94</b>	<b>184.1</b>
<b>Count</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	

*Source: Appex table-1*

Table 4 shows that the Return on Equity (ROE) ratio of sample banks over the ten years study time period. The ratio of NBL shows the highest of 43 percent and the lowest of 7.52 percent in FY 2015/016 and in FY 2014/015 respectively. Similarly, the ratio of RBBL ranges the highest of 45.2 percent in 2013/014 and the lowest ratio is 7.08 percent in fiscal year 2022/023. Likewise, the ratio of PBL ranges the highest of 27.57 percent in 2014/15 and the lowest ratio is -26.88 percent in fiscal year 2013/14. Likewise, The ratio of EBL ranges the highest of 27.45 percent in 2013/014 and the lowest ratio is 8.55 percent in fiscal year 2020/21. Likewise, the ratio of SBI ranges the highest of 22.6 percent in 2014/015 and the lowest ratio is 6.26 percent in fiscal year

2020/021. Likewise, the ratio of HBL ranges the highest of 33.17 percent and the lowest is 4.64 percent in FY 2015/16 and in FY 2022/023 respectively. The value of NABIL bank is highest in FY 2016/017 and lowest in FY 2021/022.

The mean ratio of NBL, RBBL, PBL, EBL, SBI, HBL and NABIL Bank Limited are 14.91 percent 28.95 percent 8.57 percent, 20.7 percent, 14.84 percent, 18.89 percent and 18.41 percent respectively. Here return on equity ratio of RBBL is the highest among them with average 28.95 percent. It indicates that, RBBL could effectively manage their overall operations due to higher ratio than other banks.

The standard deviation of NBL, RBBL, PBL, EBL, SBI, HBL and NABIL Bank Limited has 11.914, 10.83, 14.465, 7.113, 5.536, 9.053 and 6.942 percent respectively. The SBI has counted lowest CV of 5.536 percent, It indicates that SBI has the lowest risk among them. By measuring coefficient of variation, ROE in SBI is the most uniform because of less CV of 30.657.

#### **4.1.2 Return on assets (ROA):**

Return on assets (ROA) ratio during past ten fiscal years of seven commercial banks presented in the following table. The table shows calculation of descriptive measure with mean, standard deviation, variance, minimum and maximum value

*Table- 5*

*Return on assets (ROA) in percentage*

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	0.92	1.45	-0.05	2.11	1.17	1.28	2.43
2014/015	0.55	2.14	-0.04	2.39	2	1.31	2.8
2015/016	2.79	1.98	1.64	2.25	1.68	1.92	2.89
2016/017	2.78	1.7	1.76	1.85	1.57	2.01	2.06
2017/018	2.41	1.95	0.86	1.59	1.97	1.57	2.32
2018/019	1.51	2.23	1.29	1.83	1.94	2.05	2.69
2019/020	1.22	1.64	0.71	1.97	1.17	1.65	2.61
2020/021	1.33	1.1	0.8	1.94	0.7	1.68	1.55
2021/022	1.21	1.3	0.82	1.1	1.07	1.09	1.01
2022/23	1.23	0.91	0.08	1.34	1.05	0.47	1.33
<b>Mean</b>	<b>1.595</b>	<b>1.64</b>	<b>0.787</b>	<b>1.837</b>	<b>1.432</b>	<b>1.503</b>	<b>2.169</b>
<b>Sample Variance</b>	<b>0.615</b>	<b>0.198</b>	<b>0.424</b>	<b>0.158</b>	<b>0.211</b>	<b>0.234</b>	<b>0.435</b>
<b>Standard Deviation</b>	<b>0.744</b>	<b>0.423</b>	<b>0.618</b>	<b>0.378</b>	<b>0.435</b>	<b>0.459</b>	<b>0.625</b>
<b>Range</b>	<b>2.24</b>	<b>1.32</b>	<b>1.81</b>	<b>1.29</b>	<b>1.3</b>	<b>1.58</b>	<b>1.88</b>
<b>Minimum</b>	<b>0.55</b>	<b>0.91</b>	<b>-0.05</b>	<b>1.1</b>	<b>0.7</b>	<b>0.47</b>	<b>1.01</b>
<b>Maximum</b>	<b>2.79</b>	<b>2.23</b>	<b>1.76</b>	<b>2.39</b>	<b>2</b>	<b>2.05</b>	<b>2.89</b>
<b>Sum</b>	<b>15.95</b>	<b>16.4</b>	<b>7.87</b>	<b>18.37</b>	<b>14.32</b>	<b>15.03</b>	<b>21.69</b>
<b>Count</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

*Source: Appex table-2*

Table 5 indicates a return on assets (ROA) of selected commercial banks in Nepal. This is the contribution of banks total assets in profit generation from table indicates NBL, RBBL, PBL, EBL, HBL, SBI and NABIL was a fluctuation results for the rest of ten years. Its shows ROA of NBL 0.92 percent in 2013/14 and slightly fall down in 2014/15 then rising up by 2.79 percent in 2015/16 and then slightly falling down till 2022/23.the bank make 1.595 percent mean ROA during this ten years time period. The average ROA of all sample commercial banks NBL, RBBL, PBL, EBL,

HBL, SBI and NABIL are 1.595, 1.64, 0.787, 1.837, 1.432, 1.503 and 2.169 percent respectively. Among these banks the NABIL bank maintain highest ratio with 2.169 percent return and the Prabhu bank make lowest average return of 0.787 percent. The CV of NBL, RBBL, PBL, EBL, HBL, SBI and NABIL has 0.615, 0.198, 0.424, 0.158, 0.211, 0.234 and 0.435 respectively. The Nepal bank has highest CV of 0.615 and Everest bank has lowest CV of 0.148. The high CV indicate the return of NBL is more variable or more risky to earn profit and the EBL is less variable on return or less risky to earn profit with lower CV; Other banks lies between these two banks. On the basis of standard deviation NBL more risker then other sample banks with higher standard deviation and EBL less risker with lower standard deviation.

#### **4.1.3 Net Interest Margin (NIM)**

Net interest margin shows the relation between banks earning from interest charges and with its earning assets. How efficiently the bank utilizing landing fund to earn interest amount is counted with NIM. It's calculated as:  $(\text{Interest Income} - \text{Interest Expense}) / \text{Average Earning Assets}$ . The NIM ratio of last ten years and its descriptive statistic calculation as follows:

**Table-6****Net interest margin (NIM) in percentage**

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	3.17	3.39	2.52	4.09	2.86	3.34	4.09
2014/015	3.73	4.05	4.55	2.88	3.45	3.15	2.97
2015/016	5.24	3.57	3.31	2.84	3.07	3.41	3.29
2016/017	6.79	4.1	3.18	1.8	2.92	3.62	3.86
2017/018	6.42	4.91	3.47	3.45	4.04	3.65	3.89
2018/019	5.23	4.7	3.38	5.38	3.98	3.78	3.56
2019/020	3.93	3.83	2.96	3	3.22	3.33	3.18
2020/021	3.92	2.75	2.62	2	2.12	2.26	3.05
2021/022	3.4	2.81	2.57	2.37	2.94	2.5	2.5
2022/23	3.82	3.26	1.72	3.12	3.4	3.61	3.94
<b>Mean</b>	<b>4.565</b>	<b>3.737</b>	<b>3.028</b>	<b>3.093</b>	<b>3.2</b>	<b>3.265</b>	<b>3.433</b>
<b>Standard Deviation</b>	<b>1.276</b>	<b>0.726</b>	<b>0.751</b>	<b>1.046</b>	<b>0.563</b>	<b>0.505</b>	<b>0.517</b>
<b>Sample Variance</b>	<b>1.629</b>	<b>0.527</b>	<b>0.565</b>	<b>1.095</b>	<b>0.317</b>	<b>0.255</b>	<b>0.268</b>
<b>Minimum</b>	<b>3.17</b>	<b>2.75</b>	<b>1.72</b>	<b>1.8</b>	<b>2.12</b>	<b>2.26</b>	<b>2.5</b>
<b>Maximum</b>	<b>6.79</b>	<b>4.91</b>	<b>4.55</b>	<b>5.38</b>	<b>4.04</b>	<b>3.78</b>	<b>4.09</b>
<b>Sum</b>	<b>45.65</b>	<b>37.37</b>	<b>30.28</b>	<b>30.93</b>	<b>32</b>	<b>32.65</b>	<b>34.33</b>
<b>Count</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

Source: Appex table-3

Table 6 shows that, NBL earn better interest income of 4.565 percent in average and PBL earn less interest income of 3.028 percent in average. Other bank was earning between these two banks. On the basis of standard deviation, HBL has less fluctuation on interest income with SD 0.505 percent determined as less risky and NBL stable on yearly interest income with SD 1.276 percent determined more risky. The CV of HBL is 0.255 percent, counted lowest shows that there is highly stable in yearly interest income and the NBL counted highest CV 1.629 percent, shows that the bank low stable in yearly interest income and determined highly risky to earn profitability.

#### 4.1.4) Base Rate

Base rate refers to the minimum standard rate below which the commercial banks are not allowed to lend. Base Rate includes the cost of funds along with the operation costs for the business. Banks in Nepal provide loans at a certain premium above the base rate. Higher base rate results in higher lending rates.

*Table-7*

*Base interest rate (BSR) in percentage*

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	8.67	6.32	8.67	6.4	7.44	8.21	5.67
2014/015	7.21	6.7	7.63	6.14	7.02	6.35	5.78
2015/016	6.13	6.36	6.31	4.86	6.55	6.94	4.17
2016/017	6.29	5.95	10.51	7.68	8.98	7.52	6.61
2017/018	7.03	6.2	10.62	8.45	10.12	9.64	7.78
2018/019	7.98	5.5	9.36	8.12	9.72	9.67	8.09
2019/020	6.99	5.8	8.32	8.05	9.25	8.79	7.32
2020/021	5.73	5.41	6.88	5.99	7.35	5.71	5.86
2021/022	7.99	7.63	9.24	8.82	9.7	8.87	8.77
2022/23	9.92	8.03	10.16	9.47	10.59	8.86	9.52
<b>Mean</b>	<b>7.394</b>	<b>6.39</b>	<b>8.77</b>	<b>7.398</b>	<b>8.672</b>	<b>8.056</b>	<b>6.957</b>
<b>Standard Deviation</b>	<b>1.274</b>	<b>0.860</b>	<b>1.493</b>	<b>1.470</b>	<b>1.447</b>	<b>1.371</b>	<b>1.635</b>
<b>Sample Variance</b>	<b>1.624</b>	<b>0.739</b>	<b>2.231</b>	<b>2.161</b>	<b>2.095</b>	<b>1.88</b>	<b>2.675</b>

<b>Minimum</b>	<b>5.73</b>	<b>5.41</b>	<b>6.31</b>	<b>4.86</b>	<b>6.55</b>	<b>5.71</b>	<b>4.17</b>
<b>Maximum</b>	<b>9.92</b>	<b>8.03</b>	<b>10.62</b>	<b>9.47</b>	<b>10.59</b>	<b>9.67</b>	<b>9.52</b>
<b>Sum</b>	<b>73.94</b>	<b>63.9</b>	<b>87.7</b>	<b>73.98</b>	<b>86.72</b>	<b>80.56</b>	<b>69.57</b>
<b>Count</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

*Source: Yearly bank report Appex table-4*

Table 7 shows that there is maximum base rate of NBL is 9.92 percent and minimum is 5.73 percent with the average of 7.394 percent. The average base rates of RBBL, PBL, EBL, SBI, HBL and NABIL has 6.39, 8.77, 7.398, 8.672, 8.056 and 6.957 respectively. In this average base rate, the PBL has higher rate of 8.77 percent and RBBL has lower base rate of 6.39 percent. The sample variance (CV) of the NBL, RBBL, PBL, EBL, SBI, HBL and NABIL is counted 1.624, 0.739, 2.231, 2.161, 2.095, 1.88 and 2.675 respectively. On the basis of CV; NABIL has highest of 2.675 percent which indicate the bank base rate highly fluctuate and RBBL has least CV of 0.739 percent indicate the bank maintain stable BSR during this time period. The standard deviation of NABIL Bank also higher than other banks, it shows that the bank can't make proper stability on base rate it effect negatively to their customers and The standard deviation of RBBL is least counted of 0.86; it shows that the bank maintain proper stability on base rate.

#### **4.1.5) Interest Spread rate (ISR)**

The net interest spread rate is the difference between the average yields that a financial institution receives from loans-along with other interest-accruing activities and the average rate it pays on deposits and borrowings. The net interest rate spread is a key determinant of a financial institution's profitability (or lack thereof). The spread rate is calculated as;

Interest Spread Rate = Interest Rate on Lending – Interest Rate on Deposit

**Table-8**

**Interest spread rate (ISR) in percentage**

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	5.64	4.14	4.46	5.69	3.45	4.54	3.05

2014/015	5.18	4.53	4.84	4.76	3.85	4.35	3.97
2015/016	4.96	4.73	5.09	4.89	4	4.59	3.74
2016/017	4.8	4.92	5.09	4.48	3.68	4.44	4.32
2017/018	4.99	4.95	4.72	4.72	4.99	4.7	4.48
2018/019	4.45	4.46	4.7	4.29	4.93	4.47	4.19
2019/020	3.7	4.26	3.57	3.59	3.87	3.77	3.51
2020/021	4.34	4.37	4.65	3.24	3.18	3.32	3.31
2021/022	4.08	4.29	4.32	4.06	4.36	4.02	2.75
2022/23	3.95	4.03	4.86	3.97	3.99	4.79	3.8
<b>Mean</b>	<b>4.609</b>	<b>4.468</b>	<b>4.63</b>	<b>4.369</b>	<b>4.03</b>	<b>4.299</b>	<b>3.712</b>
<b>Standard Deviation</b>	<b>0.608</b>	<b>0.315</b>	<b>0.445</b>	<b>0.703</b>	<b>0.585</b>	<b>0.461</b>	<b>0.56</b>
<b>Sample Variance</b>	<b>0.37</b>	<b>0.099</b>	<b>0.198</b>	<b>0.494</b>	<b>0.342</b>	<b>0.212</b>	<b>0.314</b>
<b>Minimum</b>	<b>3.7</b>	<b>4.03</b>	<b>3.57</b>	<b>3.24</b>	<b>3.18</b>	<b>3.32</b>	<b>2.75</b>
<b>Maximum</b>	<b>5.64</b>	<b>4.95</b>	<b>5.09</b>	<b>5.69</b>	<b>4.99</b>	<b>4.79</b>	<b>4.48</b>
<b>Sum</b>	<b>46.09</b>	<b>44.68</b>	<b>46.3</b>	<b>43.69</b>	<b>40.3</b>		<b>37.12</b>
<b>Count</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

*Source: Appex table-5*

Table 8 showing ISR of ten fiscal years maintained by each seven sample banks. In this study period average ISR of NBL, RBBL, PBL, EBL, HBL, SBI and NABIL is 4.609, 4.468, 4.63, 4.369, 4.03, 4.299 and 3.712 respectively. The PBL has slightly higher ISR maintained of 4.63 percent showing the bank charge higher interest on landing and other banks are maintaining around 4 percent ISR. The NABIL make the lower ISR of 3.712; it means the bank charge lower premium interest with their base rate. The standard deviation of EBL counted higher 0.703 percent shows that bank has higher fluctuation in ISR and the RBBL has lower deviation shows the bank maintain more stability in yearly ISR. The coefficient of variance (CV) is also EBL counted higher 0.494 percent is shows the more variability in ISR measured high risk bearing on landing loan. The CV of RBBL counted lower of 0.099 percent is shows the maintain lower risk measured lower risk bearing on landing loan.

## 4.2. Descriptive Statistics

Brief informative coefficients known as descriptive statistics are used to sum up a particular data set, which may be a sample of a population or a representation of the complete population. Measurements of central tendency and measures of variability make up descriptive statistics (spread). The mean is a measure of central tendency, while the standard deviation, variance, minimum and maximum variables are measurements of variability.

**Table-9**

**Discriptive statistics**

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
ROA	70	-.05	2.89	109.63	1.5661	.67286
ROE	70	-26.88	45.20	1252.75	17.8964	11.08803
NIM	70	1.72	6.79	243.21	3.4744	.92607
BSR	70	4.17	10.62	536.37	7.6624	1.55706
ISR	70	2.75	5.69	301.17	4.3024	.59998
Valid N (listwise)	70					

*Source: Appex table-6*

Table 9 shown that minimum and maximum value of ROA is -0.05 and 2.89 respectively with counted mean value and standard deviation 1.5661 and 0.6728 respectively from seven commercial bank of Nepal; it indicates that there is highly variation between the mean value and standard deviation there is more variation among the ROA of banks in this study. Minimum and maximum value of ROE is -26.88 and 45.20 with mean value and standard deviation is 17.896 and 11.088 respectively. It includes that there is less variation among banks return on equity. Minimum and maximum value of NIM is 1.72 and 6.79 with mean value and standard deviation is 3.474 and 0.926 respectively, this study found NIM have less variation for commercial bank. Minimum and maximum value of BSR is 4.17 and 10.62 with mean value and standard deviation is 7.66 and

1.557 respectively. Minimum and maximum value of ISR is 2.75 and 5.69 with mean value and standard deviation is 4.302 and 0.599 respectively. Total number of observations in this study is 70. Overall descriptive statistics shows variation of data with the 70 observations.

### 4.3 Correlation Analysis

A statistical technique used in research to determine the relatedness between two variables and examine the strength of their linear relationship is correlation analysis. Having indicated the descriptive statistics, the Pearson correlation coefficients have been computed. The correlation coefficients show the magnitude and direction of the linear relationship between two variables if that of the original data should change or remain unchanged. A high correlation indicates a strong association between the two variables, whilst a low correlation indicates a poor correlation between the two variables. Correlation enables a researcher to predict the effect of one variable on the direction of the other which is worth pointing out that correlation does not suggest causality, rather, the direction of the change or movement.

*Table- 10*

#### *Correlation analysis Matrix*

	ROA	ROE	NIM	BSR	ISR
ROA	1				
ROE	0.586**	1			
NIM	0.399**	0.379**	1		
BSR	-0.46**	-0.461**	-0.149	1	
ISR	0.01	0.217	0.366**	0.075	1

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

*Source: Appex table-7*

Table 10 shows the overall correlation between dependent and independent variables. According to table 10 there is low degree of negative correlation between BSR and ROA -0.46 value and the relationship is at 1% level of significance. Similarly, the correlation coefficients between ISR and ROA have 0.01, which shows insignificant positive relationship between ISR and ROA. Again, the correlation coefficient between BSR and ROE have -0.461, which shows there is significant negative relationship between BSR and ROE. Similarly, the correlation coefficient of BSR and NIM have -0.149, and there is insignificant negative relationship between BSR and NIM. Correlation between ISR and ROA, ROE are 0.01, 0.217 respectively and showing low degree of insignificant positive relationship; correlation coefficient between ISR and NIM is 0.366, showing significant positive relationship.

#### 4.4 Regression analysis

A statistical method known as regression is used to examine how variation in one or more variables predicts or explains variation in another variable. It is possible to examine experimental or non experimental data with many categorical and continuous independent variable using this well-liked statistical technique because of its versatility. The method is known as bivariate regression if only one variable is utilized to forecast or explain the fluctuation in another variable. The technique is known as multiple regression when more than one variable is utilized to forecast or explain variation in another variable. This entry focuses on linear bi-variate regression by SPSS.

##### 4.4.1: Regression summary of ROA

**Table- 11:**

**Regression table for coefficient of determination**

Model Summary					
Model	R	R square	Adjusted R square	Std. Error of the Estimate	
1	.462 <sup>a</sup>	.213	.190	.60568	
a. Predictors: (Constant), ISR%, BSR%					
b. Dependent Variable: ROA %					

Source: Appex table-8

Table 11 shows the correlation coefficient (R value) for this research is 0.462. This means there is a moderate positive relationship between dependent variable ROA and independent variables. Similarly, the R square indicates the extent of percentage the independent variables can explain the variation in the dependent variable. The coefficient of determination R square in summary is 0.213, which shows only 21.30 percent variation in ROA has been explained by ISR and BSR and remaining is due to other factors.

## ANOVA For ROA

**Table-15:**

**ANOVA table for ROA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.661	2	3.330	9.078	<.001 <sup>b</sup>
	Residual	24.579	67	.367		
Total		31.239	69			
a. Dependent Variable: ROA %						
b. Predictors: (Constant), ISR%, BSR%						

*Sourc: Appex table-9*

Table 15 shows ANOVA result, indicated that there is significant relationship between dependent variable and independent variable. ROA has significant relationship with all independent variables having significant value of 0.001 which is smaller than 0.05 (5% level of significance, p value).

**Table-16:**  
**Coefficients for ROA**

<b>Coefficients<sup>a</sup></b>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.883	.618		4.667	<.001

	BSR%	-.200	.047	-.463	-4.260	<.001
	ISR%	.050	.122	.045	.413	.681
a. Dependent Variable: ROA %						

Source: Appex table-10

Table 16 organized for looking the impact of independent variable on dependent variable. Table 16 shows the independent variables BSR has significant impact on ROA having significant value of 0.001 (smaller then significance level of 0.05) but ISR has no significant impact on ROA having significance value of 0.681 (grater then significance level of 0.05).

#### 4.4.2: Regression Summary of ROE

*Table- 14*

*Regression table for coefficient of determination*

Model Summary					
Model	R	R square	Adjusted R square	Std. Error of the Estimate	
1	.525 <sup>a</sup>	.276	.254	9.57589	
a. Predictors: (Constant), ISR%, BSR%					
b. Dependent Variable: ROE %					

Source: Appex table-11

Table 14 shows the model summary, with correlation coefficient (R value) for this research is 0.525. This means there is a moderate positive relationship between dependent and independent variables. Similarly, the coefficient of determination R square is 0.276 indicates the only 27.60 percentage variation in ROE has been explained by independent variable BSR and ISR.

*Table- 15*

*ANOVA table for ROE*

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2339.427	2	1169.713	12.756	<.001 <sup>b</sup>
	Residual	6143.742	67	91.698		
	Total	8483.169	69			
a. Dependent Variable: ROE%						
b. Predictors: (Constant), ISR%, BSR%						

Source: Appex table-12

Depicted Table 15 shows ANOVA of ROE, that the overall dependent variable and independent variable have a significant relation. ROE has significant relationship with all independent variables having significance level of 0.001 which is less than 0.05.

**Table-16**

***Coefficient's analysis for ROE***

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.989	9.764		2.457	.017
	BSR%	-3.416	.742	-.480	-4.601	<.001
	ISR%	4.668	1.927	.253	2.422	.018
a. Dependent Variable: ROE%						

Source: Appex table-13

Table 16 shows that the impact of dependent variable on independent variable. The independent variables BSR and ISR has significant impact on ROE with significant value of BSR and ISR is 0.001 and 0.018 respectively; which is less than 0.05 significance level.

#### 4.4.3: Regression Summary of NIM

**Table-17**

**Regression table for coefficient of determination**

Model summary				
Model	R	R square	Adjusted R square	Std. Error of the Estimate
1	.407 <sup>a</sup>	.165	.141	.85851
a. Predictors: (Constant), ISR%, BSR%				
b. Dependent variable, NIM%				

Source: Appex table-14

Table 17 shows the model summary, with correlation coefficient (R value) for this research is 0.407. This means there is a moderate positive relationship between dependent and independent variables. Similarly, the coefficient of determination R square is 0.141 indicates that; There is only 14.10 percentage variation in NIM has been explained by the independent variable BSR and ISR.

**Table -18**

**ANOVA table for NIM**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.793	2	4.897	6.644	.002 <sup>b</sup>
	Residual	49.381	67	.737		
	Total	59.175	69			

a. Dependent Variable: NIM%
b. Predictors: (Constant), ISR%, BSR%

Source: Appex table-15

Table 18 shows ANOVA of NIM, that the overall dependent variable and independent variable have a significant relation. NIM has significant relationship with all independent variables having significant value of 0.002 which is smaller than 0.05 (5% level of significance, p value).

**Table-19**  
*Coefficient’s analysis for NIM*

<b>Coefficients<sup>a</sup></b>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.760	.875		2.010	.048
	BSR%	-.105	.067	-.177	-1.583	.118
	ISR%	.586	.173	.380	3.393	.001

a. Dependent Variable: NIM%

Source: Appex table-16

Table 19 analyze the impact of independent variable on dependent variable NIM. The independent variables ISR have significant impact on dependent NIM having significant level of 0.001, and BSR has no significant impact on NIM with value of 0.118 which is greater than 0.05 P value.

**4.5 Discussion**

According to the first objective of this study is to asses the structure and pattern of Interest rate changes the descriptive statistics revealed that the interest rate bring significant impact on profitability of banks. Statistical measure shows different relation between chosen variables; the BSR shows negative relation with the profitability ratios which means increase in base interest rate bring negative changes on profit of banks. The relation between ISR and profitability ratio ROA,

ROE and NIM is showing positive relation means higher ISR maintain higher profit to banks. Previously Mishra et al. (2021) conduct research study to examine profitability of commercial banks with ROA, ROE and NIM ratios and analyze higher and lower profitable banks. He did analysis of seven sample bank NABIL, NIBL, HBL, EBL, NIC, NSBI and SBL bank from Nepal commercial banks and found that; based on ROA, EBL Bank has the highest profitability ratio whereas NIC Asia Bank has the lowest profit during his study period. In terms of variability, SBI bank has less variation in profitability whereas Everest bank has more variation in bank profitability. This study in terms of ratios, NABIL generate highest ROA, secondly EBL, thirdly RBBL, fourthly NBL, fifthly HBL, sixthly SBI and in lowest PBL. In terms of ROE ratio, the RBBL made highest income and PBL in lowest range. NIM ratio show Nepal bank ltd. earn highest and PBL in lower. In comparison of BSR, the PBL determine highest and RBBL at lowest. ISR shows the PBL has highest and NABIL maintain at lowest.

Secondly, this study aimed to examine the relationship between interest rate and profitability of commercial banks, in this context, Owusu-Antwi et al. (2018) said decisions There was a positive relationship between the Interest spread Rate (ISR) and Banks Profitability, specifically Return on Assets (ROA), Return on Equity (ROE) and Bank Size. The changes in market interest rate bring strong impact on profit of banking institutions. In this study BSR has negative relationship with profitability ratios and ISR has positive relation to profitability. Khadka (2010) concluded interest rate on deposit and inflation rate (rbd) of all sample organization is positive. One variable assumed to be affecting interest rate on lending is amount loaned. Windsor et al. (2023) and Munteanu and Ilie (2021) also conducted research and concluded with the interest rate changes made direct impact on profitability of financial institutions. The correlation analysis indicated a strong and significant positive relationship between interest spread rate and profitability ratios ROA, ROE and NIM and negative relationship between base interest rate and profitability ratios. In this study, Correlation between ISR and ROA, ROE are 0.01, 0.217 respectively and showing low degree of insignificant positive relationship and correlation coefficient between ISR and NIM is 0.366, showing significant positive relationship.

Thirdly, the study examine impact of interest rate changes through correlation, regression and ANOVA. The ANOVA of ROA, ROE and NIM is significant relationship with all independent variables BSR and ISR having significant counted value. BSR and ISR have impact on dependent

ROA, ROE and NIM having significant level calculated value. Karki (2022) Conducted research on 'Impact of Interest Rate Spread on Profitability in Nepalese Commercial Banks' and found that the bank's profitability affected by IRS. When interest rate spread increases, it will lead to increase profitability. Poudel (2018) conducted research and found that positive relationship between interest rate spread and banks profitability. When interest rate spread increases, it has lead to increase profitability, i.e. increase in return on equity, return on assets, net profit margin, net interest margin, earning per share e.t.c. and vice versa. In this study the summary of regression analysis showing the impact of ISR and BSR on profitability ratios ROA, ROE and NIM are 21.3 percent, 27.6 percent and 16.5 percent respectively; so, this study also found the interest rate changes made direct impact on bank profitability.

## CHAPTER -5

### SUMMARY AND CONCLUSIONS

In summary, this chapter presents the brief summary of the entire study and highlights of major findings conclusions, and implications derived from the study. The major conclusions are discussed in separate section of this chapter which is followed by some implications regarding the effects of interest rate changes on profitability of commercial banks Nepal. Finally, the chapter ends with the implications of the study. This research study helpful to future research in same field.

#### 5.1 Summary

In this age of extreme market competition, only the profitable banks can sustain for a long time. Financial policies of any concern are directly or indirectly influenced by its profitability. Thus, it is a base for a bank's survival, growth and expansion. So, this Research studies about the role of market interest on determine profitability commercial banks in Nepal with reference to selective banks namely NBL, RBBL, PBL, EBL, SBI, HBL and NABIL bank ltd. Market interest is one of the key tools for financial decision and assist in making plan before using sophisticated forecasting and budgeting procedure. The value of this approach is the quantitative relation, which can be used to diagnose strengths and weakness in a bank performance. Such analysis is considerable things for the bank's common stock holders, investors, bondholders and others. In this context, the profitability of NBL, RBBL, PBL, EBL, SBI, HBL and NABIL bank ltd has been analyzed. Profit is basically on arc around which the venture every business involves. Profit is the main financial indicator of business firm, which is indeed a need to service and growth the business environment. Profit is essential to raise the market price of share and to attract additional capital Investment. Profit is the outcome of good management efficiency operation etc. financial goal of a firm in the past had been the maximization of profit but it is now different form the past generally almost all the business are designed in order to earn profit, so in absence of the ability of making profit. The study in this context is mainly focused on the performance of the bank in terms of profitability. Profitability ratios of seven sample commercial were done on the basis of their financial statements from the F.Y. 2013/14 to FY 2022/23. This study is mainly based on the secondary data. This study employed of casual comparatives research design. Those data were first processed and

analyzed comparatively. The data are then analyzed with the help of various tools like financial ratios correlation analysis and regression analysis were used to accomplish the objectives.

The descriptive statistics shows the structure and pattern of Interest rate changes, Return on assets, Return on equity capital, Net interest margin and profitability of sample commercial banks. The correlation analysis show the relation between Return on assets, Return on equity capital, Net interest margin and Interest rate changes of Nepalese commercial banks. By using correlation the BSR percentage is negative correlation with ROA, ROE and NIM and the ISR percentage is positively correlated with profitability ratios. The regression result shows that there is positive and insignificant impact of base interest rate (BSR) and interest spread rate (ISR) to ROA, ROE and NIM of banks.

The primary goal of this research is to emphasize the comparative analysis interest rate and its effect on these seven commercial banks performance aspect to profitability. The study's specific goals are to compare the interest rate of the seven banks, analyze the relationship between operating profit and interest income to gauge the banks' ability to generate profitability. The commercial and financial sectors are the backbone of a country's economic growth, creating jobs and strengthening the economy of the country as a whole. Although running a business properly and efficiently is crucial, starting a business is not the most significant thing. A company's strengths and weaknesses may be discovered by examining its rational interest rate which also helps to steer the business in the appropriate direction. This research is crucial for people interested in investing, as well as for owners, creditors, and shareholders to maintain a positive outlook. Similar to that, this research will serve as a roadmap to strengthen the capital structure position so that the company's ROA and ROE may grow. It also assists shareholders by making them aware of the company's information gaps and vulnerabilities. It helps in determining how well a company can raise money in the future. The results of this project should be helpful to the firms' policy makers as well as other interested researchers and students.

The study whole of the research. Background information, a history of banking in Nepal, a summary of the issue, the study's goals, its significance, and its limitations are all presented in the first chapter. Related topics are also covered. The second chapter, to the best of our ability, reviews relevant material and discoveries. This paper has studied the concepts of capital structure, financial

leverage, cost of capital, capital structure theory, and optimum capital structure, among others. The third chapter discusses the research design and methods. Basically, this chapter covers data sources, data collecting methods and various financial and statistical tools for data analysis, such as financial tools and various ratio analysis, ROA, ROE, NIM, BSR and ISR analysis. The discussion of correlation coefficients, hypothesis testing, etc. The study's population and sample have both been included. The display and analysis of data are the topics covered in chapter four. It entails assessing the yearly interest rate of these seven Nepalese commercial banks. The study's summary and results are presented in Chapter 5. Presents the key results and, to the degree feasible, compares them to theory and other empirical data. The study's conclusion includes the bibliography and appendices.

## **5.2 Conclusion**

This study concluded with analyzed data with the help of descriptive statistics, correlation and regression analysis which revealed several key insights regarding impact of interest rate toward profitability of banking institution of Nepal. Commercial banks are the backbone of the nation's economic development because they act as an intermediary in the flow of capital from different parts of the nation to deficit units, ultimately promoting and funding the nation's industries, businesses, infrastructure, and other welfare programs for its citizens. To ensure that enterprises have effective interest rate that balances risks and can meet the capital needs of enterprises. Building a reasonable interest rate helps businesses and individuals effectively and increase the profitability of bank. Therefore, bank need to estimate their effective interest rate to effective break-even point of commercial banks. It gathers deposits from the extra customer units and distributes them to those in need. Its extensive variety of services and operations allow it to generate a sizable profit. Ndiritu et al. (2024) concluded that in their research and suggest to banking industry, be informed of the positive impact that the interest rate spread has made on their banking performance. So, to the banking industry essential to ensure smooth movement of the lending rate and deposit rate. Khan (2014) concluded his research article and suggest Interest rate considerably affects the banks interest income. It means banks income by interest is extremely related to interest rates that show the banks profitability is dependent on the monetary tool known as interest rate. In this study the analysis also shows interest rate play major role to determine profitability of commercial banks.

1. This study aimed to assess the interest structure and profitability of the sample commercial bank. The research shows that PBL had a higher level of BSR than the other, its concluded that PBL spent higher amount to operate the banking activities and the ISR also higher calculated to PBL but at lowest in ROA concluded that the bank determine high ISR to recover higher operational cost and maintain break-even point. The RBBL maintain lowest BSR found that the RBBL spent lowest cost to maintain break-even point. The NABIL counted lowest ISR but with highest ROA found that the bank spent lowest cost on operational activities and maintain break-even level.
2. Secondly, this study aimed to examine the relationship between market interest rate changes (base rate %, interest spread rate %) and profitability, after analysis of secondary data; this study found there is positive relationship between ISR percentage and profitability and found that the ISR play major role to generate profit. The BSR percentage has negative relation with profitability ratios so, its concluded that it might not significantly related with profitability.
3. Finally, this study wants to examine the impact of interest rate changes on profitability, after analyzing the data this study found the significant result that ROA, ROE and NIM is affected by the interest rate variable, Majorly ISR percentage. It's concluded that commercial banks need to balance the interest rate variable to maintain better profitability.

### **5.3 Implications**

This research study is applicable for the academic, managerial purpose and different stakeholders. The analysis of profitability of commercial bank occupies an important position in the process of production and business activities of enterprises. It is an effective management tool that businesses have used so far to help businesses to self-assess, examine how the economic targets are being implemented and then devise measures to take full advantage of enterprises' strength. That means that analyzing the impact of factors on profitability not only is the end of one business cycle but also is the start of the next business cycle. In addition, financial performance also makes sense for those who are interested in businesses, especially investors, suppliers, banks, etc. Because financial performance helps them having the information to make decisions more accurate and timelier.

Financial leverage has a favorable effect on the Nepalese commercial bank's profits. Therefore, by modifying the debt to equity ratio, the Nepalese Commercial Bank should enhance financial leverage in order to increase profitability. It should, however, be taken into account in relation to an enterprise's operational capabilities. Businesses should borrow money if the ROA is greater than the lending interest rate in order to make wise investments.

The implications of this study as follows:

1. Sample banks have more potential of earning high profit than they made in the recent fiscal years so sample the banks have to determine interest rate on loan lending and borrowing fund in rational way for generating more profit margins. If interest rate on resources were unbalanced way, then the banks face high cost and bear the low profit margin.
2. The study observed a negative relationship of banks base interest rate and positive relationship of interest spread rate with profitability of banks. Hence, policy makers should consider the fluctuation of interest rate and should use the effective tool to control the banking businesses.
3. The NRB should take the necessary steps to manage banks interest spread rate for its existence in this competitive market. Regulation for ISR essential to maintain and make bank reliable to stakeholders.
4. The growth rate of net profit of the some of sample banks is very low in compare to other banks. Due to their low profit margin, they have negative growth rate. Since profit is a key of success of business they should increase a net profit by launching different new product or investing in profitable sectors. This may occur due to highest retain of profit for future prospect.
5. Some of the sample banks have very high base rate which determined due to the high expense on their total operating expense so; It's essential to maintain lower break-even level
6. The result showed that a profitability position of EBL was found relatively better than other sample banks in study period with having lower risk. The management should reflect the capabilities of management and their roles towards achieving their goals. The management of EBL is efficient and successful because ROA maintained stability in a sustainable manner over the study period.

7. The NRB regulatory and policy makers should make the policy to increase the confidence level to financial service taker public and stakeholders of banking institutions.
8. Nepalese commercial bank can mobilize issue loans in many ways such as borrowing from NRB, banks, borrowing employees, by issuing bonds, accepting deposits. Therefore, it is advisable to issue transparent financial statements, base rate, spread rate, average interest rate profile.

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## APPENDICES

### *Appex-1: ROE From Annual Report of banks*

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	11.1	45.2	-26.88	27.45	21.51	28.81	17.2
2014/015	7.52	34.25	27.57	26.24	22.6	24.67	16.2
2015/016	43	35.12	17	22.25	20.41	33.17	17.2
2016/017	29.8	30.63	19.29	21.37	14.85	26.87	30.2
2017/018	14.38	32.94	7.69	24.38	15.81	13.16	27.45
2018/019	8.84	29.7	12.45	26.25	16.2	17.28	21.1
2019/020	7.77	29.4	7.76	26.37	10.44	14.7	22.1
2020/021	8.91	31.14	10.06	8.55	6.26	14.89	13.37
2021/022	8.21	14.02	9.93	10.87	9.57	10.75	8.03
2022/23	9.55	7.08	0.89	13.25	10.76	4.64	11.25
Mean	14.908	28.948	8.576	20.698	14.841	18.894	18.41
Standard Deviation	11.91457	10.83065	14.46537	7.113002	5.536923	9.053647	6.942636
Sample Variance	141.957	117.303	209.2469	50.5948	30.65752	81.96852	48.2002
Minimum	7.52	7.08	-26.88	8.55	6.26	4.64	8.03
Maximum	43	45.2	27.57	27.45	22.6	33.17	30.2
Sum	149.08	289.48	85.76	206.98	148.41	188.94	184.1
Count	10	10	10	10	10	10	

### *Appex-2: ROA From Annual Report of bank*

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	0.92	1.45	-0.05	2.11	1.17	1.28	2.43
2014/015	0.55	2.14	-0.04	2.39	2	1.31	2.8
2015/016	2.79	1.98	1.64	2.25	1.68	1.92	2.89
2016/017	2.78	1.7	1.76	1.85	1.57	2.01	2.06
2017/018	2.41	1.95	0.86	1.59	1.97	1.57	2.32
2018/019	1.51	2.23	1.29	1.83	1.94	2.05	2.69
2019/020	1.22	1.64	0.71	1.97	1.17	1.65	2.61
2020/021	1.33	1.1	0.8	1.94	0.7	1.68	1.55
2021/022	1.21	1.3	0.82	1.1	1.07	1.09	1.01
2022/23	1.23	0.91	0.08	1.34	1.05	0.47	1.33
Mean	1.595	1.64	0.787	1.837	1.432	1.503	2.169

Sample Variance	0.615961111	0.1988444	0.4249122	0.1589567	0.2111956	0.23469	0.4352322
Range	2.24	1.32	1.81	1.29	1.3	1.58	1.88
Minimum	0.55	0.91	-0.05	1.1	0.7	0.47	1.01
Maximum	2.79	2.23	1.76	2.39	2	2.05	2.89
Sum	15.95	16.4	7.87	18.37	14.32	15.03	21.69
Count	10	10	10	10	10	10	10

***Appex-3: NIM From Annual Report of bank***

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	3.17	3.39	2.52	4.09	2.86	3.34	4.09
2014/015	3.73	4.05	4.55	2.88	3.45	3.15	2.97
2015/016	5.24	3.57	3.31	2.84	3.07	3.41	3.29
2016/017	6.79	4.1	3.18	1.8	2.92	3.62	3.86
2017/018	6.42	4.91	3.47	3.45	4.04	3.65	3.89
2018/019	5.23	4.7	3.38	5.38	3.98	3.78	3.56
2019/020	3.93	3.83	2.96	3	3.22	3.33	3.18
2020/021	3.92	2.75	2.62	2	2.12	2.26	3.05
2021/022	3.4	2.81	2.57	2.37	2.94	2.5	2.5
2022/23	3.82	3.26	1.72	3.12	3.4	3.61	3.94
Mean	4.565	3.737	3.028	3.093	3.2	3.265	3.433
Standard Deviation	1.2764643	0.72656039	0.751898338	1.04667781	0.563895183	0.505288696	0.5176882
Sample Variance	1.62936111	0.52789	0.565351111	1.09553444	0.317977778	0.255316667	0.2680011
Minimum	3.17	2.75	1.72	1.8	2.12	2.26	2.5
Maximum	6.79	4.91	4.55	5.38	4.04	3.78	4.09
Sum	45.65	37.37	30.28	30.93	32	32.65	34.33

**Appex-4: BSR From Annual Report of bank**

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	8.67	6.32	8.67	6.4	7.44	8.21	5.67
2014/015	7.21	6.7	7.63	6.14	7.02	6.35	5.78
2015/016	6.13	6.36	6.31	4.86	6.55	6.94	4.17
2016/017	6.29	5.95	10.51	7.68	8.98	7.52	6.61
2017/018	7.03	6.2	10.62	8.45	10.12	9.64	7.78
2018/019	7.98	5.5	9.36	8.12	9.72	9.67	8.09
2019/020	6.99	5.8	8.32	8.05	9.25	8.79	7.32
2020/021	5.73	5.41	6.88	5.99	7.35	5.71	5.86
2021/022	7.99	7.63	9.24	8.82	9.7	8.87	8.77
2022/23	9.92	8.03	10.16	9.47	10.59	8.86	9.52
Mean	7.394	6.39	8.77	7.398	8.672	8.056	6.957
Standard Error	0.40307760	0.27201	0.47242	0.46488	0.45773	0.43374	0.51727
	5	7	9	2	5	9	5
Standard Deviation	1.27464330	0.86019	1.49395	1.47008	1.44748	1.37163	1.63576
	5	4	1	5	7	5	7
Sample Variance	1.62471555	0.73993	2.23188	2.16115	2.09521	1.88138	2.67573
	6	3	9	1	8	2	4
Kurtosis	0.23781675	0.17215	-1.014	-0.92229	-1.68167	-0.97112	-0.60383
	8						
Skewness	0.70520945	0.96087	-0.35895	-0.37217	-0.26069	-0.52658	-0.06082
	7	6					
Range	4.19	2.62	4.31	4.61	4.04	3.96	5.35
Minimum	5.73	5.41	6.31	4.86	6.55	5.71	4.17
Maximum	9.92	8.03	10.62	9.47	10.59	9.67	9.52
Sum	73.94	63.9	87.7	73.98	86.72	80.56	69.57
Count	10	10	10	10	10	10	10

**Appex-5: ISR From Annual Report of bank**

<b>Year</b>	<b>NBL</b>	<b>RBBL</b>	<b>PBL</b>	<b>EBL</b>	<b>SBI</b>	<b>HBL</b>	<b>NABIL</b>
2013/014	5.64	4.14	4.46	5.69	3.45	4.54	3.05
2014/015	5.18	4.53	4.84	4.76	3.85	4.35	3.97
2015/016	4.96	4.73	5.09	4.89	4	4.59	3.74
2016/017	4.8	4.92	5.09	4.48	3.68	4.44	4.32
2017/018	4.99	4.95	4.72	4.72	4.99	4.7	4.48
2018/019	4.45	4.46	4.7	4.29	4.93	4.47	4.19
2019/020	3.7	4.26	3.57	3.59	3.87	3.77	3.51
2020/021	4.34	4.37	4.65	3.24	3.18	3.32	3.31
2021/022	4.08	4.29	4.32	4.06	4.36	4.02	2.75

2022/23	3.95	4.03	4.86	3.97	3.99	4.79	3.8
Mean	4.609	4.468	4.63	4.369	4.03	4.299	3.712
Standard Error	0.192408	0.099619	0.14072	0.222293	0.185065	0.145773	0.177299
Standard Deviation	0.608449	0.315024	0.444997	0.702953	0.585226	0.460976	0.56067
Sample Variance	0.37021	0.09924	0.198022	0.494143	0.342489	0.212499	0.314351
Kurtosis	-0.78924	-0.97552	3.268888	0.295253	-0.30314	0.971402	-0.7667
Skewness	0.110245	0.389408	-1.58961	0.21819	0.545722	-1.24579	-0.35365
Range	1.94	0.92	1.52	2.45	1.81	1.47	1.73
Minimum	3.7	4.03	3.57	3.24	3.18	3.32	2.75
Maximum	5.64	4.95	5.09	5.69	4.99	4.79	4.48
Sum	46.09	44.68	46.3	43.69	40.3		37.12
Count	10	10	10	10	10	10	10

*Appex-6: Descriptive Analysis*

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
ROA %	70	-.05	2.89	1.5661	.67286
ROE%	70	-26.88	45.20	17.8964	11.08803
NIM%	70	1.72	6.79	3.4744	.92607
BSR%	70	4.17	10.62	7.6624	1.55706
ISR%	70	2.75	5.69	4.3024	.59998
Valid N (listwise)	70				

*Appex-7: Correlation Matrix*

<b>Correlations</b>						
		ROA %	ROE%	NIM%	BSR%	ISR%
ROA %	Pearson Correlation	1	.586**	.399**	-.460**	.010
	Sig. (2-tailed)		<.001	<.001	<.001	.933
	N	70	70	70	70	70
ROE%	Pearson Correlation	.586**	1	.379**	-.461**	.217
	Sig. (2-tailed)	<.001		.001	<.001	.072
	N	70	70	70	70	70
NIM%	Pearson Correlation	.399**	.379**	1	-.149	.366**
	Sig. (2-tailed)	<.001	.001		.219	.002
	N	70	70	70	70	70
BSR%	Pearson Correlation	-.460**	-.461**	-.149	1	.075
	Sig. (2-tailed)	<.001	<.001	.219		.538
	N	70	70	70	70	70
ISR%	Pearson Correlation	.010	.217	.366**	.075	1
	Sig. (2-tailed)	.933	.072	.002	.538	
	N	70	70	70	70	70
**. Correlation is significant at the 0.01 level (2-tailed).						

**Appex-8: Regression of ROA and Independent Variables**

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.462 <sup>a</sup>	.213	.190	.60568
a. Predictors: (Constant), ISR%, BSR%				

**Appex-9: ANOVA of ROA**

<b>ANOVA<sup>a</sup></b>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.661	2	3.330	9.078	<.001 <sup>b</sup>
	Residual	24.579	67	.367		
	Total	31.239	69			
a. Dependent Variable: ROA %						
b. Predictors: (Constant), ISR%, BSR%						

**Appex-10: Coefficient of ROA**

<b>Coefficients<sup>a</sup></b>							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound

1	(Constant)	2.883	.618		4.667	<.001	1.650	4.115
	BSR%	-.200	.047	-.463	-4.260	<.001	-.294	-.106
	ISR%	.050	.122	.045	.413	.681	-.193	.294
a. Dependent Variable: ROA %								

**Appex-11: Regression of ROE and Independent Variables.**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.525 <sup>a</sup>	.276	.254	9.57589
a. Predictors: (Constant), ISR%, BSR%				

**Appex-12: ANOVA of ROE**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2339.427	2	1169.713	12.756	<.001 <sup>b</sup>
	Residual	6143.742	67	91.698		
	Total	8483.169	69			
a. Dependent Variable: ROE%						
b. Predictors: (Constant), ISR%, BSR%						

**Appex-13: Coefficient of ROE**

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B

		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	23.989	9.764		2.457	.017	4.500	43.479
	BSR%	-3.416	.742	-.480	-4.601	<.001	-4.898	-1.934
	ISR%	4.668	1.927	.253	2.422	.018	.822	8.513
a. Dependent Variable: ROE%								

*Appex-14: Regression of NIM and Independent Variables.*

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.407 <sup>a</sup>	.165	.141	.85851
a. Predictors: (Constant), ISR%, BSR%				

*Appex-15: ANOVA of NIM*

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.793	2	4.897	6.644	.002 <sup>b</sup>
	Residual	49.381	67	.737		
	Total	59.175	69			
a. Dependent Variable: NIM%						
b. Predictors: (Constant), ISR%, BSR%						

*Appex-16: Coefficient of NIM*

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B

		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.760	.875		2.010	.048	.013	3.507
	BSR%	-.105	.067	-.177	-1.583	.118	-.238	.028
	ISR%	.586	.173	.380	3.393	.001	.241	.931
a. Dependent Variable: NIM%								

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CHAPTER-1 INTRODUCTION 1.1 Background of the study.

**Bank profitability is a key factor shaping financial development and economic growth. The profitability of banking sector is important because the financial system of the country is largely based on banking system**