CHAPTER- I

INTRODUCTION

1.1 Background of the Study

Nepal is a small landlocked, south Asian country which is in slow development phase. It is a classical example of poor country though between with rich natural resources. The lack of capital and technical knowhow has become a major barrier that has led those resources being unutilized. The pace of economic development of Nepal is still in infant stage. Its economic condition is characterized by the declining interest rate, high inflation and slow growth in per capital income, low income, low savings and low investment along with very low growth rate.

The economic development of Nepal is still in initial stage. For the economic growth and development, government has now initiated various economic policies such as industrial policy, foreign investment policy, privatization policy and trade and transits policy with the implicit objective to help the stage and the private sector.

After restoration of democracy in 2046 BS and liberalization policy adopted by government many commercial banks, development banks and finance companies emerged to provide banking facilities to the people. These institutions collect deposits from general public providing certain rate of interest and advances loans to different needy persons or business houses charges higher interest rate. In this way such financial institutions makes profit and profit is essential for the survival of growth.

The Nepalese financial sector is composed of banking and non banking sector. Banking sector comprises Nepal Rastra Bank (NRB) and commercial banks. The non banking sector includes development banks, micro-credit development banks, finance companies, co-operatives financial institution, non-government organization (NGOs) performing limited banking activities. Other financial institution comprises of insurance companies, employee's provided fund, citizen investment fund, postal saving offices and Nepal stock exchange.

The incorporation of Nepal bank limited (NBL) in1937 was the turning point of modern financial system of Nepal. It was establish under the Nepal Rastra Bank Act 1937.Prior to this, the Tejarath Adda, which was establish in 1980 used to disburse credit to people. It used to render commercial banking services such as acceptances of deposits, delivery of credit facilities and other commercial banking services.

Nepal Bank Limited remained the only financial institution in Nepal until Nepal Rastra Bank, the central bank of Nepal, was established in 1956 under the Nepal Rastra Bank Act 1955. The second commercial bank, Rastriya Banijya Bank, was established in 1996 as per the Rastriya Banijya Bank Act 1966 under the full ownership of the Government the main objective as establishing the second commercial bank was to supplement the banking services to the growing economy.

After the liberalization of the financial sector, financial has made a hallmark progress both in terms of the number of financial institution and beneficiaries of financial services. By mid-July 2009, NRB licensed bank and non-bank financial institution are categorized as: 27 are commercial banks, 63 development banks, 77 finance companies, 15 micro-credit development banks.

1.1.1 Brief introduction about Interest Rate

Interest is a payment for the use of money. So when savers deposit their savings in banks that time bank pays certain amount of interest on saving amount because of used this money to lend other customers. The interest rate is the price charged a borrower for the loan of money. This price is unique because it is a price of credit but unlike other prices in the economy the rate of interest is really a ratio of a two quantities: the total required fee a borrower must pay a lender to obtain the use of credit for a stipulated period divide by the amount of credit actually made available to the borrower.

Interest is also payment for uses of money people must pay interest in borrow money. Banks and financial institutions pay interest for borrowed money and they also charged interest to lender for investment amount. Interest bearing is the cost at used lending money. Interest rate is a medium of collecting find lending money. It is the cost of holding period at a specific time. It is also called compensation for the use of borrowed funds.

An appropriate interest rate structure affects the deposit and lending of any financial institutions, which in turn affects the economic upliftment of the whole country. The impact of interest rate is a both the saving and investment in the economy. Interest rate sends price signals to borrowers, lenders, savers and investors, higher rate generally brings for the greatest volume of savings and stimulates the lending of fund lower rate of interest on the other hand tends to dampen the flow of savings and reduce lending activity. Higher interest tends to reduce the volume of borrowing and capital investment and lower interest rate stimulate borrowing and investment spending.

As a financial intermediary commercial banks and finance companies as well as government should take concern about interest rate so that idle saving can be utilized for investment in productive sectors of the economy, employment, income, as well as whole economy may raise.

Interest rate in the free market economy is determined by the free interplay of the demand and supply forces. Although interest rate is influenced by various factors, the main factors which determine the interest rate are demand and supply of loanable fund. If supply increases and demand remains constant, interest rate in the market decreases. Similarly if demand for loanable fund increases and supply remain constant, interest rates in the market increase. But Nepalese economy has not developed up to that level so that free market can determine the interest rate. Nepal Rastra Bank as a guardian fixes the terms and condition regarding the interest and other activities of financial institutions in Nepal. But recent banks are permitted to fix the interest rate they charge and offer on loan and deposit.

This research has attempted to analysis the interest rate structure and its influence on deposit and lending of EBL, HBL, NABIL and NSBI and their individual strength on the basis of their internal reports and published annual reports. For the purpose, different tools and techniques have been applied to judge the performance of these organizations, drawn out the strength and weakness of the firms and try to prescribe measures to improve the performance of these four banks.

1.1.2 Concept of Joint Venture Banks

Joint Venture Banks are partnering having alliance banks with more than one nation. Joint Venture Bank (JVB) is financial intermediaries, financial deficit units with money deposited with them by surplus units. The financial system of a banking industry in precise is a complex network embracing payments mechanisms and the borrowing and lending of funds. Though they have other important functions, the key role played by these banks in the system is to act their needs to those wishing to borrow.

A Joint Venture Bank is joining of forces between two or more enterprises for the purchase of carrying out a specific operation i.e. industrial and commercial investment production or trade" (Gupta, 1984: 15).

The joint venture is common variant for expansion. "A joint venture business involves in equity arrangement between two or more independent enterprises which results in the creation of new organization" (Jauch and Glueck, 1988: 232). this thought identified the joint venture as a mutual understanding among two or more firms then bringing a new enterprise in existence. Basically, they are constant about the ownership of new firms. In what proportion they are, going to contribute ownership is also decided mutually.

Firms within a country as well as operating in different countries may participate in a venture that happens to be more common firm's indifferent countries. The foreign joint venture banks with full-fledged banking functions in Nepal are formed under Company Act 2021 B. s. and operated under the Banijya Bank Act 2031 B. S. Joint Venture Bank have been established for trading to achieve mutual exchanges of goods and services, for sharing comparative advantages by performing joint investment schemes between Nepalese investors, financial and non-financial institutions as well as private investors and their parents banks. The parent banks that have experience in highly mechanized and efficient modern banking services in the many part of the world have come to Nepal with superior technology, advanced management skills and international network of banking.

"The existence of foreign joint venture bank has presented an environment of healthy competition among the existing commercial banks. The increased competition had led to improve their quality and has caused an extension of services by simplifying procedures and training" (Chopras, 1990: 231).

The concept of joint venture banks is an innovation in finance and it is at a growing stage, mostly in developing countries.

"HMG's deliberate policy of allowing foreign JVB's to operate in Nepal is basically targeted to encourage local traditionally run commercial banks to enhance their balanceable capacity through competition efficiency, modernization via computerization and prompt customer service" (Shrestha, 2041: 44).

Joint venture banks in Nepal are expected to be the medium of economic development and uplift the community under the guidance, operate under supervision, controlling and direction of Nepal Rastra Bank.

The following are the JVBs that have been established in Nepal:

Table 1.1

Joint Venture Banks in Nepal

S. N.	Joint Venture Banks	Established Date	Head Office
1	Nabil Bank Limited	2041/3/29 B.S.	Kathmandu
2	Nepal Investment Bank Limited (Formerly Nepal Indo-Suez Bank)	2042/11/16 B. S.	Kathmandu
3	Standard Chartered Bank Limited (Formerly Nepal Grind lays Bank)	2043/10/16 B. S.	Kathmandu
4	Himalayan Bank Limited	2049/10/05 B. S.	Kathmandu
5	Nepal SBI Bank Limited	2050/03/23 B. S.	Kathmandu
6	Nepal Bangladesh Bank Limited	2051/02/23 B. S.	Kathmandu
7	Everest Bank Limited	2051/07/01 B. S.	Kathmandu
8	Bank of Kathmandu Limited	2051/11/28 B. S.	Kathmandu

1.1.3 Interest Rate Structure in Nepal

Table 1.2

Interest Rate Structure in Nepal

(Percent Per Annum)

Year	2004/05	2005/06	2006/07	2007/08	2008/09
A. Policy Rates					
CRR	5.0	5.0	5.0	5.0	5.5
Bank Rate	5.5	6.25	6.25	6.25	6.5
Refinance Rates Against Loans To :					
Sick Industries	1.5	1.5	1.5	1.5	1.5
Rural Development Banks(RDBs)	3.0	3.5	3.5	3.5	2.0
Export Credit in Domestic Currency	3.0	3.5	3.5	2.5	3.5
Export Credit in Foreign Currency	2.0	3.25	3.25	3.25	0.25
Standing Liquidity Facility (SLF) Penal Rate	1.5	1.5	1.5	2.0	3.0
B. Government Securities					
T-bills*(28 days)	-	2.40	2.13	5.16	4.94
T-bills*(91 days)	3.94	3.25	2.77	5.13	6.80
T-bills*(182 days)	4.42	3.86	3.51	5.16	5.91
T-bills*(364 days)	4.79	4.04	4.00	6.47	6.55
Development Bonds	3.0-8.0	3.0-6.75	3.0-6.75	5.0-8.0	5.0-8.0
National/Citizen SCs	6.5-13.0	6.0-8.5	6.0-8.5	6.0-7.75	6.0-8.0
C. Interbank Rate	4.71	2.13	3.03	3.61	3.44
D. Commercial Banks					
1. Deposit Rates					
Savings Deposits	1.75-5.0	2.0-5.0	2.0-5.0	2.0-6.50	2.0-7.5
Time Deposits					
1 Month	1.75-3.5	1.5-3.5	1.5-3.5	1.5-3.75	1.5-5.25
3 Months	1.5-4.0	1.5-4.0	1.50-4.0	1.50-6.75	1.50-6.0
6 Months	2.5-4.5	1.75-4.5	1.75-4.5	1.75-6.75	1.75-7.0
1 Year	2.25-5.0	2.25-5.0	2.25-5.0	2.5-6.0	2.5-9.0
2 Years and Above	2.5-6.05	2.5-6.4	2.5-5.5	2.75-6.75	2.75-9.5
2. Lending Rates					
Industry	8.25-13.5	8.0-13.5	8.0-13.5	7.0-13.0	8.0-13.50
Agriculture	10-13	9.5-13	9.5-13	9.5-12	9.5-12.0
Export Bills	4.0-12.0	5.0-11.5	5.0-11.5	5.0-11.5	6.50-11.0
Commercial Loans	8.0-14	8.0-14.0	8.0-14.0	8.0-13.5	8.0-14.0
Overdrafts	5-14.5	6.5-14.5	6.0-14.5	6.50-13.5	6.50-13.5

Sources: Macroeconomics indicators of Nepal, NRB, Research Department, Statistics Division, Mid- July 2009

According to the structure of interest rate presented in table 1-2 both lending and deposit rates are increasing during the period 2004/05 to 2008/09 mid-July. Cash Reserve Ratio (CRR) is same i. e.5.0 up to year 2007/08 and it increases to 5.5 in year 2008/09. Bank rate is at first 5.5 in year 2004/05 and it increased to 6.25 up to year 2007/08 and again it increases slightly at 6.5 in year 2008/09.Refinance rates are slightly in fluctuation. Government securities are in increasing trend. Interbank rate increased in year 2004/05and decrease in year 2005/06 and again increases slightly up to the year 2008/09. The lending rate was categorized in five parts: industry, agriculture, export bills, commercial loans and overdrafts. Among the entire highest rate was for commercial loans.

1.1.4 Brief Profile of Sample Banks Under Study

In this section general introduction of sample banks under study is being given, so as to furnish easy reference of samples and to do research smoothly. This is supposed to be useful in the proper understanding of research work and its inferences in the whole sum concept. Although 27 commercial banks are actively working in the nation out of them 27 commercial banks only 8 of them are joint venture banks. All sample joint venture banks are as follows:

1. Everest Bank Ltd.
2. Himalayan Bank Ltd.
3. NABIL Bank Ltd.
4. Nepal SBI Bank Ltd.

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

Everest Bank Ltd. was established in 2051 B.S. It entered into joint venture with Punjab National Bank of India (PNB).The bank operates with the objective of extending professionalized banking services to various section of the society of the country and thereby contributes to the economic development of the society in the country.

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

Himalayan Bank is a joint venture with Habib bank of Pakistan. It started its operation in 2049 B.S with paid up capital of Rs 60 million. This is the first joint venture bank managed by Nepali chief executive. The operation of the bank started from 1993 Feb.

Himalayan Bank Ltd does not include government ownership. It has been established to maintain the economic welfare of the general people to facilitate loan for agriculture, industry and commerce to provide the banking services to the country and people. It is the first commercial bank of Nepal with maximum share holding by the Nepalese private sector. Besides commercial activities, the bank also offers industrial and merchant banking.

3. NABIL Bank Limited

Nabil Bank Limited originally named as Nepal Arab Bank Limited. But it has changed its name from Nepal Arab Bank Limited to NABIL Bank Limited from 1st January 2002.It was established in 2041 B.S. This is the first modern bank with latest banking technology. Under a technical services agreement with Dubai Bank Ltd., Dubai, which was later, merged with Emirates Bank Limited, Dubai. Now this bank has changed to commercial bank only.

4. Nepal SBI Bank

Nepal SBI Bank is a joint venture between employee provident fund and state bank of India. The main objective of this bank is to carry out modern banking business in Nepal under the commercial bank act 1974. The bank provides loan to agriculture, commerce and industrial sector. The bank started its banking operation on 8th July 1993. This bank is controlled and managed by the state bank of India.

1.2 Statement of the Problems

Interest rate is an essential tool in the field of finance and economics. According to economic theory savings increase as increase in interest rate with investment increases as decrease in interest rate. Generally when interest providing in deposits is very less people keeps their surplus funds idle and same when interest charge on lending is very high the possible investors also can't borrow funds for investment in priority sectors of the economy. In such situations how could be possible to develop country's economy in international market.

The interest rate plays important role for the banking development. The favorable Investment climate makes appropriate interest rate. We have seen the commercial banks have to shoulder more risk and up certainty in an investment the banks gain

some profit now as well as they has lot of risk on bad debts. They are facing the problems on refund of investment like government owned bank more but in another parts joint venture and private bank were making good profit in competition each other. They are generating the new ideas and providing the various facilities to accuracy the bank customer. The interest is a price of money. The interest rate is different in depositor and lender. That differences margin in the gain of bank. The interest rate is different in depositor and lender. That differences margin in the gain of bank. The interest rate charged and offered of a financial institutions and commercial banks was regulated by central bank until before few years, but how these institutions are free to fix their interest rate. Commercial banks can play vital rote by adopting effective interest rate policy on deposits and lending for encourage investment in every sector of economy. But it is true that commercial banks are established with proffer motives and interest rate may affect its profits too. An appropriate interest rate can divert investment in proper field. In short interest on deposit must be able to increase the amount of deposit must be able to increase the amount of deposit by encouraging people to save their income. On the other hand the lending rate of interest must be attractive to the borrowers. So that they will be able to enjoy benefits by utilizing borrowed fund. This is possible any when the fund seeking people will be able to earn more then what they pay as interest on borrowing funds. But whether our country is able to attain such situations or not is a matter of concern for us.

With the above discussed problem, this study attempts to answer the following questions.

1. What are the interest rate structures of commercial joint venture banks in Nepal?
2. What are the relationship of interest rate with deposit amount and lending amount of commercial joint venture banks?
3. Is the interest rate of joint venture Banks can attract to the depositors?
4. Is the lending rate of joint venture banks can attract to the borrower or Investor?
5. Is the interest rate spread satisfactory or not provided by commercial joint venture banks?

1.3 Objectives of the Study

The objectives of this study are to know the overall influence of interest rate on deposit and lending of four sample banks namely. Besides this the other specific objectives related to this study are as follows:

- To analyze the interest rate structure of sample banks at different time period.
- To examine the influence (i.e. relationship) of interest rate on deposit amount and lending amount of sample banks.
- To analyze the position of interest rate and loan and advance ratio of sample banks.

1.4 Limitations of the Study

Every works have its own restriction and limitation due to the lack of time resources and knowledge. Despite the enough efforts of researcher, this thesis is not free from limitation. The study is presented just for the partial fulfillment of MBS (Masters of Business Studies) degree. The researcher has come across many problems while presenting the thesis. Following are the major limitations of this thesis:

a. This thesis is based on secondary data collected from concerned banks. Thus, the result of the analysis depends on the information provided by them.
b. This thesis covers four joint venture banks only viz. Everest Bank Ltd., Himalayan Bank Ltd., NABIL Bank Ltd. and Nepal SBI Bank Ltd.
c. The thesis is limited to analyze five years period i.e. from FY (2004/05 - 2008/09).
d. There are many factors that affect the deposit amount and lending amount of commercial joint venture banks. However this study is focused on the interest rate.
e. The source of data i.e. published annual report and internet web site is assumed to be correct.

1.5 Significance of the Study

Interest is simply the price borrowed fund. Higher interest generally brings a lending investment. Lower interest rates on the other hand discourage the saving and encourage the investment. Many studies have been made in various topics related to

financial management. The topic being an important aspect for the economic development of the country has no much been emphasized that means not much research work has been found in this topic so curiosity arose to make a study on this topic and be familiar with interest rate structure of commercial joint venture banks and to know whether it influences deposits and loans.

- This study has multidimensional significance in particular area of concerned banks which have been undertaken that justifies for finding out important points and facts to researcher, shareholders, brokers, traders, financial institution, and public knowledge.
- This study deal the part of the managerial function, hence it is hoped to some extent this study will help the policy makers to formulate strong policy regarding interest rate charged on deposit and lending in Nepalese context.
- This study will also be useful to various parties such as further researcher, students, and financial institutions to get some useful information about interest rate deposits and lending.

1.6 Organization of the Study

The study on the comparative financial analysis of EBL, HBL, NABIL and NSBI has been divided into five chapters viz. Introduction, Review of Literature, Research Methodology, Presentation and Analysis of Data and Summary, Conclusion and Recommendation.

Chapter - I: Introduction

The introduction chapter briefly explains about the meaning and historical background, interest rate of joint venture banks, and interest rate structure profile of sample banks. It also describes the introduction of research study, which explains the focus of the study, statement of problem, objective of the study, significance of the study and limitation of the study.

Chapter - II: Review of Literature

The second chapter deals with the review of literature including concept of interest rate, theories of interest rate, factors affecting interest rate from different books, journals and thesis.

Chapter - III: Research Methodology

The third chapter briefly explains about the research methodology that has been used to evaluate the interest rates of the banks under consideration. This chapter consists of research design, sample and population, source of data and financial tools and techniques.

Chapter - IV: Presentation and Analysis of Data

In this fourth chapter, the data required for the study has been presented analyzed and interpreted by using various tools and techniques of financial management, accounts and statistics to present the result relating to the study.

Chapter - V: Summary, Conclusion and Recommendations

The fifth chapter is the final chapter of the study, which consists of the summary of the four earlier chapters. This chapter tries to fetch out a conclusion of the study and attempts to offer various suggestion and recommendations.

Finally, bibliography and appendix are represented at the end of the study.

CHAPTER - II

REVIEW OF LITERATURE

2.1 Introduction

For all types of studies, review of literature is essential, which helps to find out what research studies have been conducted in ones chosen field of study and what remains to do. In fact, review of literature begins with a search for a suitable topic and continues throughout the duration of the research work. It is a path to find out what other research in this area has uncovered. It is the process of locating, obtaining, reading and evaluating the research literature in the area of the students' interest. It is also a means to avoid investing problems that are already been positively answerer. The main reason for a full review of research in past is to know the outcomes of those investigations in areas where similar concepts and methodologies had used successfully.

Review of literature means reviewing research studies or other relevant propositions in the related area of the study so that all the past studies, their concussions and deficiencies many are known and further research can be conducted. The most important reason of literature review is to learn not researcher such as, what research has been done in the subject? What the ones have been developed? Methods approaches used by other researchers' area of agreement or disagreement etc.

2.2 Theoretical Review

2.2.1 Meaning of interest

Interest rate is one of the important variables in economics and financial system of the country. In common parlance interest in payment for made by a borrower to the lender for the money borrowed and it is expressed a rate percent per year. But in economics widely different views have been put forth from the time to Aristotle recognized only annual husbandry and stock rising as two legitimate industries whose product could be lent and interest earned on them. According to carver interest is the income which goes to the owner of capital.

According to mills "Interest is the remuneration for more abstinence" Interest is the amount paid to the creditor in return to a debt borrowed by a debtor for a fixed period at time. As the reward of their factors of production this market is also a reward of other factor of production this interest is also a reward paid to the capitalist for the use of capital.

Interest is the payment made by the borrower of capital by virtue of its productivity as a remain for his capitalist's abstinence (Wickell, 1999:215). Interest is the price paid for the use of loan able founds (Meyer, 1998). Interest is the return for the fund of capital (Seliqmen, 1997). "Interest is the reward for parting with liquidity (Keynes, 1997). In this way there is different definition of interest even then the same conclusion may be drawn from all these definition and the conclusion is that interest is the amount of return paid for the use of capital.

Interest is the amount paid to the creditor in return to a debt borrowed by a debtor for a fixed period of time. As the reward of other factors of production this interest is also a reward paid to the capitalist for the use of capital. The system of borrowing loan and of paying the interest is very old. The economics of different times had hated the system of interest. Even then the poor people were compelled to take loans and pay interests due to various resources. Those days the loans were taken mostly for consumption purpose. But in the modern days, there are differences in the nature of loans. These days the loans are taken mostly by the businessman and the industrialists and these loans are used for the purpose of production. The amount of loan is received from the fund of capital. Various economists have defined interest differently.

According to Prof. Wicksell, "Interest is payment made by the borrowers of capital by virtue of its productivity as a reward for his (capitalist's) abstinence." According to Prof. Meyers, "Interest is the price paid for the use of loan able funds." According to Prof. Carver, "Interest is the income which goes to the owner of capital." According to Prof. Lord J.M. Keynes, "Interest is the way, there are different, definitional of interest. Even then the same, Conclusion may be drawn from all these definitions and the conclusion is that the interest is the amount of return paid for the use of capital.

2.2.2 Interest Rate Levels

Funds are allocated among the borrowers by interest rate; firms with the most profitable investment opportunities are willing and able to pay the most for capital, so they trend to attract it away from less efficient firms or from those whose products are not in demand of course, our country is not completely free in the sense at being influenced only by market forces, this federal government has agencies that help designated individuals or groups obtain credit favorable terms among those eligible for this kind of assistance is small businesses, certain minorities and firms willing to build plants in areas with high unemployment. Still most capital in the use economy is allocated through the price system.

2.2.3 Functions of the Rate of Interest in the Economy

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

- It helps guarantee that current savings will flow into investment to promote economic growth.
- It relates the available supply of credit, generally providing loan able funds to those investment projects with the highest expected returns.
- It brings 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 meridians control over the volume of saving and investment

The economy is growing too slowly and unemployment is rising. The government can use this tool to lower interest rates is 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.

2.2.4 Theories of Interest

Various interest rate theories have been propounded by various economists, which describe how interest rate is determined in various situations. There are numerous interest rates in financial market such type of differences exists due to the risk premium associated with the issuer. 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 determination forces, however, we must make a simplifying assumption. We assume in this chapter that there is one fundamental interest rate in the economy known as the pure or real rate of interest, which is the component of all interest rates. The closed approximation to this pure rate in the real world in the market yield on the government bonds minus inflation. The rate at interest and Treasury bond is called risk free rate of interest, which consist of real rate of interest plus premium for inflation. It is a rate of return presenting no risk of financial loss to be investor and representing the opportunity cost of holding idle cast because the investor can always invest in no risk bonds and earn this minimum rate of return. Once pure rate of interest is determined, all other interest rates may be determined from it by examining the expected future inflation and special characteristics of the securities of the securities issued by individual borrowers. For example only the government can borrow at risk free interstate, other borrowers pay higher rates due to the greater risk of loss attached to their securities. Difference in liquidity marketability and maturities are other important factors causing interest rate to differ from the pure or risk free rates some well-known theories interest rates are as follows:

2.2.4.1 The 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 rates, developed during 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 interest is determined by two forces first is supply of savings, derived mainly from households and second the demand for investment capital, coming mainly from the business sector.

Savings by Households

Individuals and families carry out most of the saving in modern industrialized economics. For these households, saving is simply abstinence from consumption spending current savings therefore are equal to the difference between current income and current consumption expenditures. In making the decision on the timing and amount of saving to be done, households typically consider several factors: the size of current and long term income, the desired savings target, and the desired proportion of income to be set aside in the form of savings (i.e. the propensity to save). Generally

the volume of household savings rises 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 levels probably dominate saving desisting, interest rates also play an important part. Interest rates affect and individual's choice between current consumption and saving for future consumption. The classical theory of interest assumes that individuals have a definite time preference for current enjoyment of goods and services over future enjoyment. Therefore the only way to encourage an individual or family to consume less now and save more is offer a higher rate of interest current savings. If more were saved in the current period at a higher rate at return, future consumption and future enjoyment would be increased. Higher interest rates increase the attractiveness of saving relative to spending, encouraging more individuals to substitute current saving and future consumption, for some quantity between interest rates and the volume at savings. Higher interest rates bring forth a greater current volume of savings.

Saving by Business Firms

Not only households but also business save most businesses holds saving balances in the form of retained earnings (as reflected in their equity or net worth accounts). In fact the increase in retained earnings reported by business each year is a key measure of the volume of current business saving, which supplies most of the money for annual investment spending by business firms.

The critical element is determining the amount of business savings is the level of although the principal determinant of business saving is profits, interest rates also play a role in the decision of what proportion of current operating costs and long term investment expenditures should be financed internally and what proportion externally. Higher interest rates in the money and capital markets typically encourage firms to use internally. Generated funds more heaving in financing projects, conversely, lower interest rates encourage greater use of external funds from the money and capital markets.

Saving by Government

Governments also save, 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 expenditures. Income flows in the economy (out of which government tax revenues are use) and the pacing of government spending programs are the dominant affecting government savings.

The Demand for Investments Funds

The savings made by business government and households are important determinants of interest rate but they are only one side. The other side is investment spending made by business firms, government and in some cause households business requires huge amount at funds each year to purchase equipment, machinery and inventories and to support the construction of new buildings and other physical facilities. The majority of business expenditures for these purposes consist of what economists call replacement investment. But according to classical economist, interest rate and invest able fund have inverse relationship. At low rates of interest more investment projects become economically viable on the other hand, if the rate of interest rises to high levels, fewer investment projects will be pursued and fewer funds will be required from the financial markets.

The equilibrium rate of interest in the Classical Theory of Interest

According to the classical economists the interest rates in the financial markets were determined by the interplay of the supply specifically; the equilibrium rate of interest is determined at the point where the quantity of savings supplied to the market is exactly equal to the quantity of funds demanded for investment.

The market rate at interest moves towards its equilibrium level flowers supply and demand forces charge so fast that the interest rate rarely has an opportunity to settle in at a specific equilibrium level. At any given time, the rate is probably above or below its true equilibrium level but moving toward that equilibrium. If the market rate is temporarily above equilibrium, the volume of savings exceeds the demand for investment capital creating an excess supply of savings savers will offer fund at lower and lower rates until the market interest rate approaches equilibrium. Similarly if the market rate is temporarily below equilibrium, investment demand exceeds the quantity at saving available. Business firm will bid up interest rate until it approaches

the level at which the quantity saved equals to quantity of funds demanded for investment purpose.

2.2.4.2 The Liquidity Preference Theory of Interest Rate

The loan able funds approach to interest rate determination focuses a supply and demand for loan able fund. An alternative approach the liquidity preference view focuses on the liquidity preference instead of the supply and demand for money.

It is assumed that individual inherently prefer money among all financial assets since money can be used to make payments and is thus the most liquid assets wealth holders are persuaded to hold financial assets other than money only because this nonmoney assets offer in interest return which do not exist in the holding of idle money. Further, the greater the spread between the yields on non-money financial assets and money, less will be the demand for money holdings and greater the demand for other financial assets and vice versa. The demand schedule for money can thus be depicted as a function of the rate at interest.

2.2.4.3 The Loanable Fund Theory of Interest Rate

A view that overcomes money of the limitations of earlier theory is the loan able funds theory of interest rate. This view argues that the risk free rate is determined by the interplay of two forces the demand for and supply of credit (loan able funds). The demand for loan able funds consists of credit demands from domestic businesses, consumers and governments and also borrowing in the domestic market by foreigners. The supply of loan able funds stems from four sources viz Domestic savings, hoarding demand for money, money creation by the banking system, and lending in the domestic market by foreign individuals and institutions.

The Demand for Loanable Funds Consumer

(Household) Demand for Loanable Fund

Domestic consumers demand loan able funds to purchase a wide variety of goods and services on credit. Recent research indicates that consumers are not particularly responsive to the rate interest when they seek credit but focus installment payments, maturity and size of installment payments.

Domestic Business Demand for Loanable funds

The credit demands of domestic business generally are more repressive to changes in the rate of interest than in consumer borrowing. Most business credit is for such investment purposes as the purchase of inventories and new plant and equipment. The quantity of loanable funds demanded by the business sector increases as the rat of interest falls.

Government Demand for Loanable Funds

Government demand for loanable funds is a growing factor in the financial markets but doesn't depend significantly and the level of interest rates. Government decision on spending and borrowing depends in response to social needs and the public welfare not the rate of interest. Moreover in case of central government, it has the power both to tax and to create demand on the other hand, is slightly inelastic their borrowing activities by legal interest rate ceilings. When open market rate rises above the ceiling, some state and local governments are prevented from offering their securities to the public.

Total Demand for Loanable Funds

The total demand for the loanable fund is the sum of domestic consumer, business and government credit demands. These demand curses slopes down word and to the right with respect to the rate of interest. Higher rate of interest lead some business, consumers and governments to cartel their borrowing plans, lower rates forth more credit demand.

Supply of Loanable Funds

The major sources of supply of loanable fund are from two sources:

1. The amount of saving by households, business, governments, and
2. The amount of new money created by the commercial banking system.

Domestic Saving

Saving refers to the postponement of current consumptions. The decision to save is the decision to forget current consumption in order to have a larger quantity of consumption the future. Individual or household save for a variety of reasons but there is little evidence to suggest that the quantity of loanable funds supplied through

saving is clearly influenced by the level of the interest rate. A higher interest rate represents a greater reward to saver for postponing current consumption and thus might be expected to produce a higher quantity of savings some individuals. In general case, the quantity of saving of saving supplied by individuals is principally determined by the level of income and it is influenced to lesser degree by the level of interest rates. Business saving refers the net income after takes of the firm, less any cash dividends i.e. retained earnings. There is little reason to believe that the volume of saving at business firm is strongly influenced by the level of interest rates. For government, the volume of saving is defined as the difference between revenues and expenditures. Such that saving exists when revenues exceed expenditure (budget surplus).

Creation of New Money

Although the volume of savings is the principal source of loanable fund in the financial markets, the supply of the loanable funds may be increased through the creation of new money beyond the amount made possible by current saving. The amount of new money created is determined jointly by the actions of commercial banking system and the central bank loans and purchase securities and create to make through the credit creation process. However, the ability of commercial bank to create money is limited by the central banks through the use of its monetary policy tools like open market operations, reserve requirement changes and discount rate changes.

Total Supply of Loanable Funds

The total supply of loanable funds including domestic saving, foreign lending, dishoarding of money, and new credit created by the domestic banking system.

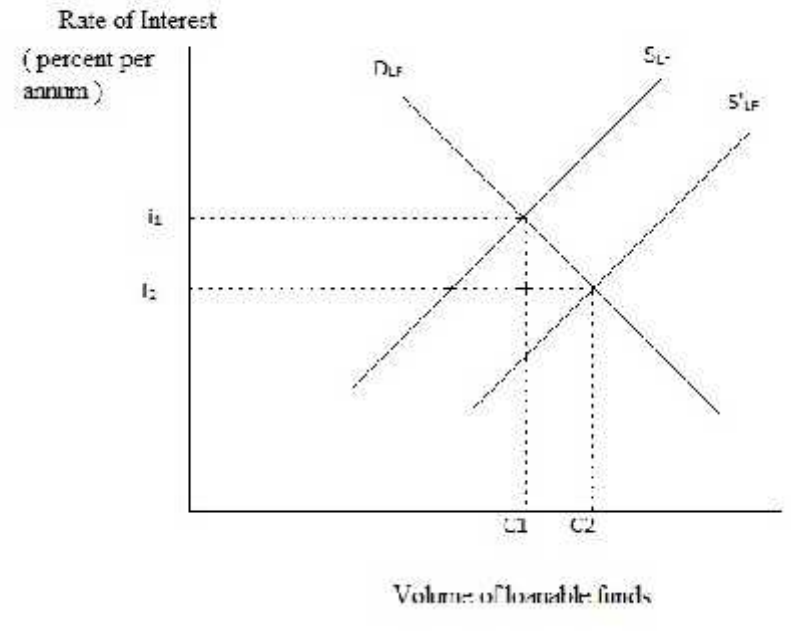
Changes in the Demand for and Supply of Loanable Funds

The two forces of supply and demand for loanable funds determine not only the volume of lending and borrowing going on in the economy but also the rate of interest. This simple demand-supply framework is useful for analyzing broad movements in interest rates. For example, if the total supply of loanable funds is increasing and the total demand for loanable funds remains unchanged or rises more slowly, the volume of credit extended in the money and capital markets must increase.

Interest rates will fall. The effect of increased supply of loanable funds with demand unchanged is shown in the figure 2.1 below:

Figure 2.1

Effects of Increased Supply of Loanable Funds with Demand Unchanged



In the given figure, D_{LF} stand as a total demand of loanable fund and the S_{LF} refer supply at the loanable fund. The supply schedule is sliding outward and to the right when S_{LF} increases to S'_{LF}, resulting in a decline in the equilibrium rate of interest from i_1 to i_2. The equilibrium quantity of loanable funds traded in the financial system increases from C_1 to C_2.

Similarly the effect of increased demand for loanable funds with supply unchanged is shown in the figure 2.2 below:

Figure 2.2

Effects of Increased Demand for Loanable Funds with Supply Unchanged

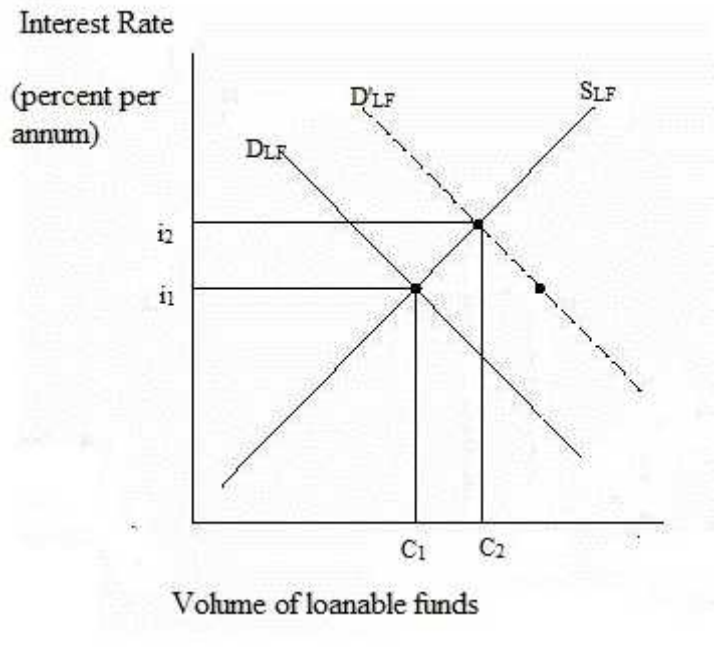


Figure 2.2 shows that when the demand for loanable funds increases with no change in the total supply of funds available, the volume of credit extended will increase, but loans will be made at higher interest rates. The loanable funds demand curve rises from D_{LF} to D'_{LF}, driving the interest rate upward from i_1 to i_2.

2.2.4.4 Rational Expectancy Theory of Interest

The rational expectancy theory assumes that equilibrium interest rate depends upon the changes in investor's expectation regarding future security prices and return. Investor's decision towards the borrowing and lending funds come from the availability of new information. When new information appears about investment, saving or the money supply, investors begin immediately to translate that new information into decisions to borrow and lend funds. So rapid is the process of the market digesting new information that security prices and interest rates presumably impound the new data from virtually, the moment they appear. In absence of new information, next period's interest rate. In other words the knowledge of past interest rate will not be a reliable foresaid of future interest rate. In a perfectly efficient

market, it is impossible to win excess returns continuously by trading on publicly available information.

2.2.5 Change in Interest and its Influence upon Volume of an Asset

The prices of a security and its yield or rate of return or interest rate are inversely related. A rise in interest rate implies a decline in price; conversely, a fall in yield is associated with a rise in the security's price.

The investing funds in financial asset can be viewed from two different perspectives, the borrowing and lending of money or the buying and selling of securities. The equilibrium rate of interest from the lending of funds can be determined by the interaction of the supply of loan able funds and the demand for loan able funds. Demanders of loan able funds (borrowers) supply securities to the financial market place, and suppliers of loan able funds (lenders) demand securities as on investment. Therefore, the equilibrium rate of return or yield on security and the equilibrium price of that security are detrained at one and the same instant and are simply different aspects of the same phenomenon, the borrowing and lending of loan able funds. The inverse relationship between interest rates and security prices can be seen quite clearly when we allow the supply and demand curves to change. For example suppose that in the face of continuing inflation, consumers and business firms accelerate their borrowings, increasing the demand for loanable curves slides up word and to the right with the supply of loan able funds unchanged. This increasing demand for loanable funds also means that the supply curve. Both a new loan able equilibrium price for securities and higher equilibrium interest rate for loanable funds results.

Conversely suppose consumers decide to save more expanding the supply of loanable funds. Then the supply of loanable funds curve slide downward. But with more savings, the demand for securities curve must rise, sliding upward as those added savings are invested in securities. The result is a rise in the equilibrium price of securities and a decline in the equilibrium interest rate.

2.2.6 Factors Affecting Interest Rates

In the preceding section, we ermined the factors that cause the interest rate or yield on one security to be different from the interest rate yield on another. These factors included the maturity period or term of a loan and expected inflation. In this section,

our focus is upon to learn why not one but, in fact, thousands of different interest rates exist in the economy.

a) Marketability

Marketability is the capability of being sold quickly at low transaction cost. Marketability risk deals with the degree of difficulty in being able to convert a financial claim into cash at its most react transaction price or very close to it. Savers who purchase poorly marketable investments expect, to be compensated for the lack of marketability. This represents an additional interest spread and is referred to as the marketability or liquidity risk premium. Marketability is positively related to this size and population of the institution issuing the securities and to the number of similar securities outstanding. Not surprisingly, stocks and bonds issued in large blocks by the largest corporations and government units tend to find acceptance more readily in the market with a larger number of similar securities available, but sell transactions are more frequent and a consistent market price can be established.

b) Default Risk

Default risk involves that potential that a saver will receive less principal and interest on the financial claim that the contract specifies. It is related with the probability that some or all of the entail investment will not be returned. The degree of default risk is closely related to the financial condition of the company. Default risk requires making estimates of the possibility of loss due to this reason. Investors in securities. Face many different kinds of risk, but one of the most important is default risk- the risk that a borrower will not make all promised payments at the agreed upon items. All securities except government securities are subject to varying degrees of default risk

c) Prepayment Risk

A new form of risk affecting the relater interest rates confronting modern investors arises when they acquire so called loan backed securities. Their loan backed securities are usually created when a lending institution, such as a bank or mortgage company, removes a group of similar loans from its balance sheet and places them with a trustee (such as a security dealer) who, using the loans as connatural sells securities to raise new capital for the lending institution. Each of these securities derives its value from the income earning potential of the pool of loans that backs of securities. As the loans in the pool generate interest and principal payments, these payments flow through to

holders of the loan sacked securities. In loan is backed securities investor demand higher. Yields to compensate them for prepayment risk associated with it.

d) Servicing Cost

Some financials claims are different to service. This means that the process of collecting interest and principal payments providing accurate records or monitoring the ongoing credit position of the borrowing involves considerable operating costs. Lenders must be compensated for the servicing costs. This cost is included in the interest rate charged and is referred to as the servicing cost.

e) Exchange Rate Risk

No today's financial markets have become more global, there has been a significant growth in the borrowing and investing in foreign denominated financial claims. A US company establishing manufacturing facility in Nepal might be inclined to issue shares and or bonds denominated in Nepalese rupees rather than US dollars. Investors also have available to them many investments involve exchange rate risk. This risk relates to the potentiality that the rate of exchange between the domestic currency and foreign denominated currency will than go as a result of numbers of factors. The primary risk for this borrower is that the valves of the currency borrowed rises in relation to the domestic currency. This result in an unexpected cost on the international loans, since the loan would have to be repaid in the foreign currency that has risen in value relate to the domestic. This potential change in currency values must be reflected in computing the cost of borrowing.

f) Call Privileges

Many corporate bonds and mortgages most municipal revenue bonds and some government bonds issued in today's financial markets carry a call privilege. This provision of the bond contract grants the borrower the option to restore all or a portion of a bond issue by buying back the securities in advance of maturity. Bond holders usually are informed of a call through a notice in a newspaper of general circulation, while holders of record of registered bonds are mortified directly. Normally when the call privilege is exercised, the issuer will pay the investor the call price, which equals the securities face name plus a call the size of the call penalty is set forth in the indentures and generally varies inversely with the number of years remaining to

maturity and the length of the call deferment period. In the case of a bond, one year's worth of coupon income is often the minimum call penalty required.

g) Taxability

The final factor influencing the change in interest rate is taxability. Financial claim income is typically subject to taxation. Taxes imposed by federal, state, and local governments have a profound effect on the returns earned by investors on financial assets. Since the value of financial claim subject to taxation is based on its anticipated cash flow, taxation acts to reduce those cash flows. Not all incomes are taxable equally. Thus higher the tax lower will be the cash flow and higher the interest rate and vice versa.

2.2.7 Deposit

2.2.7.1 Concept of Deposit

Deposit is the sum of money lodged with bank, discount house or other financial institutions. Deposit is nothing more than the assets of on individual which is given to the bank for safe keeping with an obligation to get something (interest) from it. To a bank these deposits are liabilities are liabilities. Commercial bank Act 2031 (1994) defines "Deposits" as the amount deposited in a current, savings or fixed accounts of a bank or financial institution. The deposits are subject to withdrawals by mean of cheque on a short notice by customers. There are several restrictions on these deposits, regarding the amount of deposit, number of withdraw etc. These are considered more as investments and hence they earn some interest. The rate of interest varies according to the nature of deposits. The bank attracts deposits from customers by offering difference rates of interest and different kinds of facilities. Though the bank plays an important role in influencing the customer to part with his funds and open deposit accounts with it, it is ultimately the customer who decides whether she/he should deposit his surplus funds in current deposit a/c, saving deposit a/c. or fixed deposit all. Bank deposits arise in two ways. When the banker receives cash, it credits the customer's account, it is known as primary or a simple deposit people deposit cash in the banking system and there by convert one form of money, cash, into another form, bank money. They prefer to keep their money in deposit prim accounts and issue cheques against them to their creditors. Deposits also arise when customers are granted accommodation in the form of loans when a bank grain a loan

to a customer it doesn't usually pay cash but simply credits the customer’s account with the amount of loan.

2.2.7.2 Types of Deposit

There are mainly three types of deposits in banks in practice. They are:

Current Deposit

A current deposit is a running account with amounts continuously. These accounts are also called demand depositor demand liabilities since the banker is under the obligation to pay money in such deposits on demand. The account never becomes time barred, because the limitation does not run until a demand is made by the customer on the bank for the payment of deposit. These accounts are generally opened by business houses, public institutions, corporate bodies and other organizations whose banking transactions are numerous and frequent. As these deposit are payable on demand, banker is obliged to keep larger cash reserves than are needed in the case of fixed and saving deposits. This type of account is just a facility offered by a bank to its customers. So such deposit doesn't yield and interest return.

Saving Deposit

According to commercial bank act 2031 saving accounts means "An account of amounts deposited in a bank for saving purpose". The saving deposit bears the features of both the current and fixed period's deposits. Saving account is mainly meant for non-trading customers who have some potential for saving and who don't have numerous transactions entering their account. While opening the account the minimum compensating balance differ according to the banks rule. Similarly there is also divergence as to how much amount of money can be withdrawn. But it the customers want to with draw more money from the bank which is not allowed by it but if he/she gives pre-information to the banks, he/she can withdraw more money. The bank fixes the minimum and maximum amount of with draw able through a cheque from this deposit. It the bank goes into liquidation, priority is given to the saving deposit holders.

Fixed Deposit

Under the commercial bank act 2031 (1974) "Fixed account means an account of amounts deposited in a bank for certain period of time." The customers opening such account deposit their money in the account of for fixed period. Usually, only the person or institution who wants to gain more interest opens such type of account high interest rate is paid to this deposit as compare to saving deposit. The bank and the customer can take benefit from this deposit. The bank invests this money on the productive sector and gains profit and the customer too can be made his financial transaction stronger by getting more interest from this deposit. The principal amount with interest must be returned to the customer after expiry of fixed time. Bank generally gives loans up to 90% of the deposit against the security of the deposit for this bank charge. Some higher interest than the interest allowed on the deposit.

2.2.7.3 Importance of Deposit

Deposit arises from saving. An individual's income equals consumption plus saving she/he deposits the saved part of income in the bank and gets interest from it. Banks in turn lend this money and earn profit by charging high interest rates. The borrowers from banks, invests this fund in productive sectors yielding more return than the interest on borrowed fund. This investment leads to create new employment opportunity in the economy. Ultimately due to new employment the purchasing power of the economy increase and finally G.D.P. and growth of the economy occurs. It means that the deposit has very important rule in the economy. If the volume of deposit is low, the investment in the economy also lags behind due to lack of resources. The deposit of banks is the accumulated capital which can directly be invested. There is a great need of such deposit in the development countries. Deposit includes the idle money of the public, bank being the inter mediator to accept this sort of money and help to canalize this in productive sector. So the importance of banks and financial intermediaries is larger in present context.

2.2.8 Lending (Credit)

2.2.8.1 Concept of Lending (Credit)

The word credit means trusting. In the credit transactions the lender (or banks) must have confidence in the borrower that she/he will be able to repay the money. In credit transactions, the creditor's turns over to the debtor to repay an equivalent amount usually money in future plus as added sum called interest. In other words the

commercial bank earns profit by lending the amount in terms. Loan or credit and in return it gets interest. Banks loans are classified as; a) loans and advance b) overdrafts c) cash credit d) discounting of bills and so on. But beside this, the other forms of credit are bills exchange cheques, Drafts, Promissory Note, letter of credit (LC), Travelers cheque, treasury bills (T-Bills), Book credit etc.

If credit is made to the government the credit is known as public credit and if credit is transacted by the private for his own purpose the credit becomes private. There are certain distinctions between public and private credit. Bank credit refers to the credit taken by the banks. Bank is the major sources of credit to both private and public debtors, sometimes bank also take credit. There is another type of credit knows investment credit and commercial credit which can be divided according to the purposes of using credit. The former refers to the credit, which is purposes; similarly, another classification is consumer's credit and producers' credit.

2.2.8.2 Factors affecting the volume of lending

The volume of credit with in a country depends upon different factors. Some of the factors the volumes of credit are as follows:

1) Credit (lending) Rate

If the bank credit rate is very high then, the volume of credit expansion is less and vice versa. It means that the volume of credit and interest rate of credit has inverse relation. People invest very leftie in productive sectors when the interest rate is high in the market economy.

2) Rate of Return

If the rate of return is high people inclined to invest more people earn more profit and they become able to afford higher rate of interest along with timely repayment of loan.

3) Investment Opportunity

If the investment opportunity with in the country is high, the volume of credit, becomes higher. The basic thing for investment stimulation is easy and cheap credit etc.

4) Pace of Financial Development

If there are enough banking facilities to provide loans in easy terms, the volume of credits may be high? It is due to the lack of cheap money lenders that rural people are deprived of loan. If the banking facility with in the nation is expanded, the volume of credit rises.

5) Basic Infrastructure

Like transportation marketability, availability of raw materials plays an important role in raising the volume of credit in the country.

6) Political Situation

Political situation, especially political instability, is also one of the major causes of low volume of credit. In such a case, none would like to risk his capital in new ventures. The present condition of the country is the glaring example of this. In addition to aforementioned point, other factors like trade condition, currently condition are also the factors affecting the volume of credit.

2.2.9 Concept of Inflation

Inflation in common sense is increment in general or average price level in the whole economy. It means that it is the increase in general price level, not the increase in individual prices. Inflation is not a temporary fluctuation in price but it is a sustained and appreciable increase in price. Due to the increase in general level in price, the value of purchasing power of money declines as there is an inverse relationship between the general level of price and value of money. According to economic couther "Inflation means a state in which the value of money is falling i.e. prices are increasing." Inflation is a general rise in prices across the economy. This is distinct from a rise in the price of a particular good of service good of service. Individual prices rise and fall all the time in a particular good or service. Individual prices rise and fall the time in a market economy. Reflecting consumer choices and preferences and changing costs. If the price of one item say particular model of car-increases because demand for it is high, we do not think of this as inflation occurs when most prices are raising increase smoothly in the range of some degree across the whole economy.

During inflation, the cost of living increases rapidly, so inflation severely hurts the people who depend on the income from fixed income securities like bonds and preferred stock. Similarly as purchasing power of money falls as well as the debtors gain and the creditor loses.

2.2.9.1 Inflation and Interest Rates

Inflation occurs when the average price level in the economy rises. Interest rates present the "Price" of credit. Are they also affected by inflation? The answer is yes. There is positive correlation between interest rates and inflation. In other words, increase in infection increases the interest rates. But the exact effect of inflation an interest rate is not identified yet on this regards, there are many theories. Here in this case mainly two theories care going to be discussed.

The Nominal and Real Interest Rates

Before expanding the relationship between inflation and interest rates, several key terms must be understood. In this connection one should be familiar with nominal rate and real rate of interest. The nominal rate is published or gusted interest rate and a security or loan. These rates are actual rates that are used to transact with the customers. For example an announcement in the financial press the major commercial banks have raised their prime lending rate to percent per annum indicates what nominal interest rate is now being quoted by banks to their best customers. Similarly the real interest rate is the return to the lender or investor measured interims of its actual purchasing power. In a period of inflation, of course, the real rate will be lower than the nominal rate. An investment's real rate of interest during some period is calculated by removing the rate of inflation from the nominal return.

The Fisher Effect

Economic theory tells us that interest rates reflect expectations about likely future inflation rates. In countries where inflation is expected to be high, interest rate also will be high, because investors want compensation for the decline in the value of money. This relationship was first formalized by economist Irvin fisher and is preferred to as the fisher effect. According to fisher effect, nominal interest rate is related to the real rate by the following equation:

Nominal interest rate expected real rate inflation premium + (expected real rate X inflation premium).

According to fisher, the cross, product term in the above equation (i.e. expected real rate X inflation premium) is often eliminated because it is usually quit small expect in countries experience can be written as:

Nominal Interest Rate = Expected Real Rate + Inflation Premium Rate

Clearly if the expected real interest rate is held fixed, changes in nominal rate will reflect shifting inflation premium. It means that if inflation premium increases then nominal rate also increases.

2.3 Review of Previous Thesis

In the preparation of this thesis there are some research papers and thesis related this study, which contribute some idea and help in the presentation of this study regarding to this thesis, there are very few thesis and research papers submitted to libraries of Tribhuvan University and its wing colleges on the same topics. But beside this, there is some other thesis which is related to this study to some intent. The review and the extract from them presented in this section.

Rajbhandary(1978) has conducted a study on *"The interest Rate structure of commercial Banks in Nepal"* The objective of his study was to show the relation of interest rate with saving and fixed deposits, with loans and advances, and with interest earning (i.e. interest received on loan minus interest paid on deposit). His analysis concludes that the time deposits are positively correlated with the interest rates. There is significant correlation between the saving deposits and the rate of interest. Fixed deposit is more sensitive to the interest rate revision done by NRB. The correlation between the growth of fixed deposits and the interest rate particularly from 1974 to 1977 is most significant. The net interest earning is depended upon interest coverage. The total interest received and the total interest paid significantly correlated in the case of both of the banks i.e. Nepal Bank limited and Rastra Banizya Bank. He is in

view that NRB can well monitor the credit flow and profits of the commercial banks in Nepal by manipulating the demand for and supply of money.

Chettri (1980), was conducted a study titled *"Interest Rate structure and It's Relation with Deposits Inflation And Credit in Nepal."* The objective of his study was to show the relationship between interest rate and other economic variables like deposit, inflation and credit flow. His study concludes the following, according that thesis, the objectives were.

a. To present a concrete picture of the interest rate structure in Nepal.
b. To predict the relationship between interest rate and other economic variables like deposit, inflation and credit flow in Nepal.
c. Cut analyzes the impact and implementation of the policy of interest rate of Nepal Rastra Bank.

By this study, he found that rate of interest is directly affected by the rate of inflation. He found that the price level of Nepal is liked with Indian prices and also found very high inflation during his study period. His suggestion to commercial banks is to fix the confessional interest rate in order to promote, the cottage and small scale industries and to monetarists to consider the rate of inflation while determining to consider the rate of inflation while determining the interest rate on deposits.

The inflation with in the country is very high since few years. In fact the prices in Nepal are affected by the movement in Indian price level than by domestic monetary expansion. Prices in Nepal are linked with Indian because of the 500 miles open boarder and the availability of Indian goods and currency. There is consolidated type of money and capital markets in Nepal. Commercial bank branches are concentrated in the urban areas. Regarding deposit mobilization in the present context the urban area has occupied more than 80% and the flow of credit is also centralized only in urban areas on the other hand the volume of deposit has overcome the volume of credit which means to say that banks are not getting new investment opportunities.

Bhandari (1998), upon the title of *"The Impact of Interest Rate Structure on Investment Portfolio of Commercial Banks of Nepal."* He concludes the following:

i. Interest rate structure has direct influence and profitability of commercial banks, decreasing lending rate helps to increase the profitability through increasing the credit.
ii. Deposits are more interest rate conscious and positively co-related.
iii. Loans and advances of commercial banks have been found to be continuously increasing with the decline in interest rates.
iv. Effective interest rate structure helps in proper utilization of resources as measured by loan to deposit ratio.
v. VI. Most of the banks are having similar interest rate structure which lessens the importance of liberalization of interest rate.

Dangol (2003), on the ***"Impact of Interest Rate on Financial Performance of Commercial Banks*** concludes:

i. Most of the commercial banks contradict the general financial theories.
ii. The relation between amount of deposits and interest rate and deposit, in general concept, must be positive. But deposits are increasing despite the clearest in the general level of interest. The result of such phenomenon is that there are fewer investment opportunities for the banking sectors as well as general investors.
iii. The relation between total amount of loan and the lending rate is negative and significant. However the change in the amount of loan flow is not proportionate with the change in the lending rate.
iv. Correlation between interest rate and inflation is not significant.
v. Correlation, between interest rate is responsible to shape the profitability of banks but also the operating efficiency also has major influence on it.

Bhatta (2004), in the topic, *"Interest Rate and its Effect on Deposit and Lending"*. In this study the disseminator tries to portrait the relation of interest rate with deposit and Rajbhandary ending amount. Her findings and the findings made by Chettri are seems to be different. According to Chettri's finding, all the relation matches the theory. But other matters are same as Chettri's.

The conclusions drawn by Mrs. Bhatta are as follows:

i. Deposit rates of all sample banks under study are in decreasing trend, meaning that every year deposit rates of sample banks under study have decreased.

ii. Lending rates of all sample banks under study are also in decreasing trend, means that every year lending rates of sample banks under study have decreased.

iii. Analysis shows that interest rate on lending are far higher than deposit rates of sample banks. The correlation coefficient between these two variables, (deposit rate and lending rates) of sample banks comes highly positive.

iv. The simple correlation coefficient between deposit rate and deposit amount of sample banks are highly negative. But out of them, correlation coefficient analysis of one sample banks is found to be negative.

v. The correlation analysis between lending rate and lending amount of all sample banks under study comes highly negative. This relation between two variable of sample banks matches with the theory which says with the increase in lending rate, lending amount decreases and vice versa.

2.4 Research Gap

We have had a plenty of research work done on the topic "Interest Rate Structure and its Influence on Deposit and Lending of Joint Venture Banks in Nepal (with reference to NABIL, EBL, HBL and NSBI, where these banks were crucial as it determine its strength and weakness on the aspect of interest rate policies with the NRB directives. However the previous study on their selection of the samples, i.e. selection of the banks – they have done random sampling without any base to this selection.

Hence in this study overall joint venture banks are taken in a definable way which makes sense. The selection of the banks here is made on the basis of joint venture banks. Beside this study on the interest rate structure on NABIL, EBL, HBL and NSBI has covered the latest data which cover the information from 2005 to 2009 which makes it the last version on this study with these banks.

CHAPTER - III

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a way to systematically solve the research problem. It highlights the method adopted in the process of present study. It also focuses about the sources and limitation of the data. Which are used in the present study? It indicates the various sequential steps to be adopted by the researcher in studying a problem with certain objectives in view. So it is the methods, steps and guide lines, which are to be followed in analysis and it is a way presenting the collected data with meaning fully analysis.

The reliability and validity of research work is facilitated by research methodology and the basic objective of this chapter is to guide chapter four for data presentation, descriptive and empirical analysis of interest rate in its effect on deposit and lending. The study of research mythology gives the students the necessary training in gathering materials and arranging them, participating in the field work which required, and also training in techniques for collection of data appropriate to functionaries and controlled experimentation and in recording evidence sorting it out and interpreting it.

3.2 Research Design

Research design is a plan, structure and strategy of investigation. It is simply the frame work for study and helps the analysis of data related to study topic. It constitutes the blue print for the collection, measurement and analysis of data. It is descriptive and prescriptive in nature. The relevant and necessary data were collected from annual reports of various join venture banks and publications of Nepal Rastra Bank for analytical purpose.

3.3 Population and Sample

Now, 27 commercial banks (including government owned, public and joint venture) are operating in Nepal. Due to the time and resource factors, it is not possible to study all of them regarding the study topic. Therefore samplings are done selecting from population. The population for the study comprises 27 commercial banks out of them all four joint venture banks are taken as sample to draw the conclusion about population since population of joint venture banks are not large.

3.4 Sources of Data and Collection Procedure

The research is based secondary data. These secondary data are collected mainly from sources like annual reports, prospectus published bulletins, newspaper, journal internet and other sources. Secondary data are collected from various publications of concerning organizations from Rastra Bank and even from websites of various banks.

3.5 Data Processing and Presentation

The information or data obtained from different sources will be in raw form. From that information, direct, presentation is not possible. So it is necessary to process data and converts it into require form. After then only the data are presented for this study. This process is called data processing. For this study only required data are taken from the secondary sources (bank's publication) and presented. For presentation different figures and tables are used. Similarly graphical presentation is also made. For reference the photo copies of raw data are attached in the last portion of thesis. So far as the computation is concerned, it has been done with the help of scientific calculator and computer software program.

3.6 Tools for Data Analysis and Presentation

The analysis of data is done according to pattern of data available and felt necessity. This study requires more statistical tools rather than financial tools for analysis and presentation. So emphasis is given on statistical tools and some financial tools are also used to meet the objectives of the study.

3.6.1 Statistical Tools

Standard Deviation (σ)

Karl Pearson first introduced the concept of standard deviation in 1983. Standard deviation is the positive square root of the arithmetic average of the squares of all deviation measured from the arithmetic overage of the series. The standard deviation measures the absolute dispersion of a distribution. The greater the amount of dispersion the greater the greater the amount of dispersion the greater the standard deviation i.e. greater will be the magnitude of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a serves.

Standard deviation is denoted by a Greek letter 'σ' (sigma) and is calculated as follows:

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\Sigma(x-\bar{x})^2}{n-1}}$$

Where

n = Number of items in the series

$\bar{x}$ = Mean

X = Variable

Coefficient of Correlation (r)

The correlation analysis is the technique used to measure the closeness of the relationship between the variables. It helps is in determining the degree of relationship between two or more variables. It describes not only the magnitude of correlation but also its direction. The coefficient of correlation is a number which indicates to what extent two variables are related with each other and to what extent variations is one leads to the variation in the other.

Correlation may be positive or negative which lies between ± 1. Simple correlation between interest rate on deposit and deposit amount interest rate on lending and credit or lending amount and is computed in this thesis. The correlation between interest rate on deposit and deposit amount is positive. Interest rate on lending and lending amount is negative when inflation increases, interest rate also increases in same direction and vice versa.

The correlation coefficient can be calculated as:

$$\text{Correlation of coefficient 'r'} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

$$\text{Alternatively } r = \frac{\text{cov}(x_1 x_2)}{\text{var}\, x_1 . \text{var}\, x_2}$$

Where,

Covariance $(x_1, x_2) = 1/n\ \Sigma(x_1 - \overline{x_1})\ (x_2 - \overline{x_2})$

x_1 and x_2 = two variables, correlation between them are calculated.

n– Total number of observations

Coefficient of Determination (r^2)

The coefficient of determination is the primary way to measure the extent or strength of the association that exists between two variables, x and y. It refers to a measure at the total variance in a dependent variable that is explained by its linear relationship to and independent variable. The coefficient of determination is denoted by r^2 and the value lies between zero and infinity. The close to infinity means greater the explanatory power. A value or one can occur only is the in explained diagram falls exactly on the regression line. The r^2 is always a positive number. It can't tell whether the relationship between the two variables is positive or negative. The square of the simple correlation coefficient is called coefficient of determination and it is very useful in interpreting the value of simple correlation coefficient. The main significance of the coefficient of determination is to represent the portion of total variations due to independent variable.

Coefficient of Determination (r^2) = Explained Variance/Total Variance

t - test for significance of Correlation Coefficient

If 'r' is the observed sample correlation coefficient of 'n' pairs of observations from bivariate normal population the test statistics for significance of correlation under null hypothesis is given.

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} \approx t_{n-2}$$

Where (n-2) = degree of freedom

n= sample

t = t- distribution

The (1-α) % confidence limits for estimating population correlation coefficient (ρ) are given by

$$r \pm t_{\alpha}(n-2) \times S.E(r)$$

$$= r \pm t_{\alpha}(n-2) \times \frac{1-r^2}{\sqrt{n}}$$

Research Hypothesis

Testing of hypothesis is one of the most important aspects of the research study. It is the Quantitative statement about the population parameter. In other words, it is an assumption that is made about the population parameter and then its validity is tested. By testing the hypothesis we can find out whether it deserves the acceptance or rejection of the hypothesis. The acceptance of the hypothesis means there is no any sufficient evidence provided by the sample to reject it and does not necessarily imply that it is true. The main goal of testing of hypothesis is to test the characteristics of hypothesized population parameter based on sample information whether the difference between the population parameter and sample statistic is significant or not. Generally, two complementary hypotheses are set up at one time. If one of the hypotheses is accepted, then the other hypothesis is rejected and vice versa. The two complementary Hypotheses that are set up in the testing of hypothesis are the null hypothesis and alternative Hypothesis.

The hypotheses formulated for this study are as follows:

First Hypothesis

Null hypothesis, Ho: $\rho = 0$ i.e. population correlation coefficient is zero. In other words, the Variables (deposit interest rate and deposit amounts) are uncorrelated in Nepalese financial Market.

Alternative hypothesis H1: $\rho \neq 0$ i.e. population correlation coefficient is not equal to zero. In other words, the variables (deposit interest rate and deposit amount) are correlated.

Second Hypothesis

Null hypothesis Ho: $\rho = 0$ i.e. population correlation coefficient is zero. In the words the variables (credit interest and credit or loan amounts) are not correlated in Nepalese commercial Joint venture banks.

Alternative hypothesis H1: $\rho \neq 0$ i.e. population correlation coefficient is not equal to zero. In other words, credit interest rate and credit or loan amounts are correlated.

3.6.2 Financial Tools

Financial tools are used to examine the strength and weakness of performance. In this study, financial tools like interest rate spread and ratios have been used. Ratio is the mathematically relationship between two accounting figures Ratio analysis is used to compose a firm's financial performance and status to that of other firm's or to it overtime. The qualitative judgment regarding financial performance of firm can be done with the help of ratio analysis. Therefore only those ratios have been covered in this study as required by the study.

Loan and Advance to Total Deposit Ratio

This ratio is calculated to find out how successfully the banks are utilizing their total deposits on loan and advances for profit generating purpose. A ratio helps us showing the relationship between loans and advances which are granted and the total deposit collected by the bank. A high ratio indicates better mobilization of collected deposit and vice versa. It should be noted that too high ratio may not be better from liquidity point of view. This ratio is calculated by dividing loan and advances by total deposits. This can be stated as below:

$$\text{Loan and Advance to Total Deposit Ratio} = \frac{\text{Loan and Advance}}{\text{Total Deposits}}$$

Interest rate Spread

Interest rate spread is a difference between interest rate on lending and interest rate on deposit. Generally banks charge more interest rate on landing than they provide interest rate on deposits. Interest rate spread is calculated as follow:

Interest Rate Spread = Interest Rate an Lending - Interest Rate an Deposit

Higher spread shows the bank charge high rate for the borrowers than they provide for deposit.

CHAPTER - IV

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

In this section, all the collected data are presented in the filtered form and are analyzed thoroughly. This is the one of the major chapter of this study because it includes detail analysis and interpretation of data from which concrete result of Nepalese market can be obtained. In this chapter the relevant data and information necessary for the study are presented and analyzed keeping the objectives set in mind. This chapter consists of various calculations made for the analysis of interest rate and its effects on deposit and lending amount of sample banks. This chapter consists of detail analysis and interpretation of data relating to interest rate on deposit and lending, deposit collection and loan & advance of each selected organization from Nepalese financial system. To make our study effective and precise as well as easily and understandable, this chapter is categorized in three parts, presentation, analysis and interpretation. The analysis is based on secondary data available. In presentation section, data are presented in terms of table, graph chart of figures, according to need. The presented data are then analyzed using different statistical tools which are mentioned in chapter three. At last the results of analysis are interpreted. Though there is no distinct line of demarcation for each section (like presentation section, analysis section and interpretation section) but the arrangement of writing is made by aforementioned way. The data has been used is secondary type.

For our simplicity, in this thesis, presentation, analysis and interpretation of data are made according to the nature. After then, the relationship between interest rate and lending amount is made.

Presentation and Analysis of Secondary Data

Secondary type of data is used do analyze about deposit, amount lending amount and interest rate.

4.2 Analysis of Deposit and Interest Rate

In this section, detail study is made about deposit amount and interest rate of sample banks. For this study only saving and fixed deposits are considered because current deposit doesn't earn any interest.

4.2.1 NABIL Bank Limited. (NABIL)

Prior to entering into the main topics, it is preferable to take glance on the interest rate structure on different types of deposits. This is essential because the interest rates are generally different in magnitude for every sample banks. Their differences are due to the numerous factors like maturity period, policy of bank, goodwill of organization and so on. In real world government owned bank and banks with high reputation and goodwill have lower deposit rates. Similarly, finance companies, co-operative and development bank quotes higher interest rate on deposits than commercial banks do.

Table 4.1

Interest Rate Structure on Deposit of NABIL

Deposits	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**
Savin*g*	2.5	3	2	2	3
Fixed					
7 days	-	-	-	-	-
14 days	1.75	2.5	2.5	1.75	1.75
1 month	2.25	3	3	2	3
2 months	-	-	-	-	-
3 months	2.75	3.25	3.25	2.75	2.75
6 months	3	3.5	3.5	3	3
1 year	3.5	4	4	3.5	3.5
2 yrs. / above	4	4	4.25	4.25	4
Whole mean	2.82	3.32	3.18	2.75	3
Fixed deposit mean	2.87	3.37	3.41	2.875	3
Standard Deviation	**0.2139**				

Sources: Banking and Financial Statistics: 53, NRB and Annex-I

Table 4.1 shows the deposit interest rate of NABIL on different time period. For this study 2004/05 is taken as initial year and 2008/09 as a final year. The interest rate on savings deposit in the beginning fiscal year was 2.5% and tends to 3% in 2008/09. The bank quotes the interest rate of fixed deposit in different short term period like 2

months, 3 months, and 6 months, 1 year and above 2 years. Similarly if average of fixed deposits of different period is taken, then the results are almost similar with "Whole average". It means the average interest rate for fixed deposit only was 2.87%, 3.37%, 3.41%, 2.87% and 3% respectively for the fiscal year 2004/05, 2005/06, 2006/07, 2007/08, and 2008/09. The average figures also show the increasing tendency in interest rate except in the year 2007/08. At that period the interest rate is slightly lower than in the previous year and finally tends to 3% in the year 2008/09. The standard deviation is 0.2139 of each year interest rate.

Correlation coefficient, coefficient of determination and t-statistic of NABIL

Table 4.2

Relationship between Interest Rate and Deposit Amount of NABIL

Year (1)	**Saving Deposit Interest Rate(2)**	**Saving Deposit Amount (3)**	**Fixed Deposit Interest Rate(4)**	**Fixed Deposit Amount(5)**
2004/05	2.5	7026.4	2.87	2078.6
2005/06	3	8770.8	3.37	3450.2
2006/07	2	10187.4	3.41	5435.2
2007/08	2	12160.0	2.875	8464.1
2008/09	3	14620.4	3	8310.7
Correlation	r_{23}=0.08838		r_{45}=-0.24255	
Coeff. Of Det.	r^2_{23}=0.0078		r^2_{45}=0.0588	
t-statistic	t-cal=0.1536 t-tab=2.571 Insignificant		t-cal = 0.4329 t-tab=2.571 Insignificant	

Source: Banking and financial statistics: 53, NRB and Annex-I

Figure 4.1

Deposit Amount of NABIL during different FYs

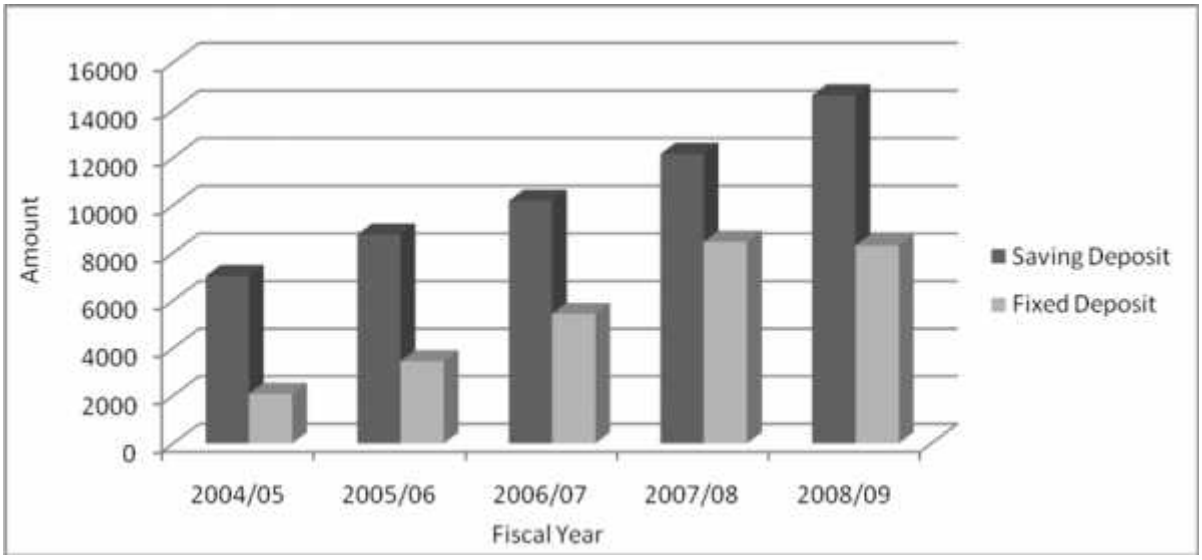
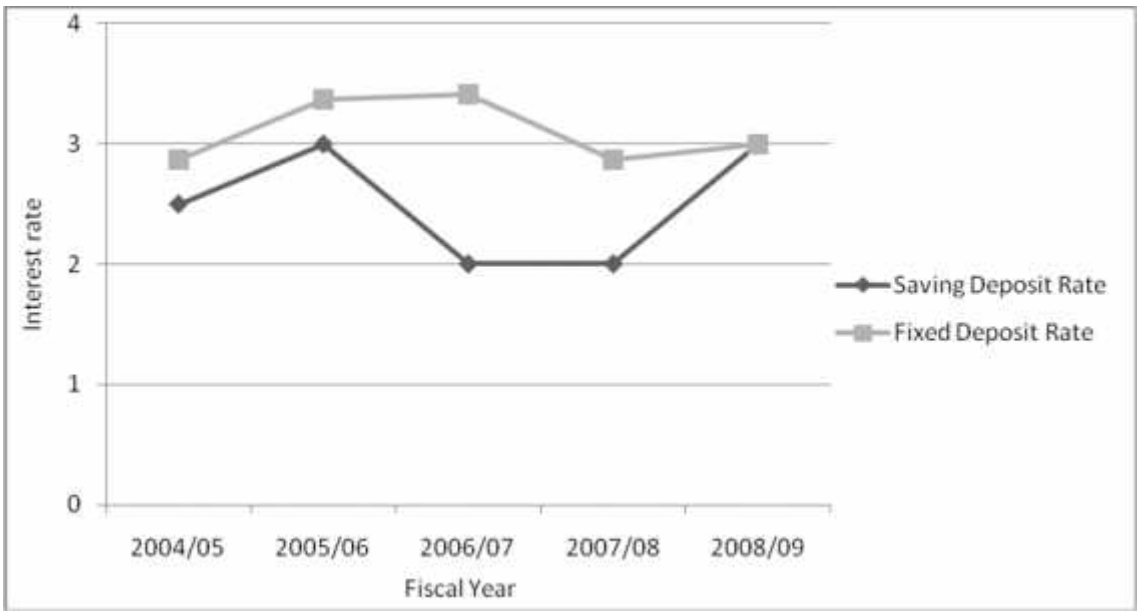


Figure 4.2

Interest Rate of NABIL on Fixed and Saving Deposit



According to table 4.2, the interest rate on saving deposit has been increased from 2.55 to 3 in fiscal year2005/06 and then decreased to 2 up to year 2007/08 and at last increased to 3% at year 2008/09. The saving deposit amount is in increasing tendency. i.e. 7026.4at FY 2004/05 to 14620.4 at FY 2008/09.

Similarly for fixed deposit the table 4-2 shows that the total amount of fixed deposit and interest rate on fixed deposit offered by NABIL on five consequent FYs started from 2004/05 to FY 2008/09. The table reveals that average fixed interest rate has been increased from FY 2004/05 to 2006/07 and decreased in FY 2007/08 and again

increased in FY 2008/09. The table shows that from the FY 2004/05 to 2007/08, there is no effect on fixed deposit amount by the decrease or increase of interest rate but at FY 2008/09, increase in interest rate decreases the fixed deposit amount. To verity the above trend, it is necessary to calculate the correlation and t-statistics. If correlation coefficient is calculated for saving deposit and deposit amount, then it is r23 = 0.08838. The coefficient of determination between these two variables r^2_{23} = 0.0078. The t-value for testing the significance of the correlation coefficient between variables is 0.1536 (t-cal=0.1536). Since the tabulated value at 5 level of significance for 5 degree of freedom i.e. t-tab=2.571 is more, so calculated value of correlation coefficient is insignificant. As a result null hypothesis is accepted i.e. there is insignificant relation between two variables or the variables are not correlated.

In the same manner, the correlation coefficient between interest rate on fixed deposit and variables are moderately correlated i.e. r_{45}=-0.24255. Two variables are said to be correlated when the change in the value of one variable is accompanied by the change of another variable. The coefficient of determination between these two variables r^2_{45} = 0.05888. When interest rate on fixed deposit decreases (increases) the deposit amount also decreases (increases).The coefficient of determination between these two variables which means total variables in dependent variables (deposit units) is explained by the independent variable (deposit rate) & remaining is due to the effect at other factors. Similarly test of significance of correlation coefficient between deposit rate and deposit amount gives the value of t=0.4329. Since the tabulated t-value at 5 level of significance for 5 degree of freedom i.e. t-tab = 2.571 is greater than calculated value, t-cal=0.4329, the correlation co-efficient is insignificant. So H0 is accepted i.e. there is insignificant relation between two variables or the variables are not correlated.

4.2.2 Himalayan Bank Limited. (HBL)

The general interest rate structure for HBL for saving deposit and fixed deposits during past five fiscal year is as follows:

Table 4.3

Interest Rate Structure on Deposits of HBL

Deposits	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**
Savin*g*	2.75	2	2	2.25	2.25
Fixed					

7 days	-	-	-	-	-
14 days	1.75	1.75	1.75	2.5	2.5
1 month	2	2	2	3.0	3.0
2 months	-	-	-	-	-
3 months	2.5	2.5	2.5	3.5	3.5
6 months	3	3	3	4.25	4.25
1 year	3.75	3.75	3.75	6.0	6.0
2 yrs. / above	3.75	3.75	3.75	6.5	6.5
Whole mean	2.7857	2.6786	2.6786	4	4
Fixed deposit mean	2.7917	2.7917	2.7917	4.2917	4.2917
Standard Deviation	0.6310				

Source: Banking and Financial Statistics: 53, NRB and Annex-I

From table 4.3, the saving deposit of fiscal year 2004/05 is 2.75 and it increases to 2 up to fiscal year 2006/07 and at last it increases to 2.25 in fiscal year 2007/08 and 2008/09 respectively. Similarly the fixed deposit interest rate is in increasing trend at every fiscal year. Similarly if average of fixed deposits of different period is taken, then the results are almost similar with "Whole average". The average interest rate was 2.7857, 2.6786, 2.6786, 4and 4 in fiscal years 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 respectively. The standard deviation of whole mean is 0.6310.

Correlation Coefficient, Coefficient of Determination and t-Statistics of HBL

Table 4.4

Relationship between Interest Rate and Deposit Amount of HBL

Year (1)	**Saving Deposit Interest Rate(2)**	**Saving Deposit Amount (3)**	**Fixed Deposit Interest Rate (4)**	**Fixed Deposit Amount(5)**
2004/05	2.75	12852.4	2.79	6364.3
2005/06	2	14582.8	2.79	6350.2
2006/07	2	15784.7	2.79	8201.1
2007/08	2.25	17935.0	4.29	6423.9
2008/09	2.25	20061.0	4.29	6377.1
Correlation	r_{23}=-0.3370		r_{45}=-0.3838	
Coeff. of Det.	r^2_{23}=0.1136		r^2_{45}=0.1473	
t-statistic	t-cal = 0.6199	t-tab= 2.571 Insignificant	t-cal =0.7199	t-tab =2.571 In-significant

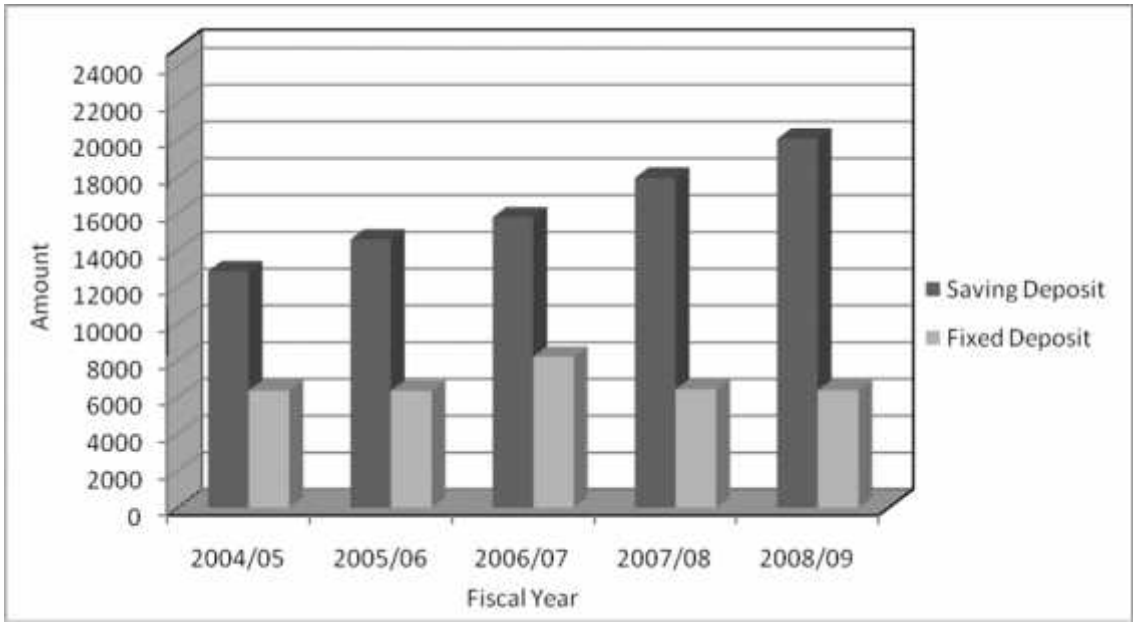
Source: Banking and Financial Statistics: 53, NRB and Annex-I

The table 4.4 shows the amount of saving deposit and its interest rate as well as amount of fixed deposit and its interest rate for five FYs. The table indicates that, in

one hand deposit rates are declining where as in other hand deposit amount is increasing in every fiscal years covered by the study. This suggests that interest rate and deposit amount may have negative relationship i.e. when one variable is found to be increased, other variable is found to be decreased and vice-versa. This situation can be revealed in figure 4.3 in following ways:

Figure 4.3

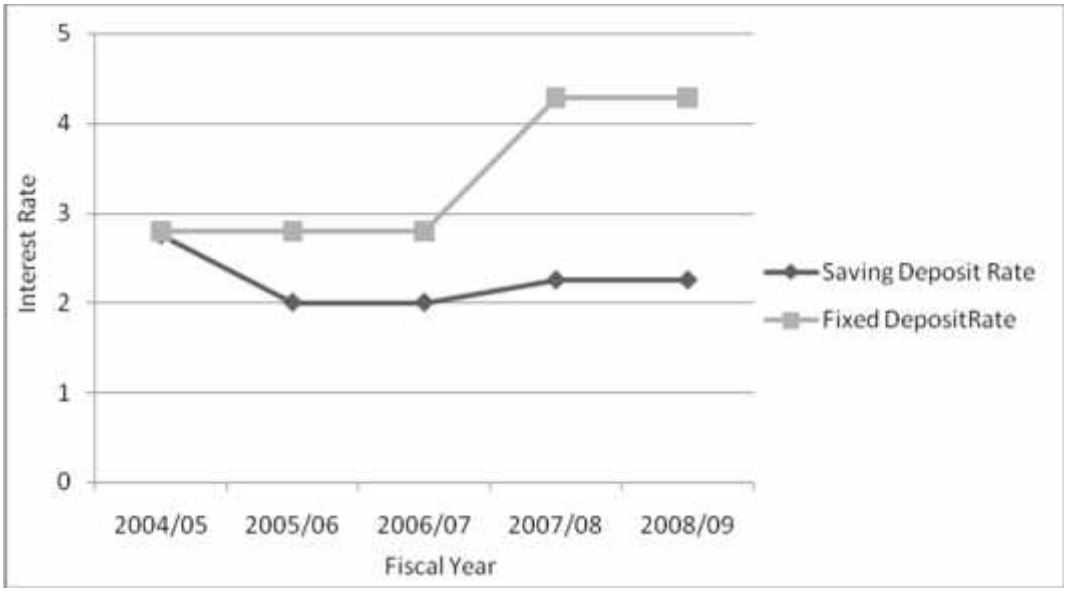
Deposit Amount of HBL During Different FYs



The figure 4.3 shows that saving deposit amount is rising in every five fiscal years but fixed deposit amount seems to grow with some fluctuation. It means that there is rise and fall for fixed deposit amount at every fiscal year. Similarly, the fixed deposit rate and saving deposit rate can also be shown on figure 4.4 below:

Figure 4.4

Interest Rates of HBL on Fixed and Saving Deposit



To quantify the exact relationship between interest rate and deposit amount, it is necessary to calculate the correlation coefficient. The correlation coefficient of saving deposit amount and its interest rate r_{23} is -0.3370.It means that these two variables have very high negative relationship. Though the two variables don't have direct relationship but correlation coefficient tells that increase in one variable result the decrease in another variable. This case is similar to fixed deposit also.

The correlation coefficient for fixed deposit rate and amount r_{45} is 0.3838 which is in positive correlation. The coefficient of determination of correlation coefficient of saving deposit r^2_{23} is 0.1136 which indicates that the relation between deposit and interest rate is tied up to level of 11.36 percent and remaining other percentage by other factors. In same manner for fixed deposit the value of coefficient of determination r^2_{45} is 0.1473. The value of t-statistics for saving deposit and saving interest is found to be 0.6199 (t-Cal = 0.6199). The tabulated value for this condition 5% level of significance with 5 degree of freedom is 2.571. It means that in this case t-calculation is lower than tabulated. So null hypothesis is accepted, which means that there is insignificant correlation between saving deposit and interest rate. Similarly for fixed deposit, the calculated value for t is 0.7199 (t-Cal=0.7199). This value is also smaller than tabulated value .So in this case also the magnitude of correlation coefficient is insignificant.

4.2.3 Everest Bank Limited

The general structure of deposit interest rate of Everest Bank Limited (EBL) is shown below on the table:

Table 4.5

Interest Rate Structure on Deposit of EBL

Deposits	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**
Saving	3.25	3.25	3.25	3.0	3.0
Fixed					
7 days	-	-	-	-	-
14 days	2.25	2.25	-	-	-
1 month	2.25	2.25	2.75	-	-
2 months	-	-	2.75	-	-
3 months	2.5	3.0	3.0	3.0	3.0
6 months	3	3.5	3.5	3.5	3.5
1 year	3.5	4	4	5.0	5.0
2 yrs. / above	4	4.5	4.5	5.0	5.5
Whole mean	2.9643	3.25	3.3929	3.9	4
Fixed deposit mean	2.9167	3.25	3.4167	4.125	4.25
Std. Deviation of whole mean	0.3927				

Source Banking and Financial Statistics 53, NRB and Annex-I

The table 4.5 shows the interest rate structure of EBL with calculated average interest rate on all deposits and standard deviation. The whole interest rate for 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 are 2.9643, 3.25, 3.3929, 3.9 and 4 respectively. Similarly the average fixed deposit rate is also is in increasing trend. The standard deviation of whole interest rate is 0.3927.

Correlation coefficient of Determination and t-statistics of EBL

Table 4.6

Relationship between interest rate and Deposit Amount of EBL

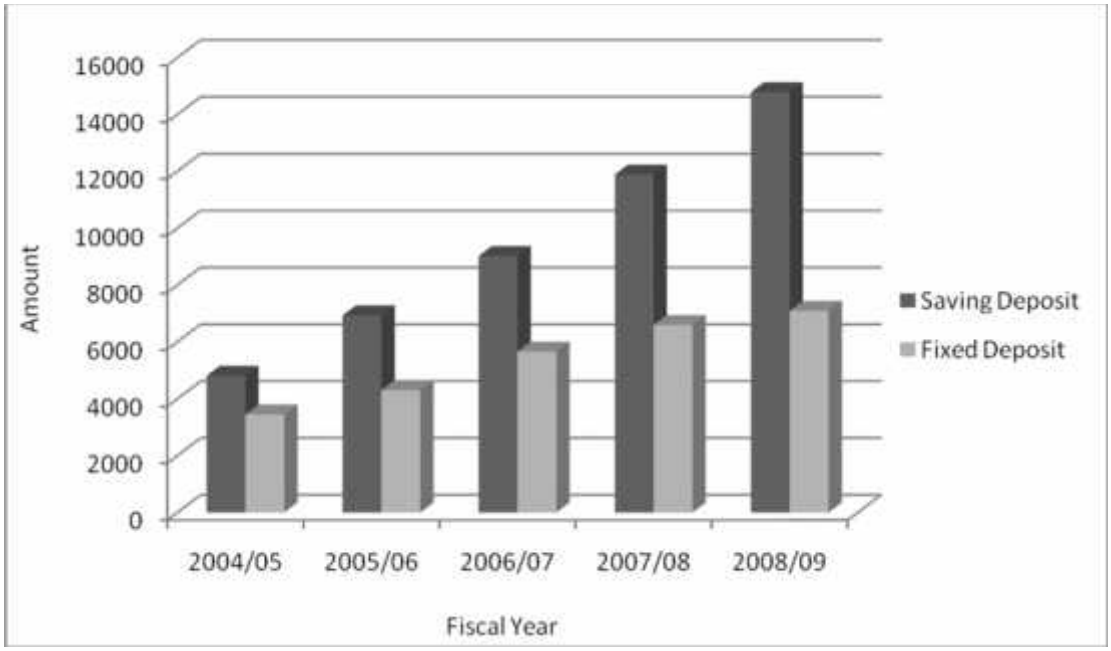
Year (1)	**Saving Deposit Interest Rate(2)**	**Saving Deposit Amount (3)**	**Fixed Deposit Interest Rate (4)**	**Fixed Deposit Amount(5)**
2004/05	3.25	4806.9	2.9167	3444.5
2005/06	3.25	6929.2	3.25	4298.2
2006/07	3.25	9018.0	3.4167	5658.7
2007/08	3.0	11883.9	4.125	
2008/09	3.0	14782.	4.25	7094.7
Correlation	r_{23}=-0.8892		r_{45}=0.9660	
Coeff. of Det.	r^2_{23}=0.7908		r^2_{45}=0.9332	
t-statistic	t-cal = 3.3672	t-tab= 2.571 Significant	t-cal = 6.4736	t-tab = 2.571 Significant

Source Banking and Financial Statistics 53, NRB and Annex-I

The table 4.6 shows that interest rate and deposit amount are moving in opposite direction. To get the exact relation it is necessary to calculate the correlation coefficient and t-test. But prior to this it is effective if tabulated value can be shown on figure 4.5**:**

Figure 4.5

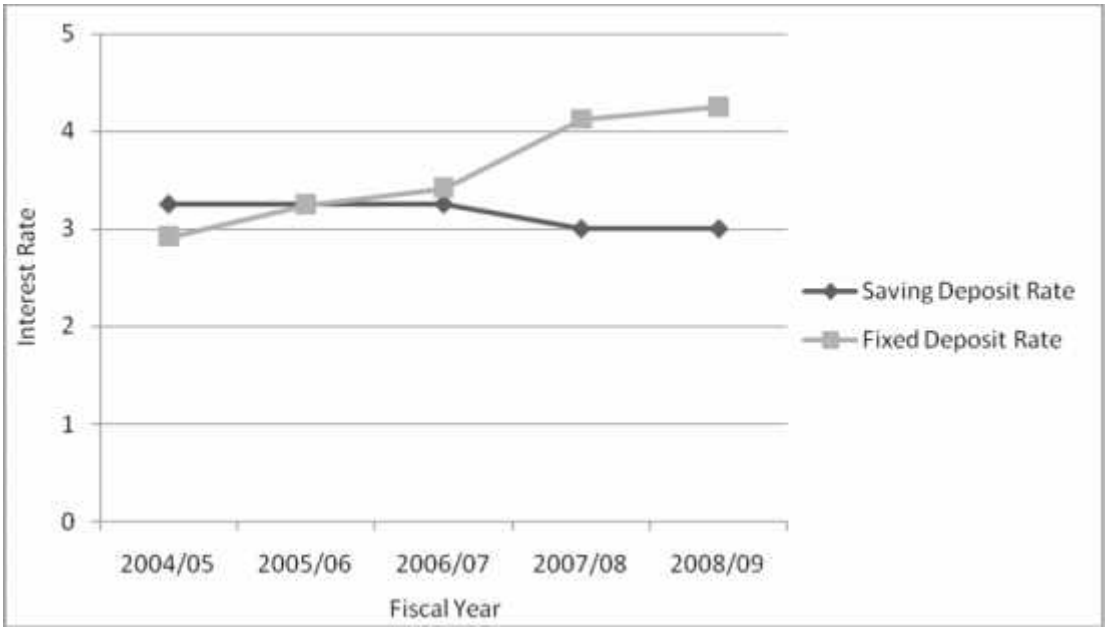
Deposit Amount of EBL during different FYs



Similarly the relationship between interest rate of saving and fixed deposit can be shown as below:

Figure 4.6

Interest Rates of EBL on Fixed and Saving Deposit



The figure 4.5 shows that the deposit amount of EBL is in increasing trend. The increasing tendency is high in comparison of saving deposit and fixed deposit for

saving deposit, the trend is increasing slowly. Similarly figure 4-6 shows that both the interest rate of fixed deposit is in increasing tendency and saving deposits is in decreasing tendency. The correlation coefficient for saving deposit and its interest rate is found to be r_{23} =- 0.8892, which means that deposit amount and its interest rate have higher degree of negative correlation. It means increase in one variable result the decrease in other variables. Similarly the coefficient of determination, r^2_{23}= 0.7908, which means that the value of dependent variables is dependent on independent variables to the extent 79.08%.Similarly the t-test for same show that the calculated value of t is 3.3672 (t-cal =3.3672). This value is greater than the t-tabulated value (t-tab =2.571) at 5 degree of freedom and 5% level of significance. Therefore, when t-cal is greater than t- tab then H1 or alternative hypothecs is accepted i.e. the variables are significantly correlated and their relationship is significant.

Similarly for fixed deposit the correlation r45 is 0.9660 which is positive. The t-statistics for fixed deposit shows that its calculated value of t is 6.4736, which is smaller than the tabulated value of t i.e. t-cal>t-tab, in such case alternative hypothesis is accepted. This indicates that the two variables are correlated.

4.2.4 Nepal State Bank of India (NSBI)

The general interest rate structure of NSBI bank for last fiscal years is given on the table 4.7. The interest rate structures for NSBI on saving and fixed deposits for past five FYs are as follows:

Table 4.7
Interest Rate Structure on Deposit of NSBI

Deposits	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**
Saving	3.25	3.25	3.25	3	3
Fixed					
7 days	-	-	-	-	-
14 days	-	-	-	-	-
1 month	2.75	2.75	2.75	2.75	2.75
2 months	-	-	-	-	-
3 months	3.25	3.25	3.25	3.25	3.25
6 months	3.75	3.75	3.75	4.5	4.5
1 year	4	4.5	4	5.5	5.5
2 yrs. / above	4.5	4	4	6	7
Whole mean	3.5833	3.5833	3.5000	4.1667	4.3333
Fixed deposit mean	3.65	3.65	3.55	4.4	4.6

Std. Deviation of whole mean	0.3456

Source: Banking and Financial Statistics 53, NRB and Annex-I

The table 4.7 shows the interest rate structure of NSBI and with calculated average interest rate on all deposits and standard deviation. The whole interest rate has remained same from FY 2004/05 to 2005/06and decreased in year 2006/07 and then again increase in year 2007/08, 2008/09 respectively. The whole interest rate (both fixed and saving) account is 3.5833, 3.5833, 3.5000, 4.167and 4.333 for FYs 2004/05, 2005/06, 2006/07, 2007/08and 2008/09 respectively. The average fixed deposit rate is as similar as whole average interest rate and standard deviation is 0.3456% within five years period.

Correlation coefficient, coefficient of determination and t-statistics of NSBI

Table 4.8

Relationship between Interest Rate and Deposit Amount of NSBI

Year (1)	Saving Deposit Interest Rate(2)	Saving Deposit Amount (3)	Fixed Deposit Interest Rate (4)	Fixed Deposit Amount(5)
2004/05	3.25	2684.7	3.65	4086.4
2005/06	3.25	2832.7	3.65	6116.2
2006/07	3.25	3274.7	3.55	5517.3
2007/08	3.25	4171.2	4.40	
2008/09	3.0	5822.3	4.60	17438.4

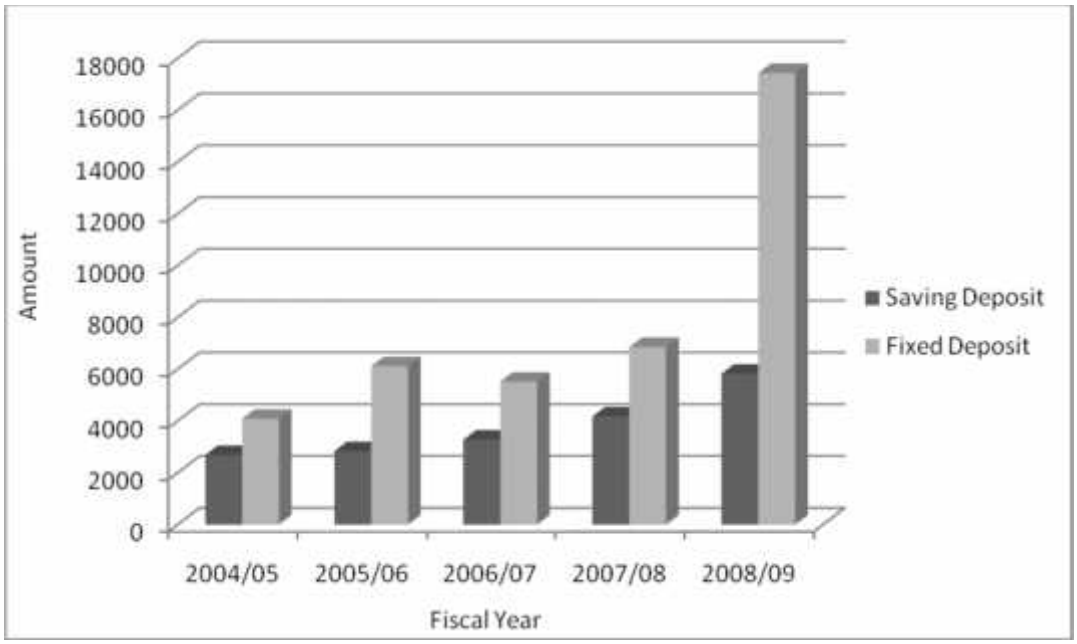
Correlation	r_{23}**=-0.8761**			r_{45}**=0.9828**		
Coeff. Of Det.	r^2_{23}**=0.7675**			r^2_{45}**=0.9659**		
t-statistic	**t-cal = 3.147**	**t-tab= 2.571**	**Significant**	**t-cal = 9.218**	**t-tab = 2.571**	**Significant**

Source: Banking and Financial statistics 53, NRB and Annex-I

In table 4.8 saving amount and deposit rates are arranged is systematic order. The outlook of the table shows that the interest rate of saving deposit remains same up to year 2006/07 and decreased in year 2007/08, 2008/09 but the saving deposit amount is in increasing trend. So there is inverse relationship between interest rate and saving deposit amount. The saving amount has increased when interest rates fall down. But fixed deposit amount is in increasing trend either interest rate falls or increase. To determine the magnitude of relation, correlation coefficient should be calculated and to identify the strength or weakness of relationship it is necessary to calculate the t-test. But prior to all it is clear if we show these relations on figure 4.7 and 4.8.

Figure 4.7

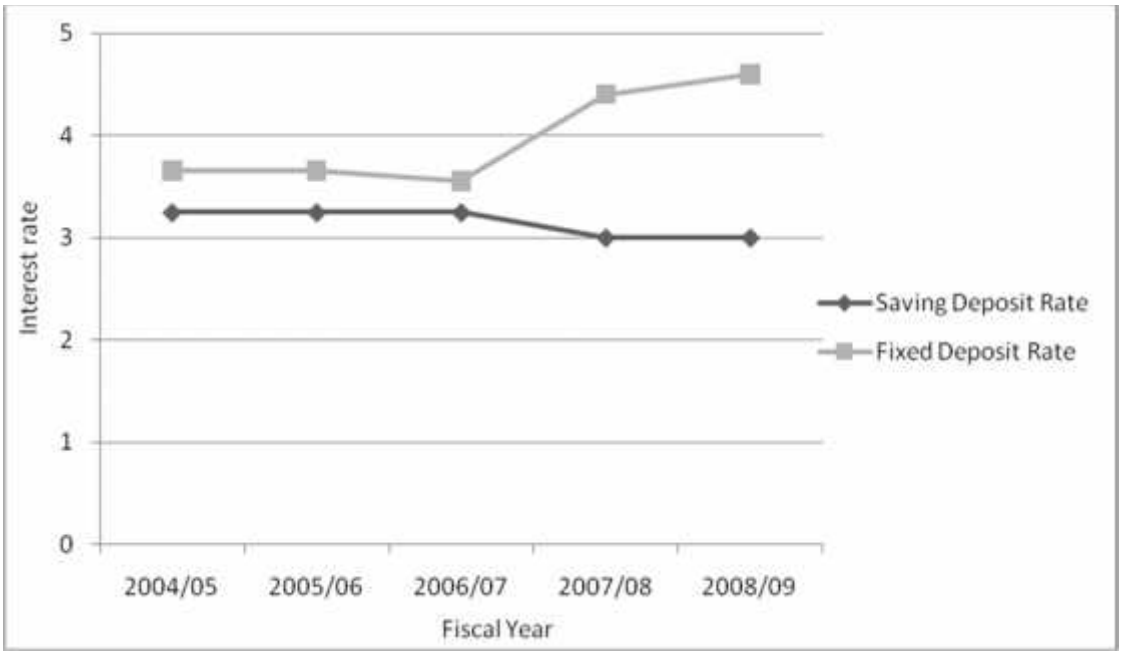
Deposit Amount of NSBI during different FYs



The figure shows that NSBI collected more funds on fixed deposit rather than saving deposit in last five FYs. Similarlay the relationship between interest rate of saving and fixed deposit can be shown in figure 4.8:

Figure 4.8

Interest Rates of NSBI on Fixed and Saving Deposit



The correlation coefficient for saving interest rate and deposit amount,r_{23} is found to be negative -0.8761.This value indicates that they have very high negative or inverse relationship. Increase in one variable leads to decrease in other variable. Similarly, the coefficient of determination between two variables r^2_{23} is 0.7675 which means that total variation in interest rate on deposit has been explained by supply of deposits to the extent of 76 .75 percent and remaining is the effect of other factors. The t-value for testing the significance of the correlation coefficient between variables is 3.147 which are significant. This means that the interest rate on saving deposit and deposit amount of NSBI are significantly correlated and increase in the supply of fund (deposit) brings the decrease in interest rate on deposit which is significantly level of significance with 5 degree of freedom. Similarly, correlation coefficient for fixed deposit interest and fixed deposit amount, r45 is found to be 0.9828, which indicates that the two variables have positive relationship. This relation can be clearly explained by the coefficient of determination, which is 0.9259, means that total variation in interest rate on fixed deposit has been explained by supply of deposits to the extent of 92.59 percent and remaining is the effect of other variables. To identify the significance or insignificance of this correlation, it is necessary to calculate the value of t-statistics. The calculated value of t is 9.218. Similarly the tabulated value for t is 2.571 which is less than calculated value. As a result null hypothesis is accepted. Test of significance of correlation coefficient between fixed deposit rate and fixed deposit amount of NSBI makes clear that the variables are statistically significant. Hence, the variables of NSBI are correlated.

4.3 Analysis of Lending and Interest Rate

This is second area of the analysis where mainly the relationship between lending interest rate and its effect upon lending amount is attempted to study. Generally, when there is higher interest rate (especially lending or credit rates) in the economy people normally borrow lesser amount than the period when lending rate is low. According to Theory, when there is low lending rate, and then there should be higher amount of borrowing by the user of fund. Higher amount of borrowing indicates higher investment in the country or higher transaction in trade. This is necessary for the growth of the economy. So this study tries to explore the relationship between lending rate and lending amount in Nepalese economy.

4.3.1 NABIL Bank Limited (NABIL)

The sector where NABIL supplied credit during last five FYs and their corresponding interest rate, average interest rate and lending amount are presented in the table 4-9:

Table 4.9

Lending Rate of NABIL on Different Sectors During five FYs

Sector	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**
Overdraft	-	-	-	-	-
Export credit	11	11	10.5	10.5	10.5
Import LC	11	11	10.5	10.5	11
HMG Bond	7.5	7.5	7.5	8.5	9.25
BG	9	9	7.5	8.5	9.5
Other Guarantee	10	10	8.5	9.5	10.0
Industrial Loan	-	-	-	-	-
Commercial Loan	-	-	-	10	10.5
Priority Sector Loan	12	12	11	11	11
Poorer sector Loan	9	9	9	8	8
Term Loan	13	13	12	11	11
Working Capital	12	12	11.5	11.5	10.5
Hire Purchase	12.5	12	12	-	-
Others	13	13	12	12.5	11
Average Int. Rate (1)	10.90	10.86	10.18	10.14	10.20
Lending Amount (2)	11078.0	13021.3	15657.1	21514.6	27816.6
Correlation (r_{12})	**-0.7604**				
Coeff. Of Det. (r^2_{12})	**0.5782**				
t-statistics	**t-cal=2.028**	**t-tab = 2.571**		**Insignificant**	
Standard deviation	**0.3470%**				

Source: Banking and Financial Statistics 53, NRB and Annex-II

Lending activity of joint venture commercial banks can be diversified into different sectors. But according to the publication of Nepal Rastra Bank, Banking and Financial statistics the loan of commercial banks are classified in different sub-sectors like overdraft, export credit, import LC, commercial loan and on. Besides this there are other section (area) when banks provides loan and these areas are placed in the topic of "others". For this study, lending area are categorized as classified by NRB as shown in above table.

According to table 4.9 it shows that interest rate on lending on different area are in declining trend. The table shows that the maximum average interest rate is 10.90 in FY 2005/06 and minimum rate is 10.14 on 2007/08. This shows that the interest rate declined drastically during the five FYs period. Generally the productive sector loan rate (like commercial loan, industrial loan, priority sector loan, working capital rate and so on) and non productive sector loan like loan against government bond, BG and so an are decreasing in similar ratios. According to theory in order to induce the investment in the country or expansion of trade, the productive sector loan should be available at cheaper rate. But the table shows that these sectors loan were somewhat costlier than other non-productive loan.

The standard deviation for average interest rate was 0.3470, which shows the deviation from mean return. The average rate is also in decreasing trend. It means that the rate declined each year with different rate. These can be shown in figure 4.9and 4.10 below:

Figure 4.9

Lending Amount of NABIL During Different FYs

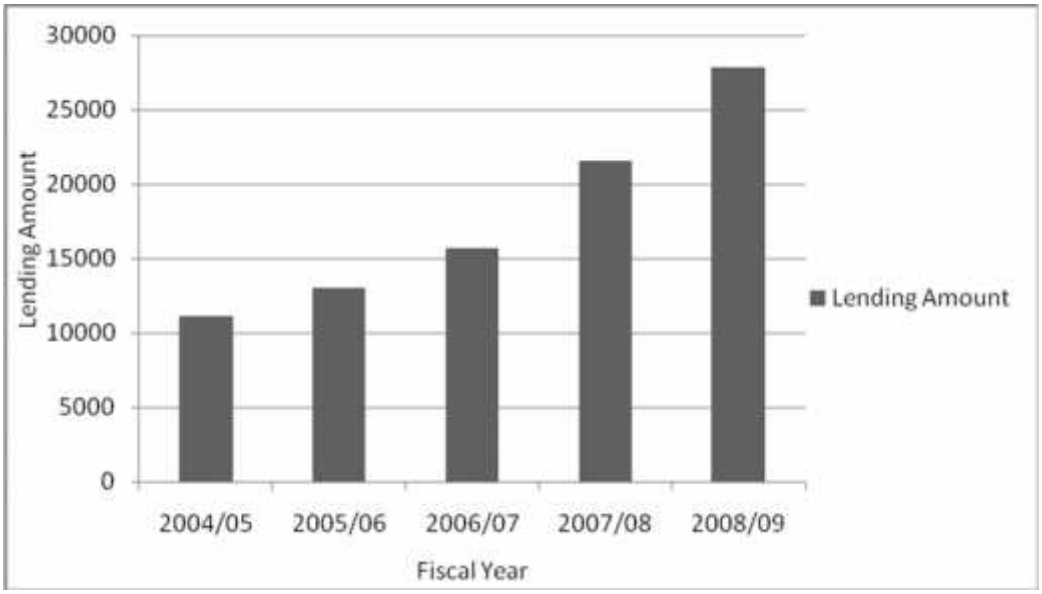
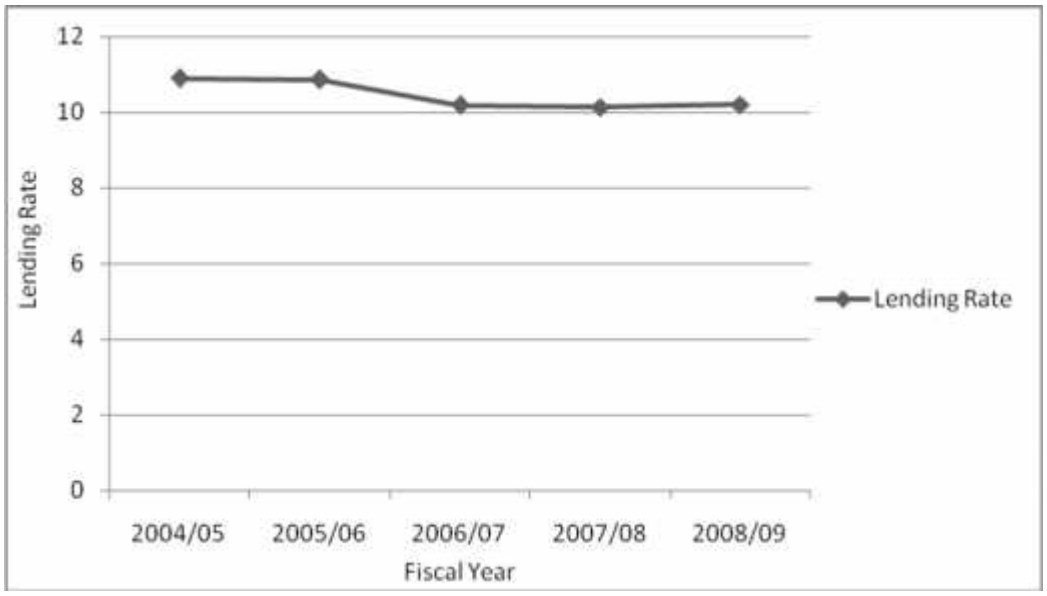

30000
25000
20000
15000
10000
5000
0
Lending Amount
2004/05
2005/06
2006/07
2007/08
2008/09
Fiscal Year
Lending Amount

Figure 4.10

Average Lending Rate of NABIL During Different FYs



Correlation coefficient, Coefficient of determination and t-statistics of NABIL

From table 4.9 the correlation coefficient (simple correlation) between lending rate and lending amount r12 is - 0.7604. It is negative correlation. It indicates that increment in one variable result the decrease in other variables or vice-versa. Decrease in lending interest rate increases the lending amount because people preferred more credit from the bank when bank reduced the lending interest rate. This condition matches with the theory. Similarly the coefficient of determination between two variables (r^2_{12}) is 0.5782. It means that the relationship between dependent variable and independent variable is up to the extent of 57.82%. The remaining percentage is due to other factors.

Similarly the calculate value for NABIL is 2.028 (t-cal = 2.028). This value is less than tabulated value, (t-tab = 2.571) with level of significance 5 and d. f 5. In this condition null hypothesis is accepted it means that there is insignificant correlation between the two variables. In other words their relation is insignificant. Though the correlation coefficient shows that these two variables have moderate level of correlation but t-statistics verify that their relation is insignificant. In conclusion the inverse relationship between lending rate and lending amount is not exactly applicable

for NABIL. Now it is clear that the increase in lending amount is not significant due to decrease in lending interest rate.

4.3.2 Himalayan Bank Limited (HBL)

The sector where HBL granted its credit during last five FYs and their corresponding interest rate and lending amount are presented in the table 4.10:

Table 4.10

Lending Rate of HBL on Different Sectors During Five FYs

Sector	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**
Overdraft	12	12	10	9	9.5
Export credit	8.75	8.75	8.75	8.5	9.5
Import LC	11.75	11.75	9.5	8.5	9.5
HMG Bond	6	6	6.5	7	-
BG	9.25	9.25	8	-	8
Other Guarantee	-	-	-	-	-
Industrial Loan	12.75	12.75	-	-	-
Commercial Loan	12.5	12.5	-	10	10.5
Priority Sector Loan	12.25	12.25	10	-	-
Poorer sector Loan	8.25	8.25	8.25	8.75	8.75
Term Loan	11.75	11.75	10.5	10.5	10.5
Working Capital	-	-	-	-	-
Hire Purchase	11.5	11.5	9	8.5	9.5
Others	13.5	13.5	12	12.5	9.5
Average Int. Rate (1)	10.85	11.05	9.25	9.25	9.47
Lending Amount (2)	13245.0	15515.7	17672.0	19985.2	25292.1
Correlation (r12)	-0.7166				
Coeff. of Det. ($r^2$12)	0.5135				
t-statistics	t-cal =1.779		t-tab = 2.571		Insignificant
Standard deviation	**0.7539**				

Source: Banking and Financial Statistics 53, NRB and Annex-II

The table 4.10 shows the interest rate of HBL on lending on five fiscal years granted in different sectors. The average lending rate is in decreasing trend. The table shows that the maximum average interest rate is 11.05 in FY 2005/06 and minimum rate is 9.25 on 2006/07and 2007/08. This shows that the interest rate declined drastically during the five FYs period. Generally the productive sector loan rate (like commercial loan, industrial loan, priority sector loan, working capital rate and so on) and nonproductive sector loan like loan against government bond, BG and so an are

decreasing in similar ratios. According to theory in order to induce the investment ithe country or expansion of trade, the productive sector loan should be available at cheaper rate. But the table shows that these sectors loan were somewhat costlier than other non-productive loan.

The standard deviation for average interest rate was 0.7539, which shows the deviation from mean return. The average rate is also in decreasing trend. It means that the rate declined each year with different rate. These can be shown in figure 4.11and 4.12 below:

Figure 4.11

Lending Amount of HBL During Different FYs

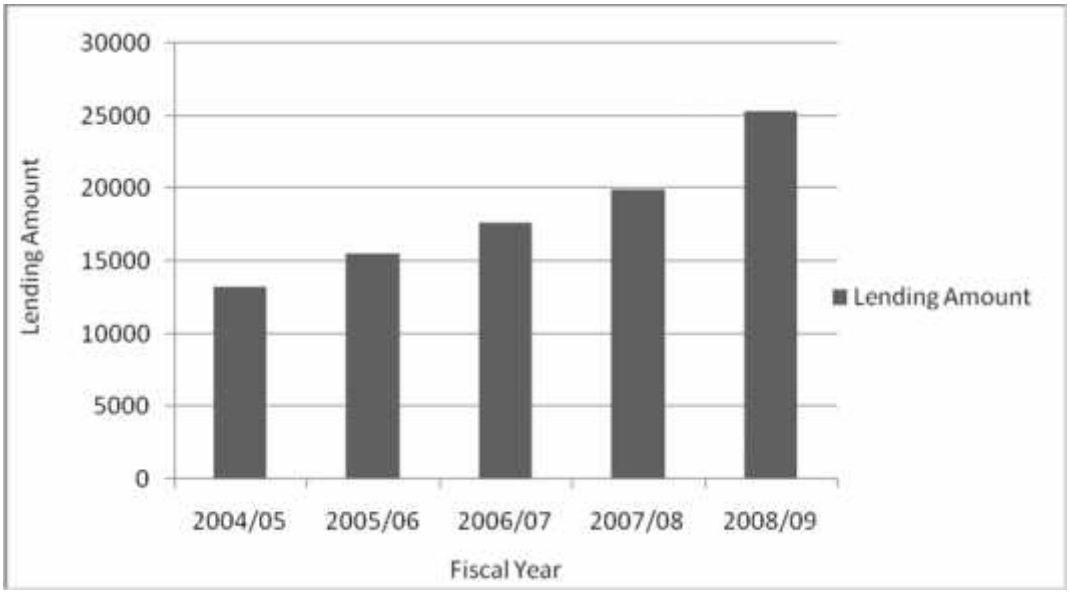
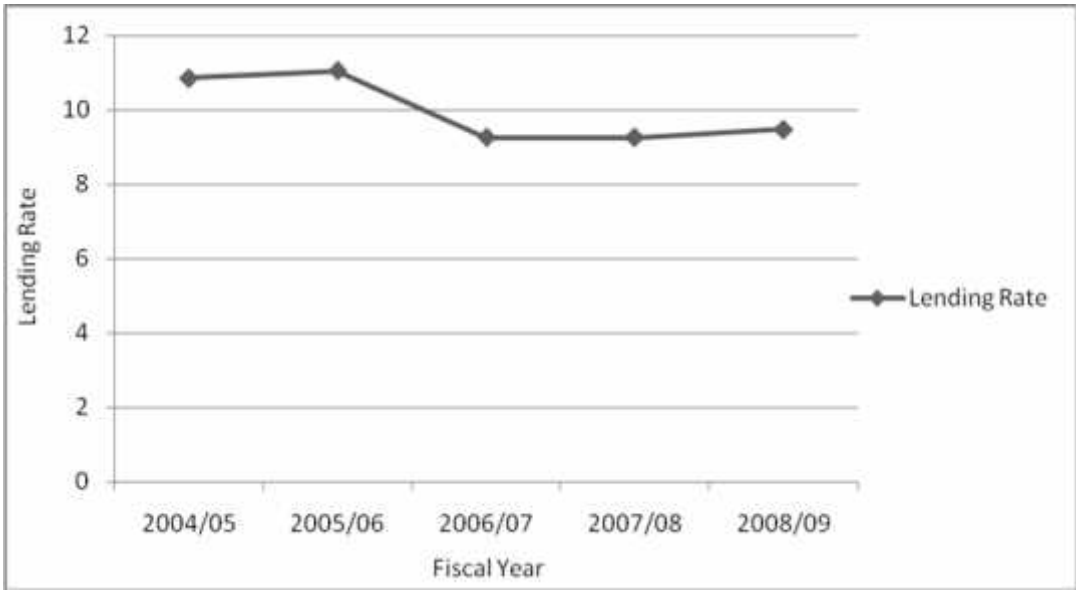


Figure 4.12

Average Lending Rate of HBL during different FYs



Correlation Coefficient, Coefficient of Determination and t- statistics of HBL

The correlation coefficient of HBL between lending amount and lending rate is -0.7166. It is high degree negative correlation. It indicates that increments in are variable result the decrease in other variables or vice-versa. In this case decrease in lending interest rate increases the lending amount. People preferred more credit from HBL when bank reduced the lending interest rate. Similarly the coefficient of determination between two variables (r^2_{12}) =0.5135. It means that the relationship between dependent variable and independent variable is defined up to the extent of 51.35%. In other words the increase in lending amount by decrease in interest rate is defined up to the extent of 51.35% whereas remaining percentage is due to other factors. Similarly the t- statistics for HBL is 1.779 (t-cal=1.779) the tabulated value at 5 level of significance with 5 d.f is 2.571. Comparing the t-tab and t-cal it is clear that tcal is less than t- tab, so null hypothesis is accepted. It means that the relation shown by correlation coefficient is highly in significant. That is the inverse relation shown by two variables lending amount and lending rate is strong. The increase in demand of lending amount is due to the decrease in lending rate. Therefore, according to t-statistics the lending rate is also another strong as well as important factor that shape the lending amount. In conclusion the inverse relation of HBL on two variables is in accordance with theory.

4.3.3 Everest Bank Limited (EBL)

EBL also grant credit on different area like commercial loan industrial loan, Overdraft, working capital and so on. These rates on the different fiscal years are as follows.

Table 4.11

Lending Rate of EBL on Different Sectors During Five FYs

Sector	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**
Overdraft	11.5	11	11	11	11
Export credit	8.5	8	8	8.5	8.5
Import LC	10	10	10	10	10
HMG Bond	6.5	6	6	6.75	7
BG	8.5	8.5	8.5	8.5	8.5
Other Guarantee	-	-	-	-	-
Industrial Loan	12	11	11	11	11
Commercial Loan	11.5	11	11	11	11
Priority Sector Loan	12	-	-	-	-
Poorer sector Loan	11	10	10	10	10
Term Loan	12	11	11	11	11
Working Capital	10.5	11	11	11	11
Hire Purchase	12	7	10.5	10.5	10.5
Others	12	11	11	11	11
Average Int. Rate (1)	10.54	9.63	9.92	10.02	10.04
Lending Amount(2)	7914.4	10124.4	14059.2	18814.3	24366.2
Correlation (r12)	-0.1667				
Coeff. Of Det. (r212)	0.0278				
t-statistics	t-cal=0.293	t-tab = 2.571	Insignificant		
Standard Deviation	**0.2963**				

Source: Banking and Financial Statistics 53, NRB and Annex-II

The table 4.11shows that the lending rate is almost same in every fiscal years. The average lending rate is 10.54, 9.63, 9.92, 10.02 and 10.04 in fiscal year 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 respectively. This shows that the interest rate declined drastically during the five FYs period. Generally the productive sector loan rate (like commercial loan, industrial loan, priority sector loan, working capital rate and so on) and nonproductive sector loan like loan against government bond, BG and so an are decreasing in similar ratios. According to theory in order to induce the investment in the country or expansion of trade, the productive sector loan should be available at cheaper rate. But the table shows that these sectors loan were somewhat costlier than other non-productive loan.

The standard deviation for average interest rate was 0.2963, which shows the deviation from mean return. The average rate is also in decreasing trend. It means that the rate declined each year with different rate. These can be shown in figure 4.13and 4.14 below:

Figure 4.13
Lending Amount of EBL During Different FYs

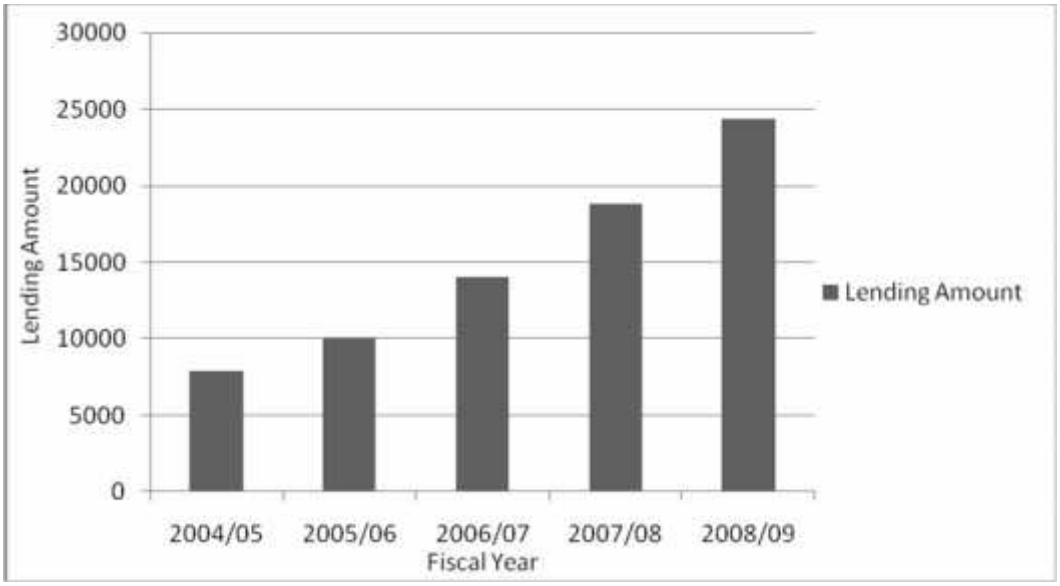
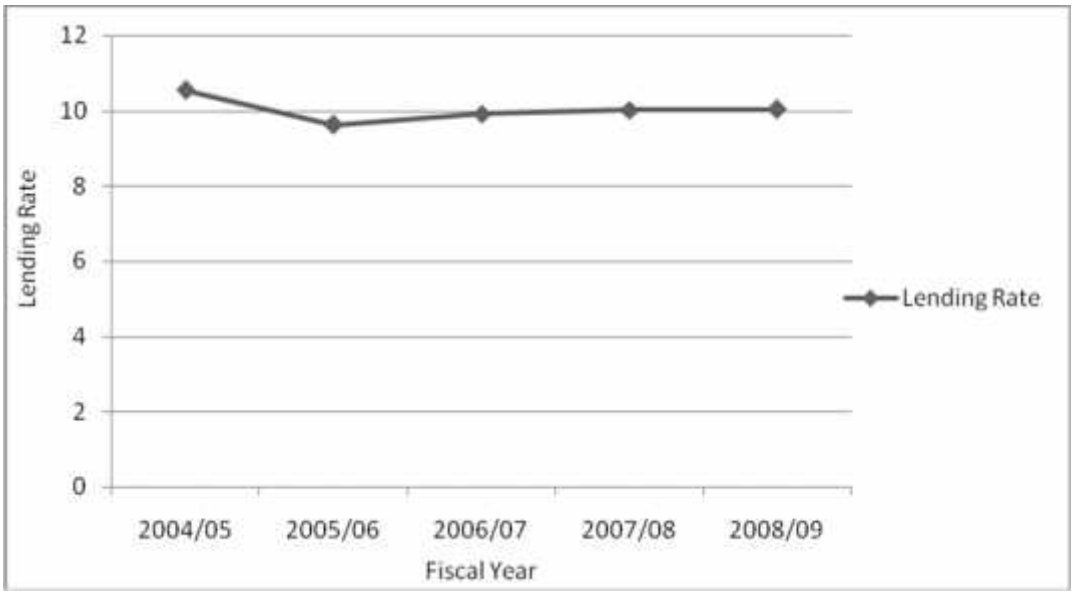


Figure 4.14
Average Lending Rate of EBL During Different FYs



Correlation Coefficient, Coefficient of determination and t- statistics of EBL

By using excel spreadsheet, correlation coefficient, average, standard deviation and other necessary statistics can be calculated. The correlation coefficient between lending rate and lending amount for EBL is -0.1667. This is very high degree of

correlation the negative sign indicates that the two variables have opposite or inverse relationship, meaning decrease in one variables leads to increase in other variables. For this case decreases in interest in interest rate stimulates the lending amount or vice-versa. The coefficient of determination for correlation coefficient is 0.0278. In other words the relationship between one variable is defined by another is up to the level of 27.08%. To verify the correlation coefficient statistically, it is better if t-statistics is used. The calculated value for t is 0.2913 (t-cal=0.2913). Similarly the tabulated value for t at 5 degree of freedom with 5 level of significance is 2.571 i.e. (t-tab= 2.571). Comparing tcal and t-tab it is found that t-cal< t-tab so in such case null hypothesis is accepted meaning the relation shown by the correlation coefficient is highly insignificant. In other words two variables are not correlated or the increase in lending amount is due to the decrease in lending rate. Lending rate is insignificant factor for the lending amount.

4.3.4 Nepal State Bank of India (NSBI)

The sector where NSBI granted its credit during last five FYs and their corresponding interest rate, average interest rate and lending amount are presented in the table 4-12:

Table 4.12

Lending Rate of NSBI on Different Sectors During Five FYs

Sector	2004/05	2005/06	2006/07	2007/08	2008/09
Overdraft	12.5	12.5	11	11	10.5
Export credit	10.5	10.5	9	9	9
Import LC	-	-	-	-	-
HMG Bond	7	7	7	7	7
BG	9.5	9.5	9.5	9.5	9.5
Other Guarantee	-	-	-	-	-
Industrial Loan	-	-	-	-	-
Commercial Loan	-	-	-	-	-
Priority Sector Loan	12	12	11	11	11
Poorer sector Loan	9	9	9	9	9
Term Loan	12.5	12.5	11	11	11
Working Capital	-	-	-	-	-
Hire Purchase	10.5	10.5	9.5	9.5	9.5
Others	12.5	12.5	11	11	11
Average Int. Rate (1)	10.67	10.67	9.63	9.78	9.72
Lending Amount (2)	6619.1	8059.3	9846.7	12574.9	15465.2
Correlation (r12)	-0.7761				
Coeff. Of Det. (r212)	0.6023				

t-statistics	t-cal =2.1315	t-tab = 2.571	Insignificant
Standard deviation	**0.4720%**		

Source: Banking and Financial Statistics 53, NRB and Annex-II

The table 4.12 shows the interest rate of NSBI on lending on five fiscal years granted in different sectors. The average interest rate declined slowly during five fiscal years. The interest rate falls only in decimal. The lending rate in all sectors of at NSBI falls slowly during five FYs. The lending rate is higher in "others" sector in comparison to other sectors.

Figure 4.15

Lending Amount of NSBI During Different FYs

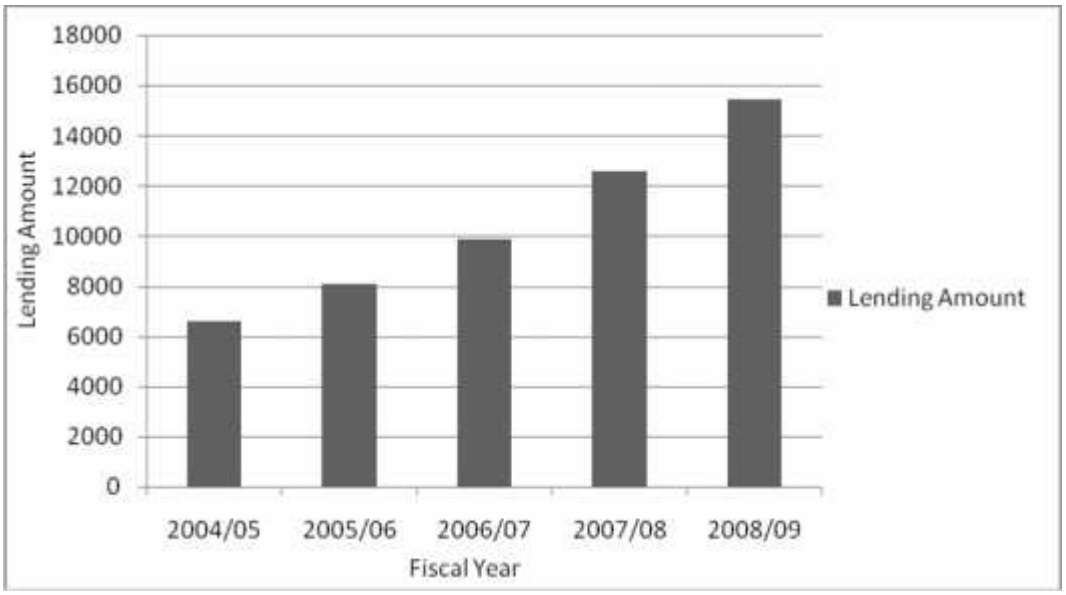
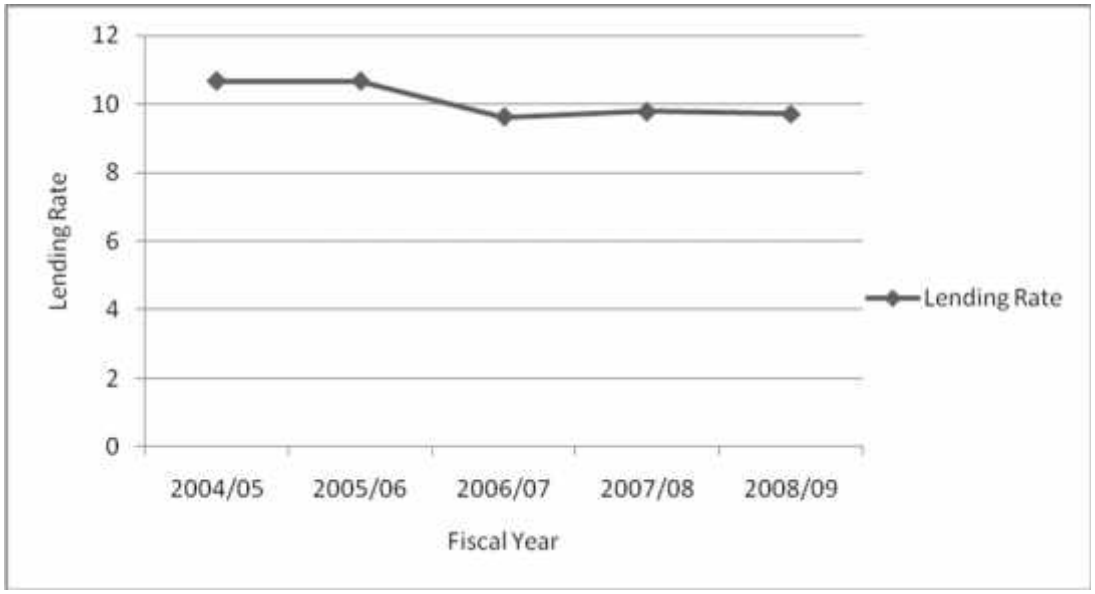


Figure 4.16

Average Lending Rate of NSBI During Different FYs



Correlation Coefficient, Coefficient of Determination and t- statistics of NSBI

The correlation coefficient of NSBI between lending amount and lending rate is -0.7761 is high degree negative correlation. It indicates that increment in one variable result the decrease in other variables or vice-versa. In this case decrease in lending interest rate increases the lending amount. People preferred more credit from the NSBI when bank reduced the lending interest rate. Similarly the coefficient of determination between two variables (r^2_{12}) = 0.6023. It means that the relationship between dependent variable and independent variable is defined up to the extent of 60.23%. In other words the increase in lending amount by decrease in interest rate is defined up to the extent of 60.23 whereas remaining percentage is due to other factors. Similarly the t-statistics for NSBI is 2.1315 (t-cal =2.1315). The tabulated value at 5 level of significance with 5 d.f is 2.571. Comparing the t-tab and t-cal, it is clear that tcal < t-tab, so null hypothesis is accepted. It means that the relation shown by correlation coefficient is highly insignificant. That is the inverse relation shown by two variables- lending rate and lending amount- is strong. The increase in demand of lending amount is due to the decrease in lending rate. Therefore according to t-statistics the lending rate is also another strong as well as important factor that shape the lending amount. In other words two variables are significantly correlated or the increase in landing amount is due to the decrease in lending rate.

4.4 Analysis the position of Interest Rate Spread and Loan and Advance Ratios

Interest rate spread is a difference between interest rate on lending and interest rate on deposit. Generally banks charge more interest rate on lending than they provide interest rate on deposits. Similarly loan and advance to total deposits helps us showing the relationship between loans and advances which are granted and the total deposit collected by the bank and also find out how successfully the banks are utilizing their total deposits on loan and advances for profit generating purpose.

4.4.1 NABIL Bank Limited (NABIL)

Position of interest rate spread and loan and advance ratios of NABIL is given in table 4.13.

Table 4.13

Position of Interest Rate Spread and Loan and Advance Ratios of NABIL

Year	Interest rate on Deposit (X_1)	Deposit amount in million Rs (X_2)	Interest rate on lending (X_3)	Loan Amount in Million Rs (X_4)	Interest rate spread (X_3-$X_{1)}$	Loan &advance Ratios ($X_4 \div X_2$)
2004/05	2.82	14856.8	10.90	11078.0	8.08	74.56%
2005/06	3.32	19348.4	10.86	13021.3	7.54	67.29%
2006/07	3.18	23342.4	10.18	15657.1	7	67%
2007/08	2.75	31915.0	10.14	21514.6	7.39	67.41%
2008/09	3	37348.3	10.20	27816.6	7.2	74.47%

The table 4.13 shows a clear picture of interest rate on deposits and lending deposit amount and loan amount for five years period of NABIL as well as interest rate spread and total loan and advance ratios. From the above table both the variable (i.e. deposit and lending rate) move in same direction. When deposit rate decreases larding rate also decreases. But the average spread rate during the period is 8.08, 7.54, 7, 7.39 and 7.2, in FY 2004/05, 2005/06, 2006/07, 2007/08and2008/09 respectively. The interest rate spread shows how greater charge by NABIL for lending than deposit rate. From the analysis spread rate of NABIL is not constant over five years period.

Loan advance to total deposit ratio shows utilization of total deposit fund for loan and advances. Generally loan and advance to total deposit ratio implies the better utilization of total deposited on loan and advance for profit generating purpose and vice versa. The table shows that NABIL has utilized 74.56%, 67.29%, 67%, 67.41% and 74.47% total deposited fund for loan and advances in the respective year2004/05, 2005/06, 2006/07, 2007/08 & 2008/09. The highest ratio of NABIL is 74.56 in FY 2004/05 and 2007/08 and lowest ratio is 67 in FY 2006/07.The relationship between deposit amount and loan amount is shown in figure below:

Figure 4.17

Deposit and Loan Amount of NABIL During Different Fiscal Years

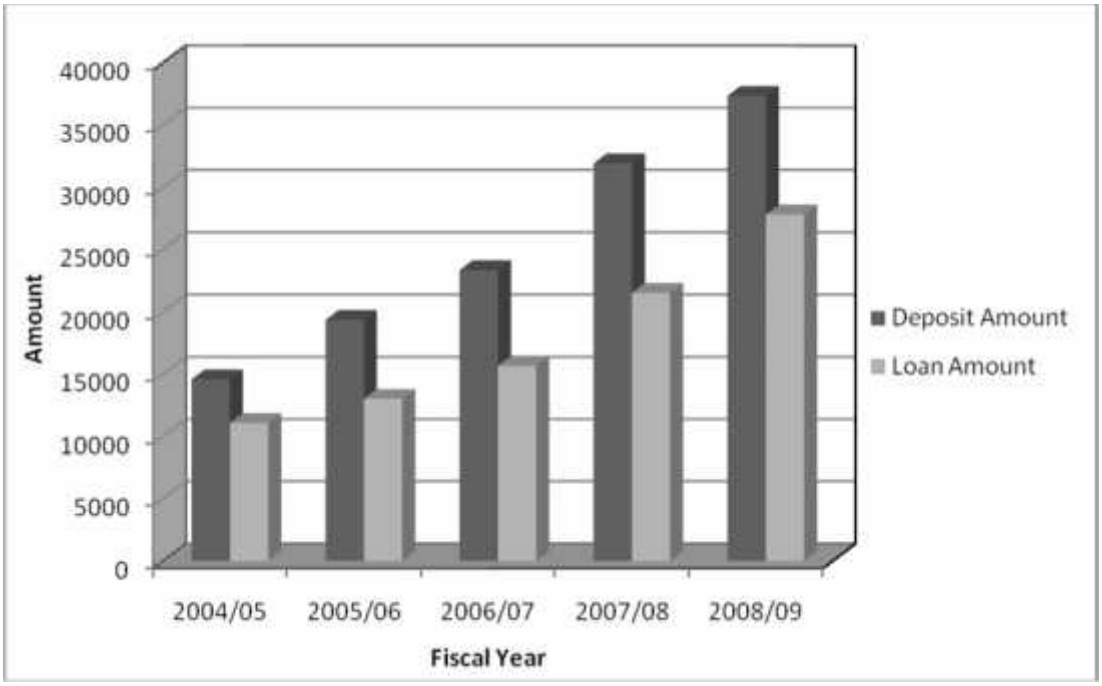
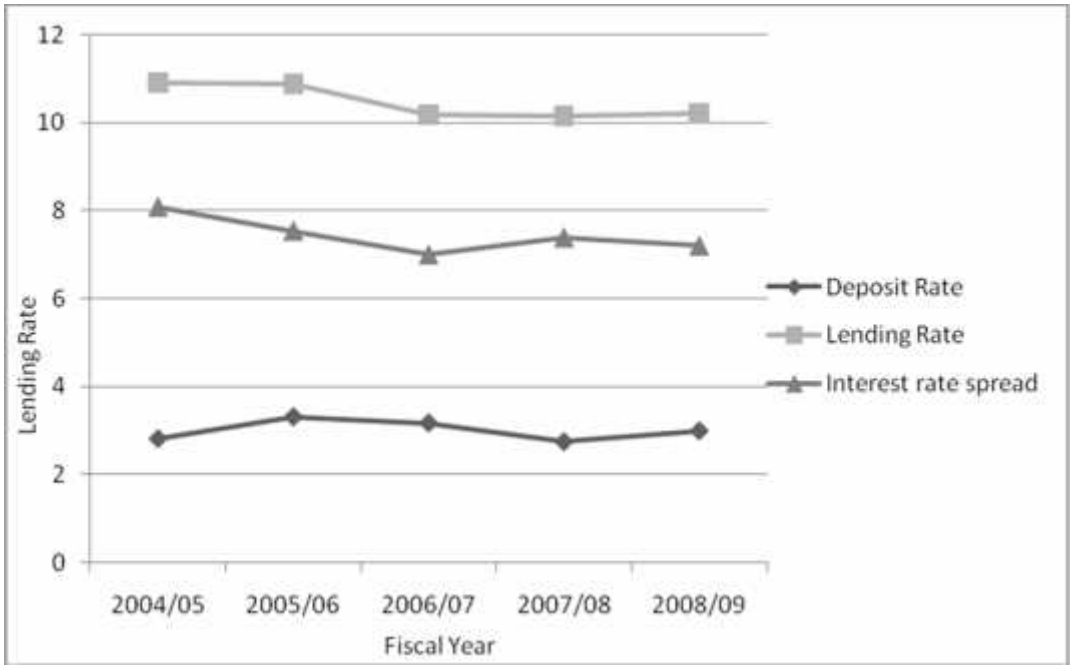


Figure 4.18

Relationship between Lending and Deposit Rate of NABIL



4.4.2. Himalayan Bank (HBL)

Table 4.14

Position of Interest Rate Spread and Loan and Advance Ratios of HBL

Year	Interest rate on deposit (X1)	Deposit amount in million Rs (X2)	Interest rate on lending (X3)	Loan Amount in Million Rs (X4)	Interest rate spread (X3-X1)	Loan & Advance ratios (X4÷X2)
2004/05	2.78	24831.1	10.85	13245.0	8.07	53.34%
2005/06	2.68	26456.2	11.05	15515.7	8.37	58.65%
2006/07	2.68	29905.8	9.25	17672.0	6.57	59.10%
2007/08	4	31805.3	9.25	19985.2	5.25	62.84%
2008/09	4	34681.0	9.47	25292.1	5.47	72.92%

The table 4.14 shows a clear picture of interest rate on deposits and lending deposit amount and loan amount for five years period of HBL as well as interest rate spread and total loan and advance ratios. From the above table both the variable (i.e. deposit and lending rate) move in same direction. When deposit rate decreases larding rate also decreases. But the average spread rate during the period is 8.07, 8.37, 6.57, 5.25 and 5.47, in FY 2004/05, 2005/06, 2006/07, 2007/08and2008/09 respectively. The interest rate spread shows how greater charge by HBL for lending than deposit rate. From the analysis spread rate of HBL is not constant over five years period.

Loan advance to total deposit ratio shows utilization of total deposit fund for loan and advances. Generally loan and advance to total deposit ratio implies the better utilization of total deposited on loan and advance for profit generating purpose and vice versa. The table shows that HBL has utilized 53.34%, 58.65%, 59.10%, 62.84% and 72.92% total deposited fund for loan and advances in the respective year2004/05, 2005/06, 2006/07, 2007/08 & 2008/09. The highest ratio of HBL is 78 in FY2004/05 and 2007/08 and lowest ratio is 73 in FY 2004/05 and 2008/09.

The relationship between deposit rate and lending rate of HBL is given in figure 4.19:

Figure 4.19

Deposit and Loan Amount of HBL During Different Fiscal Years

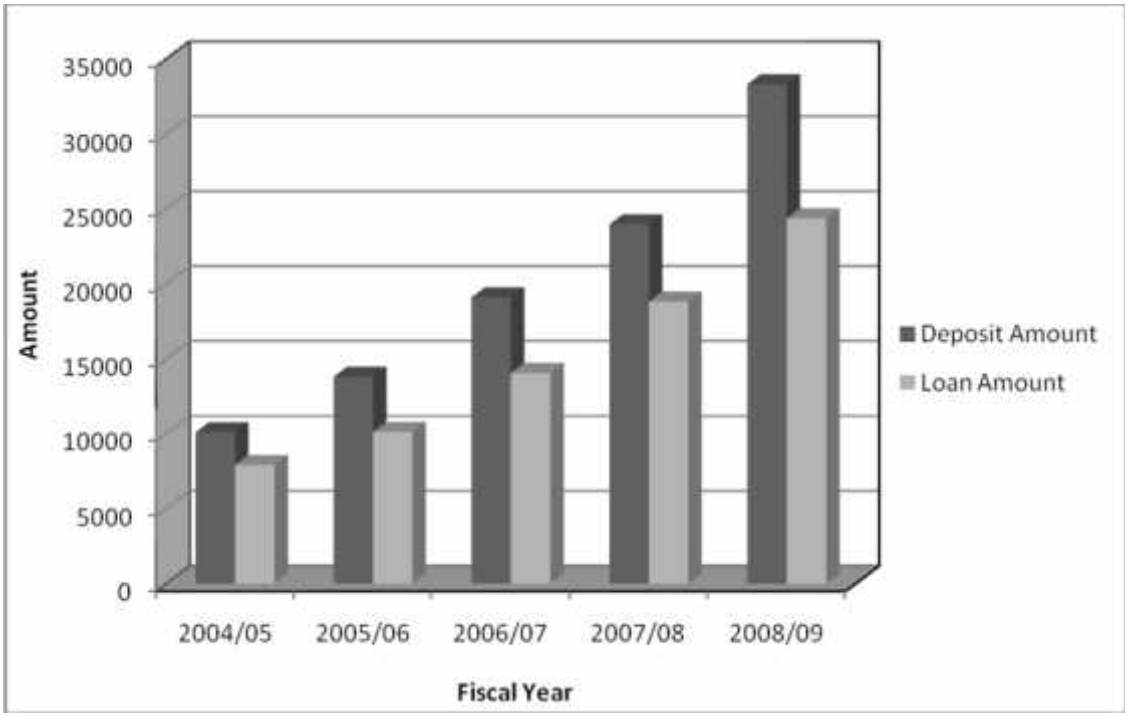
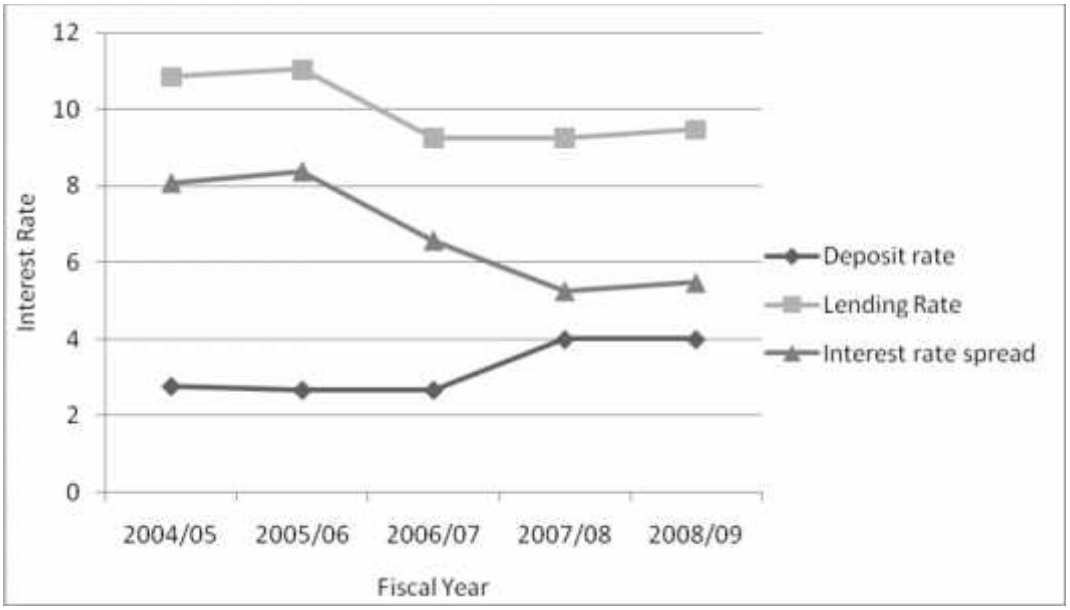


Figure 4.20

Relationship between Lending and Deposit Rate of HBL



4.4.3 Everest Bank Limited (EBL)

Table 4.15

Position of Interest Rate Spread and Loan and Advance Ratios of EBL

Year	Interest rate on Deposit (X1)	Deposit amount in million Rs (X2)	Interest rate on lending (X3)	Loan Amount in Million Rs (X4)	Interest rate spread (X3-X1)	Loan &advance Ratios (X4÷X2)
2004/05	2.96	10097.8	10.54	7914.0	7.58	78.37%
2005/06	3.25	13802.5	9.63	10124.0	6.38	73.35%
2006/07	3.42	19097.7	9.92	14059.2	6.5	73.62%
2007/08	3.9	23976.3	10.02	18814.3	6.12	78.47%
2008/09	4	33322.9	10.04	24366.2	6.04	73.12%

The table 4.15 shows a clear picture of interest rate on deposits and lending deposit amount and loan amount for five years period of EBL as well as interest rate spread and total loan and advance ratios. From the above table both the variable (i.e. deposit and lending rate) move in the same direction. When deposit rate decreases lending rate also decreases. But the average rate spread during the period is 7.58 , 6.38 , 6.5 , 6.12 and 6.045 in FY 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 respectively. The interest rate spread shows how greater a change by EBL for lending than deposit rate .From the analysis spread rate of EBL is not constant over five years period .Range of interest rate spread of EBL during the study period is 7.58% to 6.04% .

Loan advance to total deposit ratio shows utilization of total deposit fund for loan and advances. Generally, loan and advance to total deposit ratio implies the better utilization of total deposited on loan and advance for profit generating purpose and vice versa.

The table shows that EBL has utilized 78.37% , 73.35% , 73.62% , 78.47 % and 73.12 % total deposited fund for loan and advances in the respective year 2004/05 , 2005/06 2006/07 , 2007/08 and 2008/09. The highest ratio of EBL is 78.37 % in FY 2004/05 and 2007/08 and the lowest is 73.12 in FY 2008/09.

The relationship between the deposit rate and lending rate of EBL is given in figure 4.21.

Figure 4.21

Deposit and Loan Amount of EBL During Different Fiscal Years

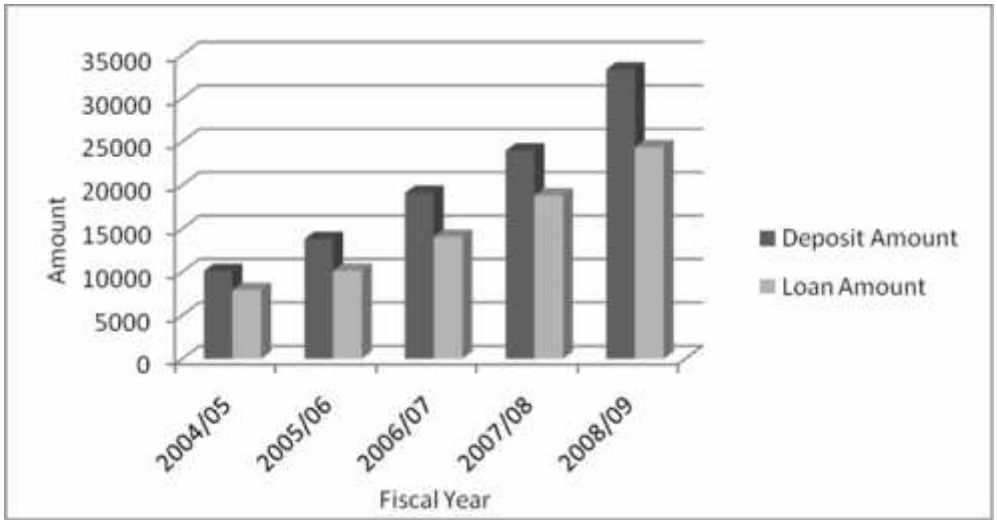
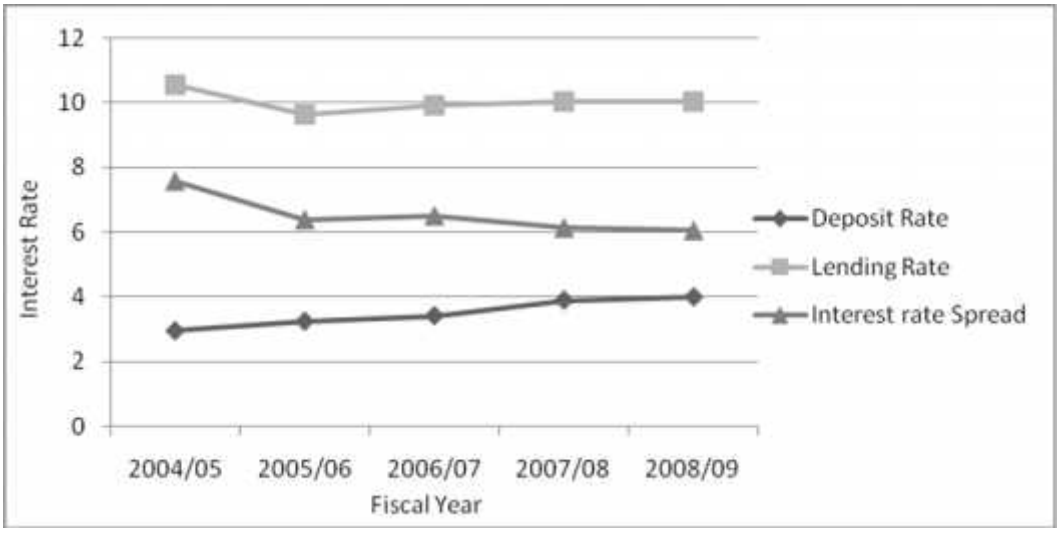


Figure 4.22

Relationship between Lending Rate and Deposit Rate of EBL



4.4.4 Nepal State Bank of India (NSBI)

The interest rate on deposit, interest rate on lending, deposit amount, loan amount and interest rate spread of NSBI bank is shown below:

Table 4.16

Position of Interest rate spread and loan and advance ratios of NSBI

Year	Interest rate on Deposit (X1)	Deposit amount in million Rs (X2)	Interest rate on lending (X3)	Loan Amount in Million Rs (X4)	Interest rate spread (X3-X1)	Loan &advance Ratios (X4÷X2)
2004/05	3.58	8645.8	10.67	6619.1	7.09	76.56%
2005/06	3.67	10852.7	10.67	8059.6	7	74.26%
2006/07	3.55	11445.2	9.78	9846.7	6.23	86%
2007/08	4.17	13715.4	9.78	12574.9	5.61	91.68%
2008/09	4.33	27957.2	9.72	15465.2	5.39	55.32%

The table 4.16 shows that interest rate on deposit is in increasing trend and interest rate on lending is in decreasing trend. This shows that interest rate on deposit and lending are in inverse relationship. Saving deposit amount and loan amount are in increasing trend in every fiscal year. Above table shows that increase in saving deposit rate increases the saving deposit amount.similarly decrease in fixed deposit rate increases the fixed loan amount.The average interest rate spread is 7.09, 7, 6.23,5.61, and 5.39 in years 2004/05, 2005/06, 2006/07, 2007/08 and2008/09 respectively. Loan advance to total deposit ratio shows utilization of total deposit fund for loan and advances. Generally loan and advance to total deposit ratio implies the better utilization of total deposited on loan and advance for profit generating purpose and vice versa. The table shows that NSBI has utilized 76.56%, 74.26%, 86%, 91.68% and 55.32% total deposited fund for loan and advances in the respective year2004/05, 2005/06, 2006/07, 2007/08 & 2008/09. The highest ratio of NSBI is 86 in FY 2006/07 and lowest ratio is 55.32 in FY 2008/09.

The relationship between deposit amount and loan amount is shown in figure below:

Figure 4.23

Deposit and Loan Amount of NSBI During Different FYs

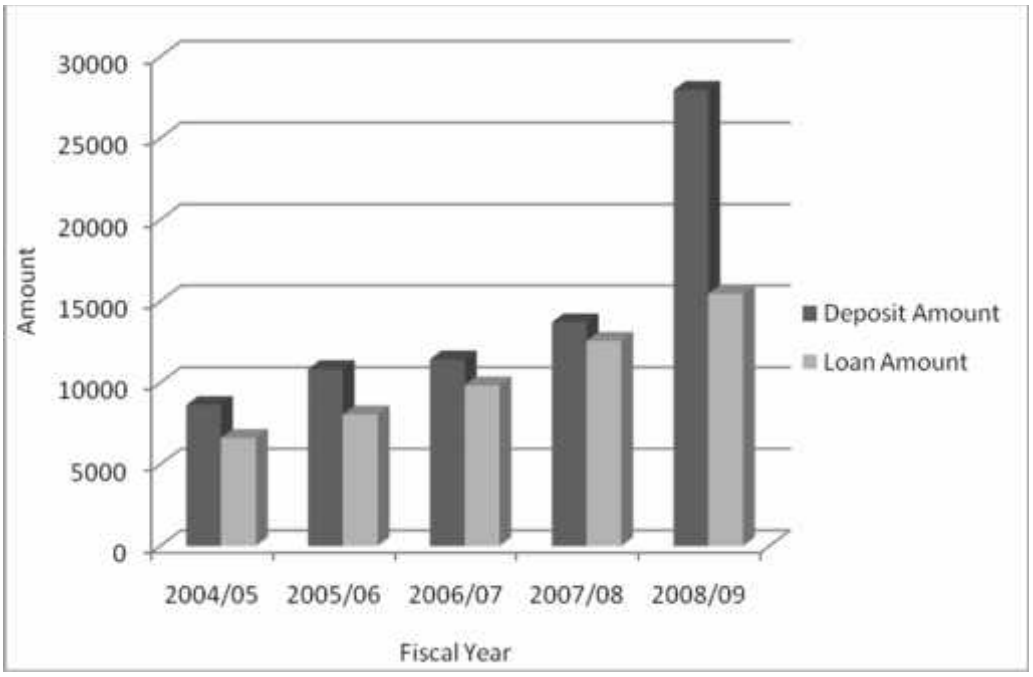
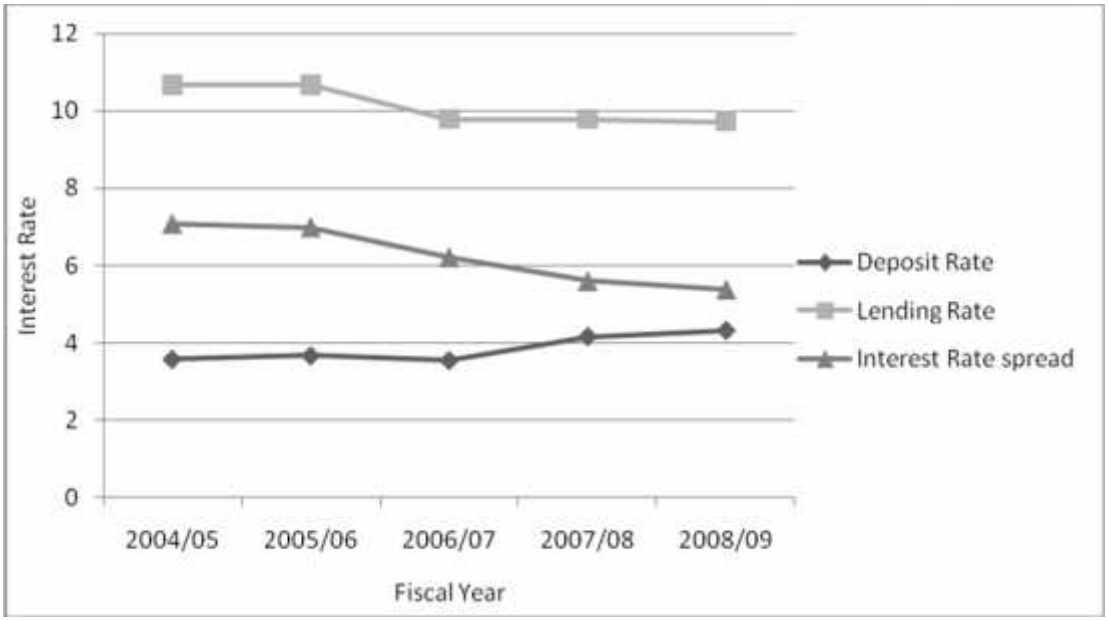


Figure 4.23 shows that deposit amount and loan amount are in increasing trend in every fiscal year.

The relatonship between deposit interest rate and lending rate is shown in the figure below:

Figure 4.24

Relationship between Deposit and Lending Rate of NSBI



4.5 Environmental Scanning and Analysis of Interest Rate

Scanning is acquiring information. Environmental scanning involves acquiring information from the environment to detect emerging trends and create scenarios. It monitors and interprets changes already underway and forecasts future developments that have potential impact on organization. It is done to analyze the interest rate for the organization to formulate strategy.

When interest rates change, it is the result of many complex factors. People who study interest rates find that it is as difficult to forecast future interest rates as it is the weather. Since interest rates reflect human activity, a long-term forecast is virtually impossible. Interest rates are the price for borrowing money. Interest rates move up and down, reflecting many factors. The most important among these is the supply of funds, available for loans from lenders, and the demand, from borrowers. If the demand for borrowing is higher than the funds they have available, they can raise their rates or borrow money from other people by issuing bonds to institutions in the "wholesale market". The trouble is, this source of funds is more expensive. Therefore interest rates go up! If the banks and trust companies have lots of money to lend and the housing market is slow, any borrower financing a house will get "special rate discounts" and the lenders will be very competitive, keeping rates low.

Interest rates in Nepal are deregulated, and the banks are free to set their own deposit and lending rates. Spreads between lending and borrowing rates continued to widen in

recent years, while the overall performance of the banking system showed little improvement despite the growth of private banks from in the 1990s.

However, the Ministry of Finance has imposed a rule on banks limiting the maximum spread between borrowing and lending rates to 5% at the most. But the average lending and deposit rate's spread shows more that 5%. It is an example of the kinds of directed regulations that are used instead of market-oriented approaches.

This spread shows that there is enough Liquidity in the market. There are no any investment opportunities so borrowing has decreased. As there is enough Liquidity in market, banks are not proving with higher interest rate for saving as well. So because of all this change, the spread between Lending and saving has been almost constant.
Analyzing the banking environment, we found that with compare to other commercial banks, these four banks NABIL, HBL, EBL and NSBI are competing in the market and are able to adapt with the changing banking environment. They have provided better quality services to the customers. They are trying to do the best to keep their identity. Among these four banks, EBL is at the top level. There have been changes in the saving interest rate, fixed deposit rate and loan and advance ratio. With the improvement of EBL, other banks are also in their own position for the better performance.

4.6 Major Findings of this Study

After presentation and analysis of relevant data of sample banks under study; using various analytical tools some findings can be drawn. The major findings of the study are as follows:

NABIL

Amount of fixed deposit and interest rate on deposit is highly negatively correlated. But amount of saving deposit and interest rate on deposit is positively correlated. Amount of lending and interest rate is negatively correlated. Relation between interest amount with both saving and fixed deposit and lending amount is also insignificant it is found deposit rate and lending rate moved into same direction. Deposit amount and

lending amount is found in increasing trend and bank however utilizing the collected deposit in terms of loan & advances (i.e. lending) but not properly.

Himalayan Bank Limited (HBL)

Amount of saving deposit and interest rate on deposit is highly negatively correlated. And fixed deposit amount and interest rate on deposit is also negatively correlated. Amount of lending and interest rate is also highly negatively correlated. Relation between interest amounts with saving, fixed and lending amount are insignificant. The deposit rate and lending rate of it is moving in same direction. It is found that deposit amount and lending amount is in increasing order but loan & advance ration is not so good that means deposit amount is not properly utilizing by the bank.

Everest Bank Limited (EBL)

Amount of saving deposit and interest rate on deposit is highly negatively correlated. And fixed deposit amount and interest rate is positively correlated. Similarly amount of lending and interest rate is highly negatively correlated. Relation between interest amounts with deposit (saving and fixed) is significant and relation between interest amount with lending rate is insignificant. The deposit rate and lending rate of it is moving in same direction. It is found that deposit amount and loan & advance ratio is satisfactory that means however the bank is utilizing the deposit amounts in terms of loan and advances.

Nepal State Bank of India (NSBI)

Amount of saving deposit and interest rate on deposit is highly negatively correlated. And amount fixed deposit and interest rate on deposit is positively correlated. Similarly the amount of lending and interest rate is also highly negatively correlated. The relation between interest amount with saving and fixed deposit and lending amount is significant and relation between interest amounts with lending rate is insignificant. It is found that deposit rate and lending rate moved into same direction. Both deposit amount and lending amount are in increasing order and how ever it is also utilizing the deposit amount in terms of loan and advances.

CHAPTER - V

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter is a last part of the research study which includes all the briefing of the whole study and extracts of all the previously discussed chapters. This chapter mainly consists of three parts summary, conclusion and recommendation. In summary portion revision of all four chapters are made viz. Introduction, Literature Review, Research Methodology and Analysis of Data. Then conclusion is drawn following analysis part and comparing the theoretical aspect and analysis. Conclusion part answers whether practically relates to theory. Based on conclusion necessary suggestions are presented in recommendation part i.e. various measures are recommended to concerned organization for the improvement of the current condition of interest rate structure.

5.1 Summary

After the liberalization policy various banks and financial institutions came into existence with a hope to play important role in the development of financial system of the country. Accepting deposit from savers (household, businesses or government) and transferring the collected deposit to the investment sector (i.e. lending collected amount from depositors to borrowers) is one of the major functions of banking business. Banks are the real intermediaries who transfer saving (i.e. collected deposit) to the needy investors does that money can be used in the productive sector for economic development. To collect deposit bank provide certain percentage of interest and when amount is loaned outside (which has been collected from savers) certain percentage of interest is charged to them. Even though there are various factors in the economy that effects deposit amount and lending amount interest rate is one of the major economic indicator that affect deposit and lending amount of the banks. With the curiosity to be clear about interest rate structure of commercial banks and to be clear about whether interest rate influence deposit and lending amount this study is made. With the major objective of showing relationship between deposit rate and deposit amount lending rate and lending amount this study is undertaken. The review of literature shows that there are so many economic and noneconomic factors that are on deposit and lending. But it is real fact that there is relationship of interest rate with

deposit amount and lending amount. The volume of deposit amount and lending amount of banks are highly affected by their interest rate.

According to the theoretical views there is positive relationship in between interest rate on deposit and deposit amount. That means, when interest rate on deposit increases that attract to the deposit and deposit amount of banks a increases or vice versa similarly there is negative relationship in between interest rate on lending and lending amount of banks. That means increases / decreases in interest rate on lending, lending (loan or investment) amount decreases / increases of banks. Various commercial banks and financial companies in Nepal are free to set their interest rate on deposit and lending so all banks are determined their interest rate as per their own policy purpose or objectives However interest rate fluctuates time with impact of economic and non-economic factors which in turn affect deposit amount and lending amount of banks. The effect of interest on deposit and lending amount and interest rate structure on deposit and lending are analyzed from four joint venture banks of Nepal for five years period by using statistical and financial tools mentioned in chapter three. Secondary data are collected from NRB'S economic reports, annual reports of related banks and websites. The analysis of all banks shows average interest rate on deposit is in decreasing and deposit amount is in increasing trend. Similarly interest rate on lending is also decreasing and loan and advances (lending) amount increasing trend. This trend shows there is reveres relationship in between deposit rate and deposit amount lending rate and lending amount of joint venture banks. The statistical analysis also shows that there is significant relationship between deposit rate and deposit amount and lending rate lending amount of most joint venture banks except few. The interest rate spread of all the sample banks found to satisfactory during last five fiscal years.

5.2 Conclusion

From the analysis of relevant data of sample banks under the study; using various statistical tools mentioned in chapter three and from their findings following conclusions have drawn.

1. The interest rate on both deposit and lending of all sample banks are found to be in decreasing trend. But on the contrary to this deposit amount and lending amount is increasing every year.

2. The saving deposit amount and saving interest rate have negative relationship. It means that they have highly inverse relationship if one variable increases other variable decreases and vice versa. This may be due to the fact that in last FYs people accumulated most of their funds on saving accounts though they don't get appropriate interest on it. It may be just because of unavailability of other acceptable investment opportunity, in which a separate study can be made. Similarly, the convenience of using saving accounts provokes the investor deposit on saving account. Similarly the excess supply of saving deposit reduces interest rate of saving account.
3. To clarify the above conclusion the t-statistic of negative correlation between saving deposit amount and saving interest rate is significant except NABIL it means that they have strong negative relationship.
4. Analysis of fixed deposit amount and fixed interest rate shows negative relationship except EBL, and NSBI.
5. The t-statistic between fixed deposit interest rate and fixed deposit amount is Insignificant except for EBL and NSBI. It means that all sample banks have positive relationship for fixed deposit.
6. One of variables that affect the demand of fund (lending activity) is lending interest rate. Theoretically there is negative relationship between lending interest rate and lending amount. In this study for four sample banks, it is found that all sample banks have negative correlation between these two variables. By using correlation tools, it can be inferred that all the sample banks have inverse relationship as suggested by theory.
7. The t- test for correlation coefficient of each sample bank for negative relationship between lending interest rate and lending amount shows that the t value is insignificant which means that though the correlation coefficient shows moderate relationship but their relationship is not strong i.e. not significant relationship. So increase in lending amount is not due to the decrease in lending interest rate but due to other reasons. So it can be concluded that lending interest rate is also one important factor for expansion or contraction of lending amount.
8. It is also found that lending interest rate of the productive sector loan such as commercial loan, Industrial loan, trade credit, working capital loan were decreased lesser in magnitude in comparison to the non- productive sector loan. In case of lending people use more money when interest rate on lending is low.

Almost all banks have lent more money by lowering interest rate on lending. But borrowing has increased on nonproductive sectors.

9. During the study period it is found that there exist the high spread between deposit interest rate and lending interest rate. In the beginning of the five FYs this spreads was large but on later years, the interest rate spread declined to some extent. That may be due to competitive financial environment and less availability of investment opportunity.
10. Based on analysis of sample banks it can be concluded that interest rate on deposit is not attractive for the depositors; as every year deposit rate of sample banks are seen deceasing. So it may also be concluded that commercial banks are not conceived in collecting deposit as interest rate on deposit is too less.
11. From the analysis of lending rate of sample banks it can be concluded that interest rate on lending attract borrowers investors as lending rate of sample banks have decreased every year to provide better opportunities for the borrowers investors.
12. Most of the joint venture banks under study show weak on mobilization of collected deposit. However EBL and NSBI seem to be satisfactory to mobilize its total deposit as compared to HBL and NABIL.

5.3 Recommendation

To full fill the objectives of this study, related data and ideas are collected from different sources. These data are presented; analyzed and interpreted then conclusions are made. Based on the analysis, interpretation and conclusions of this study certain recommendation can be made here. So that the concerned authorities, further researcher, academicians and bankers can get insights on the present conditions of above topics. It is considered that this research will fruitful for them to improve the present condition as well as for further research. The major recommendations after this study are as follows:

1. Interest rates on deposit is too less in Nepal. Joint venture banks are suggested to increase the interest rate on deposit so that depositors are benefited by their saving.
2. The high spread between interest rate on deposit and lending is another factor to be considered. Higher spread merely increases the partite margin of the banks

but at the same time it reduces the deposit collection and investment in the country. So financial institutions are suggested to reduce the spread as minimum as possible.

3. The central banks of Nepal, NRB should pay special attention towards decreasing trend of interest rate on deposit. It may cause different bad effect in the country such as disintermediation, lack of saving and further saving may go outside of the country.
4. As the central bank of the country, NRB has power to specify the range or spread between lending rate and deposit rate. So NRB is suggested to specify the spread whenever there is high gap between lending rate and deposit rate in the country. In order to create fair economic situation, NRB being the regulator it should watch the functions of banks very closely.
5. As the key to success for any organization and for good financial system in the country capital and investment is essential, this is possible only by proper decision making of interest. So all the joint venture banks are suffused to set proper to set proper and practical interest rate policy.
6. While reducing the lending rate, it is suggested to reduce more on productive sectors than non-productive sectors. If not possible then bankers can reduce the rate of all sectors proportionately.
7. In order to promote more lending and to promote more borrowing lending institutions should introduce new customer oriented schemes of lending and borrowing. So that more lending can be promoted and over liquidity may be solved.
8. Banks are not able to mobilize to its deposits in terms of loan due to lack of sufficient safe investment opportunities. Thus it is suggested to the government to improve the political situation of the country.
9. As NRB'S publications are the major sources of data and information regarding this topic, untimely and late publication makes the researcher wait long and even individual banks do not put available information regarding interest rate structure on their published report. So NRB and even individual joint venture banks are suggested to publish all necessary publication in time and in their publications respectively for the convenience of researcher and other interested people.

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Website

www.eblbank.com

www.himalayanbank.com

www.nabilbank.com

www.nepalsbi.com.np

www.nrb.org.np

ANNEXURE

ANNEX-I

Calculation of Standard Deviation, Correlation Coefficient, Coefficient of Determination, t-value (Calculated) and Mean of Interest with Deposit of NABIL Bank Limited

Saving Deposit Interest Rate(X_1)	**Saving Deposit Amount (X_2)**	**X_1^2**	**X_2^2**	**X_1X_2**
2.5	7026.4	6.25	49370297	17566
3	8770.8	9	7692693206	26312.4
2	10187.4	4	103783119	20374.8
2	12160.0	4	147865600	24320
3	14620.4	9	213756096	43861.2
12.5	52765	32.25	8207468318	132434.4
Fixed Deposit Interest Rate (X_4)	**Fixed Deposit Amount (X_5)**	**X_4^2**	**X_5^2**	**X_4X_5**
2.87	2078.6	8.2369	4320577.96	5965.582
3.37	3450.2	11.3569	11903880.04	11627.174
3.41	5435.2	11.6281	29541399.04	18534.032
2.875	8464.1	8.265625	71640988.81	24334.288
3	8310.7	9	69067734.49	24932.1
15.525	27738.8	48.4875	186474580.3	85393.176

Year	**Avg. Interest Rate $\overline{X}$**	**$(X-\overline{X})$**	**$(X-\overline{X})^2$**
2004/05	2.82	-0.194	0.037636
2005/06	3.32	0.306	0.093636
2006/07	3.18	0.166	0.027556
2007/08	2.75	-0.264	0.069696
2008/09	3	-0.014	0.000196
	15.07		0.22872

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

=15.07/5

=3.014

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x-\bar{x})^2}{n}}$$

= 0.21390

Correlation Coefficient between Saving Interest Rate and Saving Deposit of NABIL

$$r_{23} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= 0.08838

Calculation of Coefficient of Determination

Coefficient of Determination, r^2=0.0078

Calculation of t value

$$\text{t-cal Value} = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

= 0.1536

Correlation Coefficient between Fixed Interest Rate and Fixed Deposit of NABIL

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= -0.24255

Calculation of Coefficient of Determination r_{45}^2= 0.0588

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

= 0.4329

Calculation of Standard Deviation, Correlation Coefficient, Coefficient of Determination, t-value(Calculated) and Mean of Interest with Deposit of Himalayan Bank Limited

Saving Deposit Interest Rate(X_2)	Saving Deposit Amount (X_3)	X_2^2	X_3^2	X_2X_3
2.75	12852.4	7.5625	165184186	35344.1
2	14582.8	4	212658056	29165.6
2	15784.7	4	249156754	31569.4
2.25	17935.0	5.0625	321664225	40353.75
2.25	20061.0	5.0625	402443721	45137.25
11.25	81215.9	25.6875	1351106942	181570.1
Fixed Deposit Interest Rate(X_4)	**Fixed Deposit Amount (X_5)**	X_4^2	X_5^2	X_4X_5
2.79	6364.3	7.7841	40504314.49	17756.397
2.79	6350.2	7.7841	40325040.04	17717.058
2.79	8201.1	7.7841	67258041.21	22881.069
4.29	6423.9	18.4041	41266491.21	27558.531
4.29	6377.1	18.4041	40667404.41	27357.759
16.95	33716.6	60.1605	230021291.4	113270.81

Year	Avg. Interest Rate ($\overline{X}$)	($X-\overline{X}$)	$(X-\overline{X})^2$
2004/05	2.78	-0.448	0.200704
2005/06	2.68	-0.548	0.300304
2006/07	2.68	-0.548	0.300304
2007/08	4	0.772	0.595984
2008/09	4	0.772	0.595984
	16.14		1.99328

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

= 16.04/5

= 3.208

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x-\bar{x})^2}{n}}$$

= 0.6310

Correlation Coefficient between Saving Interest Rate and Saving Deposit of HBL

$$r_{23} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= -0.3370

Calculation of Coefficient of Determination

Coefficient of Determination, r^2_{23}=0.1136

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

= 0.6199

Correlation Coefficient between Fixed Interest Rate and Fixed Deposit of HBL

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= -0.3838

Calculation of Coefficient of Determination

Coefficient of Determination, r^2=0.1473

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

= 0.7199

Calculation of Standard Deviation, Correlation Coefficient, Coefficient of Determination, t-value(Calculated) and Mean of Interest with Deposit of Everest Bank Limited

Saving Deposit Interest Rate(X_2)	Saving Deposit Amount (X_3)	X_2^2	X_3^2	X_2X_3
3.25	4806.9	10.5625	23106287.6	15622.425
3.25	6929.2	10.5625	48013812.6	22519.9
3.25	9018.0	10.5625	81324324	29308.5
3.0	11883.9	9	141227079	35651.7
3.0	14782.0	9	218507524	44346
15.75	47420	49.6875	512179027.5	147448.525
Fixed Deposit Interest Rate(X_4)	**Fixed Deposit Amount (X_5)**	X_4^2	X_5^2	X_4X_5
2.9167	3444.5	8.507139	11864580.25	10046.5732
3.25	4298.2	10.5625	18474523.24	13969.15
3.4167	5658.7	11.6734	32020885.69	19334.0803
4.125	6598.0	17..056	43533604	27216.75
4.25	7094.7	18.0625	50334768.09	30152.475
17.9584	27094.1	65.821602	156228361.3	100719.028

Year	Avg. Interest Rate ($\bar{X}$)	($X-\bar{X}$)	$(X-\bar{X})^2$
2004/05	2.96	-0.54	0.2916
2005/06	3.25	-0.25	0.0625
2006/07	3.39	-0.11	0.0121
2007/08	3.9	0.4	0.16
2008/09	4	0.5	0.25
	17.5		0.7762

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

=3.5

Correlation Coefficient between saving Interest Rate and saving Deposit of EBL

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= -0.8892

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

= 0.3927

Calculation of Coefficient of Determination

Coefficient of Determination, r^2=0.7908

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1 - r^2}} \times \sqrt{n - 2}$$

= 3.3672

Correlation Coefficient between Fixed Interest Rate and Fixed Deposit of EBL

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= 0.9660

Calculation of Coefficient of Determination

Coefficient of Determination, $r^2$23=0.9332

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1 - r^2}} \times \sqrt{n - 2}$$

= 6.4736

Calculation of Standard Deviation, Correlation Coefficient, Coefficient of Determination, t-value (Calculated) and Mean of Interest with Deposit of NSBI Bank Limited

Saving Deposit Interest Rate(X_2)	Saving Deposit Amount (X_3)	X_2^2	X_2^2	X_2X_3
3.25	2684.7	10.5625	7207614.09	8725.275
3.25	2832.7	10.5625	8024189.29	9206.275
3.25	3274.7	10.5625	10723660.1	10642.775
3.25	4171.2	10.5625	17398909.4	13556.4
3.0	5822.3	9	33899177.3	17466.9
16	18785.6	42.25	77253550.2	59597.625
Fixed Deposit Interest Rate (X_4)	**Fixed Deposit Amount (X_5)**	X_4^2	X_5^2	X_4X_5
3.65	4086.4	13.3225	16698664.96	14915.36
3.65	6116.2	13.3225	37407902.44	22324.13
3.55	5517.3	12.6025	30440599.29	19586.415
4.40	6854.9	19.36	46989654.01	30161.56
4.60	17438.4	21.16	304097794.6	80216.64
19.85	40013.2	79.7675	435634615.3	167204.105

Year	Avg. Interest Rate (X)	(X-X)	$(X-X)^2$
2004/05	3.58	-0.252	0.063504
2005/06	3.58	-0.252	0.063504
2006/07	3.50	-0.332	0.110224
2007/08	4.17	0.338	0.114244
2008/09	4.33	0.498	0.248004
	19.16		0.59948

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

=3.832

Correlation Coefficient between saving Interest Rate and saving Deposit of NSBI

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= -0.8761

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

= 0.3456

Calculation of Coefficient of Determination

Coefficient of Determination, $r^2 23 = 0.7675$

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1 - r^2}} \times \sqrt{n - 2}$$

= 3.147

Correlation Coefficient between Fixed Interest Rate and Fixed Deposit of NSBI

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1{}^2 - (\Sigma x_1)^2}\sqrt{n\Sigma x_2{}^2 - (\Sigma x_2)^2}}$$

= 0.9828

Calculation of Coefficient of Determination

Coefficient of Determination, $r^2 23 = 0.9659$

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1 - r^2}} \times \sqrt{n - 2}$$

= 9.218

ANNEX-II

Calculation of Standard Deviation, Correlation Coefficient, Coefficient of Determination, t-value (Calculated) and Mean of Interest with Lending of NABIL

Saving Deposit Interest Rate(X_1)	Saving Deposit Amount (X_2)	X_1^2	X_2^2	X_1X_2
10.90	11078.0	118.81	122722084	120750.2
10.86	13021.3	117.94	169554254	141411.32
10.18	15657.1	103.632	245144780	159389.28
10.14	21514.6	102.82	462878013	218158.04
10.20	27816.6	104.04	773763236	283729.32
52.28	89087.6	547.242	1774062367	923438.16

Year	Avg. Interest Rate ($\bar{X}$)	($X-\bar{X}$)	$(X-\bar{X})^2$
2004/05	10.90	0.444	0.197136
2005/06	10.86	0.404	0.163216
2006/07	10.18	-0.276	0.076176
2007/08	10.14	-0.316	0.099856
2008/09	10.20	-0.256	0.065536
	52.28		0.60192

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

=10.456

Correlation Coefficient between Lending Interest Rate and Lending of NABIL

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= -0.7604

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x-\bar{x})^2}{n}}$$

= 0.3470

Calculation of Coefficient of Determination

Coefficient of Determination, r^2=0.5782

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

= 2.028

Calculation of Standard Deviation, Correlation Coefficient, Coefficient of Determination, t-value (Calculated) and Mean of Interest with Lending of HBL

Saving Deposit Interest Rate(X_1)	Saving Deposit Amount (X_2)	X_1^2	X_2^2	X_1X_2
10.85	13245.0	117.723	175430025	143708.25
11.05	15515.7	122.103	240736946	171448.49
9.25	17672.0	85.5625	312299584	163466
9.25	19985.2	85.5625	399408219	184863.1
9.47	25292.1	89.6809	639690322	239516.19
49.87	91710	500.631	1767565097	903002.02

Year	Avg. Interest Rate ($\bar{X}$)	($X-\bar{X}$)	$(X-\bar{X})^2$
2004/05	10.85	0.876	0.767376
2005/06	11.05	1.076	1.157776
2006/07	9.25	-0.724	0.524176
2007/08	9.25	-0.724	0.524176
2008/09	9.47	-0.504	0.254016
	49.87		3.22752

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

=9.974

Correlation Coefficient between Lending Interest Rate and Lending of HBL ,

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= -0.7166

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x-\bar{x})^2}{n}}$$

= 0.7539

Calculation of Coefficient of Determination

Coefficient of Determination, r^2=0.5135

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

=1.779

Calculation of Standard Deviation, Correlation Coefficient, Coefficient of Determination, t-value (Calculated) and Mean of Interest with Lending of EBL

Saving Deposit Interest Rate(X_1)	Saving Deposit Amount (X_2)	X_1^2	X_2^2	X_1X_2
10.54	7914.4	111.092	62637727.4	83417.776
9.63	10124.4	92.7369	102503475	97497.972
9.92	14059.2	98.4064	197661105	139467.26
10.02	18814.3	100.4	100	188519.29
10.04	24366.2	100.802	593711702	244636.65
50.15	75278.5	503.437	956514110	753538.95

Year	Avg. Interest Rate ($\bar{X}$)	($X-\bar{X}$)	$(X-\bar{X})^2$
2004/05	10.54	0.51	0.2601
2005/06	9.63	-0.4	0.16
2006/07	9.92	-0.11	0.0121
2007/08	10.02	-0.01	-0.0001
2008/09	10.04	0.01	0.0001
	50.15		0.4324

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

=10.03

Correlation Coefficient between Lending Interest Rate and Lending of EBL

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= -0.1667

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x-\bar{x})^2}{n}}$$

= 0.2963

Calculation of Coefficient of Determination

Coefficient of Determination, r^2=0.0278

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

= 0.293

Calculation of Standard Deviation, Correlation Coefficient, Coefficient of Determination, t-value (Calculated) and Mean of Interest with Lending of NSBI

Saving Deposit Interest Rate (X_1)	Saving Deposit Amount (X_2)	X_1^2	X_2^2	X_1X_2
10.67	6619.1	113.849	43812484.8	70625.797
10.67	8059.3	113.849	64952316.5	85992.731
9.63	9846.7	92.7369	96957500.9	94823.721
9.78	12574.9	95.6484	158128110	122982.52
9.72	15465.2	94.4784	239172411	150321.74
50.47	52565.2	510.562	603022823	524746.52

Year	Avg. Interest Rate (X)	$(X-\bar{X})$	$(X-\bar{X})^2$
2004/05	10.67	0.576	0.331776
2005/06	10.67	0.576	0.331776
2006/07	9.63	-0.464	0.215296
2007/08	9.78	-0.314	0.098596
2008/09	9.72	-0.374	0.139876
	50.47		1.11732

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

=10.094

Correlation Coefficient between Lending Interest Rate and Lending of NSBI

$$r_{45} = \frac{n\Sigma x_1 x_2 - (\Sigma x_1)(\Sigma x_2)}{\sqrt{n\Sigma x_1^{\,2} - (\Sigma x_1)^2}\sqrt{n\Sigma x_2^{\,2} - (\Sigma x_2)^2}}$$

= -0.7761

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (x-\bar{x})^2}{n}}$$

= 0.4720

Calculation of Coefficient of Determination

Coefficient of Determination, r^2=0.6023

Calculation of t-value

$$\text{t-cal Value} = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

= 2.1315

ANNEX-III

Everest Bank has the following shareholding pattern:

Subscription	%holding
Nepalese Promoters	50%
Punjab National Bank	20%
General Public	30%
Total	100%

Source: Annual Report of EBL 2008/09

The present capital structure of EBL is shown below:

Share structure	Amount(RS)
Authorized capital	1000000000
Issued capital	840620000
Paid up capital	838821000

Source: Annual Report of EBL 2008/09

The share ownership of HBL is composed as:

Subscription	%holding
Promoter Share Holders	65%
Habib Bank Ltd Pakistan	20%
Employee's Provident Fund	15%
Total	100%

Source: Annual Report of HBL 2008/09

The present capital structure of HBL is shown below:

Share Structure	Amount(RS)
Authorized capital	2000000000
Issued capital	1216215000
Paid up capital	1216215000

Source: Annual Report of HBL 2008/09

The share ownership of NABIL is composed as:

Subscription	% holding
Foreign Entity	50.00%
General public	20.00%
Other licensed institutions	30%
Total	100%

Source: Annual Report of NABIL 2008/09

The present capital structure of NABIL is shown below:

Share Structure	Amount(RS)
Authorized capital	1 600000000
Issued capital	9 65747000
Paid up capital	9 65747000

Source: Annual Report of NABIL 2008/09

Nepal SBI bank has the following shareholding patterns:

Subscription	% holding
State Bank of India	55%
General public	30%
Employees provident fund	15%
Total	100%

Source: Annual Report of SBI 2008/09

The present capital structure of NSBI is shown below:

Share Structure	Amount(RS)
Authorized capital	2000000000
Issued capital	877500000
Paid up capital	874527840

Source: Annual Report of SBI 2008/09