A COMPARATIVE STUDY OF INTEREST RATE AND IT'S IMPACT ON DEPOSITS

(With A Case Study between EBL and BOK)

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RECOMMENDATION

This is to Certify that the Thesis

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Entitled:

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(With A Case Study between EBL and BOK)

has been prepared as approved by this Department in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.

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We have conducted the viva –voce examination of the thesis presented

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(With A Case Study between EBL and BOK)

And found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for **Master's Degree in Business Studies (M.B.S.)**

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DECLARATION

I hereby declare that the work reported in this thesis entitled "**A COMPARATIVE STUDY OF INTEREST RATE AND IT'S IMPACT ON DEPOSITS (With A Case Study between EBL and BOK)** submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Master's Degree in Business Studies (M.B.S.) under the supervision of my thesis supervisor Kapil Khanal of Shanker Dev Campus.

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Shiva Shankar Neupane
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ABBREVIATIONS

A.D:	Anno Domini
ADB/N:	Agriculture Development Bank Nepal
Amt:	Amount
ATM:	Automated Teller Machine
BOK:	Bank of Kathmandu
C.V:	Coefficient of Variation
CD:	Certificate of Deposit
EBL:	Everest Bank Limited
FDR:	Fixed Deposit Rate
FIs:	Financial Institutions
FY:	Fiscal Year
GDP:	Gross Domestic Product
HBL:	Himalayan Bank Limited
Ltd:	Limited
MBS:	Master of Business Studies
NABIL:	Nabil Bank Limited
NGO:	Non Government Organization
No:	Number
NOW:	Negotiable Order of Withdrawal
NRB:	Nepal Rastra Bank
S.D:	Standard Deviation
SCBL:	Standard Chartered Bank Limited
SLR:	Statutory Liquidity Ratio
T.U:	Tribhuvan University
U.S:	United States

CHAPTER- I
INTRODUCTION

1.1 General Background of the Study

Interest is the price that pays for utilising a certain amount of money for a specific period of time. It is the rent paid for using money provided by a lender. Essentially, there are three components in the interest rates – risk free rate, risk premium and adjustment for inflationary or deflationary situations *(Pandey; 1999).*

The level of interest rate is set by the interaction of supply and demand forces, with demand for funds coming largely from businesses, individuals, borrowers and when it is running deficit, the federal government. Funds are supplied by individuals and corporate savers and under the control of the Federal Reserve System by the creation of money by the Banks. Depending on the relative level of supply and demand the basic pattern of interest rate is determined. Usually, the lower rates are for safest investments and the higher on the risky ones.

In 1986, financial institutions got freedom in fixing their interest rates in their deposits and loans. In addition, there was also limitation on the interest rate amounts on the different loans provided for productive and priority and full deprived sector. However, there were limitations on certain sectors of lending such as the rate of maximum of 15 percent on the priority sector loan. And for other kinds of loans, financial institutions were given freedom to maintain the interest rate structure. In this way the government has provided freedom as well as limitations on the determination of interest rate.

The interest rate is the price paid for borrowing the scarce loan able funds from a lender for an agreed upon time period. In very general term, interest rate is there price paid for credit, but unlike other prices, in the economy, the interest rate is the ratio of two quantities. So it is computed dividing the cost of borrowed fund in rupees by the amount of money actually used by borrower. An interest rate is cost of borrowing money. The interest rate is expressed in an annual percentage basis *(Horne; 2002:254).*

As the interest rate provides the price signal in the financial system, thus it is important to all the participants, the borrowers, the lenders, savers and investors. For example, higher interest rate encourages saving in greater volume and increases the lending activities of funds. Lower interest rate, in other hand, discourages the saving and reduces the lending activities. Interest is also the opportunity cost of keeping money as cash under mattress as opposed to lending. If we borrow money, then the interest that we have to pay is less than the cost of forgiving the opportunity to have the money in the present. Essentially, there are three components in the interest rates- risk free rate, risk premium and adjustment for inflationary or deflationary situations.

Risk –free rate: it is paid as compensation for deferred consumption by the borrower to the lender. As a borrower derives satisfaction well in advance by bringing forward his consumption, be is required to pay some price, which can be considered as risk-free part of the interest rates.

Risk premium: it depends on the credit worthiness of the borrower. Higher the perceived risk on part of the lender, more risk premium is added to the risk-free rates and vice-versa. An interest rate also has adjustments for inflationary or deflationary economic situations. When value of money is going to fall in inflationary economy, equivalent amount of premium is added to the interest rates, whereas in deflationary economies, interest rates are discounted to factor increase in the value of the money *(Pandey; 1999).*

Adjustment for inflationary / deflationary situations:

When value of money is going to fall in inflationary economy, equivalent amount of premium is added to the interest rates. Whereas in the deflationary economy, interest rates are discounted to increase in the value of money. So an interest rate also has adjusted for inflationary or deflationary economic situations.

Fund collection and mobilization means to collect fund as a saving from the community and invest it in most desirable and highly yielding sector to a process of economic development. Generally fund mobilizing means to flow the cash in different sectors at profit motive. Investment in its broad sense means the sacrifice of certain present value for (possibly uncertain) future value. In pure financial sense, the

subsequent use of the term investment will be in the prevalent financial sense of the placing of money in the hands of other for their use, in return for a proper instrument entitling the holders to fixed income payment or the participation in expected profits. It can define the terms of investment at manufacturing and trading forms those long term expenditures that aim at increasing plant capacity of efficiency or at building up goodwill, there by producing an increased return over a period. Experts define the terms of investment from economic view point that investment as a productive process by means of which additional are made to capital equipments. It is finding to clear the terms of investment at different points of view. *(Van Horne; 2002:187)*

Deposit collection and mobilization is one of the major sources of capital formation. Deposit mobilization is primary and crucial function of any commercial bank. Provides facility of saving to general public and provides fund to investors, which help in mobilization of public fund in fruitful purposes, which helps in country`s economic development. The collection of deposit and its mobilization are the two sides of the same coin, in the absence of one, another cannot work i.e. Without the collection of deposit, mobilization of deposits would be quite impossible and vice versa. They both get along with another under favorable condition, interest rate being the most; Interest is the main factor in fund activities of commercial banks. Interest rate affects on the collection of deposits mobilization of saving position.

As an instrument of monetary policy, interest rate is being used to mobilize savings, to influence bank liquidity and to determine cost of credit etc. Modern economic thinking acknowledged the important role of interest policy as a demand management technique to achieve both internal and external balance by ensuring efficient allocations well as mobilization of financial resources in a economy.

1.2 Statement of the Problems

Banking sector has always been the promising sector giving high return and value to its promoters and shareholders; their down looking financial scenarios has created vary less investment alternatives and comparatively lower return, Our country showed several banks within short period of time fighting for small amount of market share, which requires excessive force making high operational cost, Interest rates as a major tool to change the fortune of the bank it has always been modified as per situation and

economy. After commercial banks received autonomy to determine their own interest rate they have greater burden to carry if it is to shoulder responsibility to drag country towards prosperity and appropriate interest rate if always sought to keep both parties i.e. depositors and borrowers at profitable minimum. Due to competition between the banks to increase the value of deposit and loans and investments it has been working under very less interest spread which is able to hardly cover total cost. This has been because of excessive availability of financial institutions. Moreover frequent changes of interest rate within and outside the bank has changed the banking habit of individual depositors. There has been high tendency to transfer fund from less interest bearing bank of higher interest bearing ones while lower rated lending banks are seeing huge loan applications.

The change in interest rates certainly has deep impact on the activities of the commercial banks. This study basically deals with such impacts of interest rate on the deposit mobilization. The main attempt of this study will be to answer the following questions.

- Is interest rate the main factor in attracting customers to deposit and lend in Banks?
- Do charges in interest rates affect total deposits and loans of commercial banks?
- Do interest rate structures affect the investments of commercial banks?
- What will be the impact of fluctuations in the interest rates on deposit. Loan and investment?

1.3 Brief Profile of the Sample Banks

In this section, general introduction of sample banks under study is given. Although there are 32 commercial banks in Nepal but it is not possible to cover all the banks in the study. So only two commercial banks are chosen which will represent all the commercial banks of Nepal. So the study will analyze financial statement of the chosen banks. The selected banks for the study are as follows:

1.3.1 Everest Bank Limited (EBL)

Everest Bank Limited (EBL) started its operations in 1994 with a view and objective of extending Professionalized and efficient banking services to various segments of the society in the kingdom of Nepal and there by contributes in the economic development of the country. The bank had come into former operations from 18 October 1994 (1 Kartik, 2051 B.S). EBL is a joint venture with Punjab National Bank (PNB), one of the largest commercial banks in India having over 3700 branches and more than 300 foreign correspondents around the globe. PNB has a century old tradition of successful banking and is known for its financial strengths and will laid down modern banking system and procedures. PNB is providing the tough management services to EBL under the technical services agreement signed between the two institutions. EBL, thus, has advantages of the banking expertise and financial strength of its partner in various parts of the Nepal.

1.3.2 Bank of Kathmandu Limited

Bank of Kathmandu (BOK) started its operation in March 1995 with the objective to stimulate the Nepalese economy and take it to newer heights. BOK has today become a landmark in the Nepalese banking sector by being among the few commercial banks which is entirely managed by Nepalese professionals and owned by the general public. BOK also aims to facilitate the nation's economy and to become competitive globally. To achieve these, BOK has been focusing on its set objectives right from the beginning.

The mission of BOK is to offer financial services and becoming the “Bank of Choice” by dedicating to the progress and growth of the institution for the community, customers, employees, supervisors and stockholders by promoting economic growth and becoming a caring corporate citizen, providing excellent customer services by offering personalized quality products and services, inducing modern n technologies of banking that adds value to customer service, following strict risk control mechanisms, enhancing shareholders value, providing challenging career and learning opportunities for employees.

1.4 Objective of the Study

The main objective of this study is to know the overall influence of interest rate on deposit of commercial banks as well as to identify whether the interest rate spread is satisfactory or not. Besides this the other specific objectives related to this study are as given below.

- To analysis the relationship of deposit with interest rate.
- To analysis the trend of deposit, investment and loan and advances.
- To examine the interest rate and its impact on deposit of Nepalese commercial banks.

1.5 Significance of the study

As it has been indicated that the interest rate policy regarded as an important instrument to stimulate saving and mobilization greater amount of interest deposit is now fixed by market forces and not by NRB .This study tries to give information about the changing pattern of interest rate during the different time period and its effects on deposit, credit and investment.

This study attempts to analyze the impact of interest rates on deposit by purpose-wise credit, total credit and investment. It is also shows the clear picture of regulated interest rate fixed by NRB and Market forces i.e. it depicts the relationship between the interest rate, deposit, credit and investment.

This study will also beneficial for those groups, who are interested to know about the interest rate structure and their impacts on the investment portfolio of commercial bank in Nepal, which are as follows:

- To the investor, it provides the lot of information to make effective decision.
- To the policy maker, it helps to make good policy knowing the intension of investor in the interest rate.
- To the government, it provides the applicable information to regulate the market.
- To the researcher, it helps the further study and bases & inputs of the study.

1.6 Limitation of the study

Though this study has been attempted to an accurate and deficiency free, the use of different economics model for the analysis of impact of interest rate on deposit mobilization may have rendered it quite reliable. The empirical analysis has been done only for a period of eight years and this may serve as a constraint for future studies made on the subject. Every research has more or less limitation. Lack of experiences, time financial resources and up to date information are the main limitation of the study. For the completion of this study, some facts are to be considered as the limitation. These are presented as below:

- Although there are 32 commercial banks, only 2 banks are chosen for the study.
- This study is mainly based on secondary data. Accuracy depends upon the data collection and provided by the bank. However primary data is also used.
- The study covers only a period of 5 years (F/Y 2006/07 to 2010/11)

1.7 Organization of the study

This study has been organized into five chapters. Each chapter has its importance and deals with important aspect of the study.

Chapter- I: Introduction

The first chapter presents the introduction of the study. It includes various aspects of present study like background of the study, statement of the problems, brief profile of sample banks, objective of the study, significance of the study, limitation of the study and organization of the study.

Chapter- II: Review of Literature

The second chapter presents review of literature including concepts of interest, commercial banks, interest rate theories, factors affecting interest rates, concepts of deposit and mobilization with the study of related books, journal and articles and previous thesis.

Chapter- III: Research Methodology

The third chapter is research methodology which includes research design, nature and source of data, population and sampling of the study, methods and tools of analysis of data, presentation and report writing. Generally, a common research design possesses the five basic elements viz. (i) selection of problem (ii) methodology are used (iii) data gathering (iv) data analysis and (v) report writing.

Chapter- IV: Data Presentation and Analysis

The forth chapter presents the data analysis and presentation. This chapter is the main aspect of the study. It deals with data collection procedure and presentation of data with different statistical and financial tools, and findings of the study.

Chapter- V: Summary, Conclusion & Recommendations

The fifth chapter is summary, conclusion and recommendations. At the end of the chapter summary of whole study conclusion and recommendation is made.

CHAPTER –II
REVIEW OF LITERATURE

The review of literature provides basic foundations of the study. The various concepts that can be derived from the different literature surveyed in this part. The review of literatures has been described in three parts. The first part presents discussion on conceptual frameworks while other two parts deal with review of literature in the international context, and review of Nepalese studies. 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 know and father 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 of disagreement etc. *(Wolf & Pant, 2005:39).*

2.1 Conceptual Framework

Different authors have defined interests and its workings in different ways. This part, therefore deals with the meaning of central bank, commercial bank and its role and responsibility and concept of interest, the evolution of this concept and the different components of it.

2.1.1 Concepts and Meaning of Interest Rate

Conceptually, interest is both a payment and receipt for the use of money, interest therefore can be considered as a 'cost .On the other hand, if interest is paid, it can be considered as a 'cost' on the other hand if interest is received it can be considered as a 'return' 'Since money can earn return over a period of time, interest rates are often considered as an expression of the time value of money .Usually interest rates are expressed in percentages.

Interest factor is the main factor in fund based activities of commercial banks. In recent years interest rate policy has intensified greatly for a number of reason including an increasing dissatisfaction with performance of fiscal policy for economic

stabilization. Interest rate affects on the collection of deposit, mobilization of saving and profit position *(Balla; 2007).*

Interest rates policy as a monetary policy instrument was employed by the NRB since September 1966. The basic objective behind the changes in interest rates has been to strike tradeoff between bank resources and bank lending to give a positive real rates of interest to depositors and encourage saving to make efficient and rational allocation favorable position of balance of payment . There is a negative relationship exiting between interest rate and deposit. This implies that increase in interest rates was followed by decrease in the amount of deposits (*Rimal; 2010).*

As a form of income accruing to its owner for the use of capital, interest has been subject of deep and fierce controversy from very early times. Philosophers, religious, leaders, social reformers and statesman all had expressed their views on the desirability or otherwise of accepting the payment of interests on the part of the lenders. Interest rate, one of the components of monetary economics is defined by various economists in following ways,

According to the Keynes community's liquidity preferences theory and quantity of money determines the level of rate of interest. These three things liquidity preferences, quantity preferences, quantity of money and rate of interest rate are negatively correlated. At low rate of interest the liquidity preference of community is high and it is low at high rate of interest. It is Keynes who gave interest rate a small but significant role *(Keynes; 1936).*

The neo-classical as the modern theory of the rate of interest is an offspring of the marriage between classical and Keynesian theory. Hicks developed this in 1937. He gave both the classical approach; investment has been treated as a negative function of the rate of interest while saving has been Keynesian approach, the liquidity preference or the demand for the money has been treated as a function of income and the rate of the interest determined by the monetary authorities.

The definition of interest, of some noted scholars are describing below.
Prof. Caryer considers interest "as the income which goes to the owner of the capital" (*Seth, 1979).* According to the Keynes (1936) Community preference and quality of money determines the level of rate of interest. These three things liquidity preference of community is high and it is low at high rate of interest.

Interest rate is sometimes referred to as the financial oil of the economy. Therefore, a vision on its development is of vital importance to every financial organization and to its clients. Predicting the interest rate, however, is hardly possible. Nevertheless, identifying the driving forces behind the interest could help to create an image of its future course. Combining these forces in a number of relevant, plausible and surprising scenarios, a clear image of the risks and uncertainties with regard to interest rate development in the future arises. The interest rate development has important consequences for the bank, for instance for the interest rate margin. Possible policy measures are being considered. But this is also important for the clients. For companies the interest rate to be paid is a major expense and often an indicator for the general economic situation and expectation. For consumers, the interest rate influences the burden of mortgage and in a roundabout way also the value of houses.

2.1.2 Central Bank

Central bank is an apex institutions of the monetary system, which seeks to regulate the functioning of the commercial banks of the country .The central bank of a country enjoys a special status in the banking structure of the country. The principle on which a central bank is run differ from the ordinary banking principle, The guiding principle of central bank, act to Dekock that it should act only in the public interest and for and welfare of the country and without regard of profit and primary consideration" Earning of profit for a central bank thus a secondary consideration *(Ahuja, 2002)* .

The central bank is not a profit hunting institutions. It does not act as rival of other banks. In an under developed country , Central Bank generally plays developing functions, where as in case of developed countries , the functions , where as in case of developed countries the function of controlling financial system is important . A Central Bank has a distinct role to play in an underdeveloped or central Bank has a distinct role to play in underdeveloped countries, the function of controlling financial

system is important. A central Bank has a distinct role to play in an underdeveloped or developing economy because the money and capital markets are either less developed or do not exist at all, while in the latter , central Banks role is to accelerate the economic growth and capital formation.

2.1.3 Commercial Banks

"A commercial bank is one which exchanges money, accepts deposits, grants loans and perform banking function and which is not a bank meant of co-operative, agriculture, industries or for such specific purpose" *(Bhandari; 2009).* Commercial bank is a heart of financial system that holds the deposits of many person, Government establishment and business unit. They make fund available through their lending and investing activates to borrower, individuals, business firms and services from the producers to customers and the financial activities of the government .They provide a large portion of the medium exchange and they are media through banking system of nation is import to the functioning of the economy " *(Bhandari; 2009).*

In this way commercial banks are those banks, which are engaged in commercial banking transaction and exclude from description. From the above definition of commercial bank, it can be defined as a bank is a financial institution of any business, which performs widest range of economic and financial function of any business firm in the economy. The commercial banks and provide loan against proper security for their productive purpose. Moreover they also provide technical helps administrative suggestion, safe keeping of valuable collectives of bills, cheques, and overdraft facilities and provide modern banking facilities to industries and commerce.

2.1.4 Role of Commercial Banks in Economic Development

As we know, the role of economic development depends to a large measure on the rate of capital formation. The rate of capital formation in turn depends on the rate of saving and investment and the proper allocation of funds among different sector and users. The banking system helps economic growth in all these ways, which are as follows:

- Promoting saving
- Mobilizing Saving

- Allocating saving among alternative users and users

Some experts have expressed their view regarding the "Role of commercial bank in Economic function of promoting saving in the framework of price stability". If the price of goods are rising, that is, inflation grips the economic, then the savers would prefer to use their savings to buy gold and silver, other commodities , and real estate whole prices are also rising .This is because the real rate of interest on deposit goes down to the extent of rise in prices. This underlines the important on keeping price stable, if saving by households are to be promoted (*Rajbhandari; 1998).*

a. Promotion of Trade, Production and Investment

By encouraging inducement to save and also to mobilize saving from the public, banks helps to increase the aggregate rate of investment in the economy. It may also be noted that banks not only mobilize the saved funds from the public but also create deposits on credit, which serves money. The new deposits are created by the banks when they lend money to the investors or other user's .These deposits are created by the banks in excess of the cash reserve that they obtain through deposit by the public. These days, the bank deposits especially demand deposits which is as much good money as the currency issued by the government or Reserve Bank of the country. This creation of credit, if it is used for productive, greatly it enlarge production and investment and thus promotes economic growth.

b. Mobilization of saving;

Not only the banks encourage saving but also mobilize saving done by several households and make them available for production and investment to the entrepreneurs in various sector of the economy, This function of mobilizing savings is of crucial importance because in the modern monetary economy the act of saving has been separated from the act of real investment. Saving are done by millions of household and firms , whose individual saving may be very small , saving of some may be very small, savings of some may be short term and of others of long –term nature . Banks and other financial intermediaries) these saving would have remained scattered and also idle that is, would not have been utilized for productive and

investment purpose. As pointed out above, banks mobilize saving of households and firms through offering variety of different household possessing surplus.

It follows from above that the commercial banks, like other financial institutions, provide a link between those who have saving (i.e. surplus funds) and those who are in need of such funds to use them for production and investment purpose. If commercial banks and other financial intermediaries were not there, those with surplus funds would have to search for appropriate borrowers and strike individual bargains with the and bear risk of lending them. The existence of commercial banks makes the tasks of lenders easy and with the control over the commercial banks by the Government or central bank of the country the risk of depositor has been eliminated. This enables the banks to mobilize more resources for production and investment purposes.

It is evident from the above that banks act as a financial intermediary between lender and borrower. The financial assets can be classified into two categories. a) Primary securities 2) Secondary Securities. Equity shares, debentures and company deposits of corporate firms represent primary securities. When household buy these securities they directly or invest money to the investor and bear risk of such investment. On the other hand, bank deposits represent secondary securities and when household go in for them, they provide their savings to banks who allocate them among competing borrowers –traders, producers and investors. In this way it is the banks that bear risk of lending, whereas the depositors money and interest rate safe and certain. Those savers who are risk averters find the secondary securities (bank deposits) more acceptable than the primary securities.

c. Allocation of Funds

Allocation of funds or economic surplus among different sectors, users and producers so as to make maximum social return and thus to ensure optimum utilization of saving is and other important functions performed by the banks. Whereas the corporate firms can raise resources through sale of equity shares and debenture, the no corporate firms and borrows depends greatly on banks for financing the needs of the both borrowers depend greatly on banks for financing the needs of the both working capital and fixed capital. Through the lending rates of interest of working capital and fixed capital.

Through the lending rates of interests determined by market mechanism or fixed by the lending rates of interest determined by market mechanism or fixed by the Central Bank of the country credit advanced by the banks get rationed among various account the credit –worthiness or capacity to pay back the loans. Thus the banks are in a better position to judge the returns or productivity from the from the uses for which the funds are lent out. This helps in maximization of returns from scarce financial resources.

However, it may be mentioned, that commercial banks do not always work and allocate resources in the way that maximizes production or social welfare. For instance, before nationalization in 1969 the commercial banks in India in their allocation of funds neglected socially highly desirable sectors such as agriculture, small –scale industries, and weaker section of the society such as small and marginal farmers, the young entrepreneurs seeking self-employment .On the contrary, they preferred to invest funds collected from the public in bruins concerns of the big business houses, which controlled these banks. Therefore it was thought necessary to nationalize them so that they should allocate resource In socially desirable directions.

In brief the economic development so defined is necessary and sufficient to generate high rates of saving and investment .The generation of high Rates of saving there by investment is possible only through commercial banks. Commercial Banks occupies greater role in economic development by generating the saving towards the desired sectors from different parts of the country and the world and advising to the commercial people.

2.1.5 Interest rate theories

Shrestha, 2065 in his book “financial Institutions & Markets” has mentioned the following theories about interest rate.

a. Classical Theory of Interest Rate

The classical theory of interest rate is one oldest theory to determine the pure or risk free rate interest developed during the eighteenth and nineteenth centuries by British economist and elaborated later by Irving fisher and others. According to this theory, the interest rate is determined by the interplay of two forces of demand from

investment coming from business sectors and supply of saving derived specifically from households. The supply of savings is positively related to the market rate of interest, while the demand for investment is negatively related the level of interest rates. This theory is long-term explanation of interest rate because it focuses on the public's thrift and the productivity of capital that need to changes slowly.

b. The liquidity preference theory

The liquidity preference theory was developed by J.M Keynes in 1936 this theory basically considers the two factors which are more relevant to set the interest rates: policy makers and near term changes factors. This theory assumes that the equilibrium interest rate is formed in the money market at the point where the quantity of money in supply matches the total demand for money. The total demand for money consists of money demands for transaction, precautionary and speculation motives. Whereas the total supply of money is influenced by the action of government, the central bank.

c. The loan able fund theory of interest rate

The loan able fund theory of interest rate assumes that the risk free rate of interest is determined by the demand for the supply of credit. This theory is based on the assumption in considering the elements of both classical and liquidity preference theories.

d. The Rational Expectation Theory

The rational expectation theory of interest focuses upon the total expected supply of credit relative to the expected demand for credit determines the rate of interest. This view of interest rates and asset prices assumes that the money and capital markets are highly efficient in the use of information in determining the public' s expectations regarding future changes in interest rates and asset prices. This expectation theory assumes that business and individuals are rational agents who form expectations about the distribution of future asset prices and interest rates that do not differ significantly from optimal forecasts made from using all the available information that the marketplace provides. The rational agents attempt to make optimal use of the resources at their disposal to maximize their returns.

The main theme of this theory is that "money and capital markets are highly efficient institutions in digesting new information affecting interest rates and securities prices" *(Rose: 1947).*

2.1.6 Interest Rates in Financial System

The acts of saving and lending, and the borrowing and investing activities within the financial system are significantly influence by the interest rate. The Interest rate is the price paid for borrowing the scarce loan able funds from a lender for an agreed upon time period. In very general term, interest rate is there price paid for credit. But unlike other prices, in the economy, the interest rate is the ratio of two quantities. So it is computed dividing the cost of borrowed fund in rupees by the amount of money actually used by borrower. An interest rate is cost of borrowing money. The interest rate is expressed in an annual percentage basis.

As the interest rate provides the price signal in the financial system, thus it is important to all the participants: the borrowers, the lenders, savers and investors. For example, higher interest rate encourages saving in greater volume and increases the lending activities of funds. Lower interest rate, in the other hand, discourages the saving and reduces the lending activities as well. Higher interest rate also means that it tends to reduce the volume of borrowing and capital investing spending. This force in the financial system, actually, determines a rate that satisfies both severs/lenders and borrower/investor called equilibrium rate of interest.

2.1.7 Functions of Interest Rate in the Economy

The interest rate performs several important roles in order to function properly the money and capital market in the economy. The major functions al lists:

- To generate adequate volume of savings to fund investment and thus to grow the economy.
- To direct the flow of credit in the economy toward those investment projects having grater expected rate of return.
- Brings into balance the supply of money with the public's demand for money.
- Acts as important tools to adopt government policy.

2.1.8 Determinants of the Interest Rates

a. Supply and Demand

Interest rate levels are a factor of the supply and demand of credit: an increase in the demand for credit will raise interest rates, while a decrease in the demand for credit will decrease them. Conversely, an increase in the supply of credit will reduce interest rates while a decrease in the supply of credit will reduce interest rates while a decrease in the supply of credit will increase them. The supply of credit is increased by an increase in the amount of money made available to borrowers. For example, when you open a bank account, you are actually lending money to the bank. Depending on the kind of account you open (a certificate of deposit will render a higher interest rate then a checking account, with which you have the ability to access the funds at anytime) the banks can use the money for its business and investment activities. IN other words the bank can lend out that money to other customers. The more banks can lend, the more credit there is available to the economy. And as the supply of credit increases, the price of borrowing interest decreases.

Interest rate levels are a factor of the supply and demand of credit: an increase in the demand for credit available to the economy is decreased as lenders decide to defer the re-payment of their loans. For instance, when you decide to postpone paying this month's credit card bill until next month or even later, you are not only increasing the amount of interest you will have to pay, but also decreasing the amount of credit available in the market. This in turn will increase the interest rates in the economy.

b. Inflation

Inflation will also affect interest rate levels. The higher the rate of inflation, the more interest rates are likely to rise. This occurs because lenders will demand higher interest rates as compensation for the increase in the decrease in the purchasing power of the money they will be repaid in the future.

c. Government

The government has a say in how interest rates are affected. The U.S. Federal Reserve often comes without announcements about how monetary policy will affect interest rates. The federal funds rate, of the rate that institutions charge each other for extremely short-term loans, affects the interest rate that banks set on the money they

lend; the rate then eventually trickles down into other short-term lending rates. The Fed influences these rates by the use of "open market transactions", which is basically the buying or selling of previously issued U.S. securities. When the government buys more securities, banks are injected with more money than they can use for lending, and the interest rates then decrease.

2.1.9 Provision on Interest Income

The interest accrual on loans and advances is recognised on cash basis and exhibited under this head. The amounts of interest accrued but not received is debited to "Accrued Suspense Account" in the assets side and credited to "Interest Suspense Account" in Liability side of the balance sheet. However, if the accrued interest on loan is realised in cash within one month from the date of closure of the fiscal year. In this respect, the following procedure shall be adhered to:

- Interest accruals during the related period shall be debited to "accrued Interest Account" credit to "Internet Suspense Account.
- The balance is such "Accrued Interest Account" shall be recognised into income only if cash is realised from the customer or by debiting the customer's current account, if the balance is sufficient of falls within the overdraft limit.
- Only the amount within one month from the closure of the fiscal year may be recognised into interest income in the earlier fiscal 1 year by debiting "Interest Suspense Account"

In this respect of interest realisation by way of capitalisation the same may be done for interest covering the period specified as per the repayment schedule in the loan agreement. Particulars of loans on which interest are thus realised by way of capitalisation shall be submitted to NRB, inspection, Supervision, and Department

2.1.10 The Current Interest Rate Policy of Nepal Rastra Bank

Interest rate spread is to be maintained at 5% with a view to maintain the weighted average interest rate spread between interest rate offered on the deposit and the interest rate charged on the loans by the commercial banks within the 5% levels. Nepal Rastra Bank has made the following provisions in calculating such spread.

1. The following procedures are to be followed for the calculation of the interest rate spread.

a. The calculation of the interest rate spread is based on the interest expenditures payable on the total domestic and foreign deposits held by the commercial banks as well as the interest income of the commercial banks received in domestic and foreign currency from loans and advances, money at call and balances held abroad.

b. For any specific period, the weighted average deposit rate is to be calculated by dividing the sum of the interest expenses on the total deposits by monthly average deposits and multiplying it by 100. Deposits here include the current deposits, saving deposits, fixed deposits; money at call and other deposits both in domestic and foreign currencies. Likewise weighted average lending rate is to be calculated by dividing the sum of the interest income by monthly average amount of loans and advances, investment, money at call and balances held abroad and then multiplying it by 100 the inter-banking lending is not including in calculation.

c. Difference between weighted average lending rate and the weighted average deposit rate is considered to be the weighted interest spattered.

2. Interest spread is to be calculated and monitored based on the half yearly data (From August to January and from February to July) These data is to be filled up in a prescribed format and dispatched after internal auditing, to the banking operations department and to the inspection and supervision department of the Nepal Rastra Bank within a period of 2 months. Commercial banks are also required to send the prescribed data on the monthly basis to the above departments.

3. If the interest spread of any commercial banks exceed stipulated spread limit of 5%, exceeding amount of interest income of that period should be deposited in a separate special reserve fund created for it. Distribution out of this fund is restricted. However, such special fund can be treated as supplementary capital for the purpose of calculating capital adequacy.

2.1.11 The Interest Rate Spread

The intermediate cost or spread rate of the commercial banks has a direct bearing on saving and investment and thus economic growth of the country because the commercial banks hold dominant portion of financial intermediation, i.e. by July 2007, the shares if commercial banks, ADB/N, NIDC, and Regional Rural Development Banks were more than 85%. The higher spread rate of commercial banks can be observed from comparative figure of un weighted interest spread derived from the difference between the one year average fixed deposit rates and average industrial loan rate of 1982, 1986, 1990, 1995 and 1997, which were 2%, 2.5%, 5.25%, 7.32% and 6.25% respectively. It says that deregulation alone was not sufficient to reduce the spread over the years as the possibility of informal collusions for earning high profit margins for the commercial banks could not be ruled out.

Though Nepal Rastra Bank, through moral suasion on the interest rate spread, directed the commercial banks to keep the spread below 6 % in September 1993, this direction had almost no effect on their cartel and syndicate type of behaviour. In a way, the moral suasion contained no specific method of calculation and procedure of monitoring. Even after the moral suasion, the situation of higher interest rate spread continued. High interest rate spread indicated that depositors were getting low interest rate where borrowers were punished with interest rate creating the flow of loans to export and industrial sector, or other productive projects. At some time, commercial banks had higher cash reserves and were enjoying greater profit margin.

In the view of the above situation, in July 1998 Nepal Rastra Bank gave directive to the commercial banks to lower their weighted average interest rate spread to within 5% and if necessary to change the existing interest rate structure. Since the directive contained no specific methodology as to how to calculate spread, commercial explode the situation for manipulating calculation. Following this, Nepal Rastra bank issued further directive in mid-November 1998 prescribing the detailed method of calculation of Weighted Average spread rate (difference between the interest rates applicable for deposits and credits) Together with the required monitoring and reporting procedures, with the Nepal Rastra Bank, thus give concrete directive to commercial banks to maintain the spread rate within the limit, it has been found however, was more than 5%, for commercial banks in the beginning.

2.1.11.1 Nepalese Economy and its Relationship with Interest Rate Spread

Financial system acts as a facilitator to bridge definite units and surplus units. Financial intermediation helps promote economic growth through the process of saving mobilisation and promotion of productive investment in the country. In this process, financial institutions (FIs) generally pay certain prevailing rate of interest on lending. The differential interest margin is incentive to financial institutions to cover their operational costs and contribute to the worth of the equity holder. The determination of the interest rate of the deposits and lending is more or less governed by the market force. However, the differential rate is mostly influenced by operational efficiencies and the interest margin of the financial institutions. Financial intermediation means transfer of surplus from the investor via intermediaries to the ultimate borrowers, the process involves higher cost of acquiring and evaluating information on the potential borrowers. Since the intermediaries are generally large, they gain economies of scale in analysing the credit worthiness of the potential borrowers, in processing and collecting loans and pooling risks. Therefore, it is postulated that the existence of efficient and competitive financial system leads to higher level of financial intermediation and lower intermediation cost or interest rate spread, i.e. lesser difference between the deposit rate and the lending rate of the financial institutions.

The history of the development of modern banking and financial system isn't long in Nepal. The establishment of the Nepal Bank Limited in 1937 A.D. was the foundation stone laid in the history of banking and financial development of Nepal. Up to the mid-1980s, Nepal had one central bank, Nepal Rastra Bank established in 1956, 2 commercial banks namely Nepal Bank Limited and Rastriya Banijya Bank, established in 1966. There were other two specialised financial institutions functioning as development banks. ADB/N established in 1968 and Nepal Agriculture Development Corporation established in 1956. In addition, some insurance companies and one employee provident fund corporation were also established. There were thus very few financial intermediaries up to the mind 1980's and almost all are more or less state owned and controlled. Financial activities were tightly regulated and controlled through measures like the administered interest rate regime, SLR (Statutory Liquidity Ratio) requirement, imposition of other stringent conditions on funds and portfolio management etc. Therefore, at that time, there were no competitive

environment among the financial institutions and the quality of financial service was poor and traditional. There were no other non-bank financial institutions to provide the service as per the diverse needs and requirements of the consumers. That is why innovations of new financial service and improved quality service could not take place. The level of intermediation as measured by total outstanding deposits of the financial institutions inclusive of the commercial banks, ADB/N, and NIDC as percentage of GDP was less than 25% in July 1989. The same was the case for loans and advances.

As against the aforementioned backdrop, Nepal initiated the financial liberalisation in the mid-1980s. The objective behind the liberalisation was to create competitive atmosphere among the financial system operators so as to increase and improve the financial service, reduce intermediation cost and thus help promote economic growth. The financial sector liberalisation measures included among others the deregulation of the interest rates, free entry and exit arrangement of commercial banks and other financial institutions, removal of SLR, adoptions of indirect and market friendly monetary instruments and establishment and implementations of potential norms etc. By 2002, the financial system of Nepal comprised of the central bank, 14 commercial banks, 9 development banks, 5 regional rural development banks, more than 48 financial institutions and many more cooperatives, insurance companies, citizen investment trust and NGOs performing limited banking activities. These financial institutions are providing financial service all over the country with via a network of more than 1300 institutional entities.

The level of the financial institutions as measured by total outstanding deposits of financial institutions include commercial banks, ADB/N, NIDC, Regional Rural Development Banks and cooperatives as a percentage of GDP from 21.2 % in July 1989 to 44.1% in July 2000. But after the reform measures particularly after the full deregulation of the interest rate regime in 1989, it was expected that there would be competitive behaviour among commercial banks and financial institutions which would prompt banks to provide higher interest rate on the deposits while charging competitive lower interest rate on lending. It was also envisaged that while doing so, banks could increase quantum of financial intermediation and thus profit from it. Consequently it was expected that competition would further bring down the interest

spread, which would contribute to the economic growth by benefiting both depositors and borrowers alike. In addition, the reduced spread was considered as mechanism & parameter that would reflect the financial efficiency and commercial expediency of the financial system in general and the banking system in particular.

2.2 Concept of Deposit

Deposit is nothing more than the assets of an individual which is given to the bank for safe keeping with an obligation to get something from it. To a bank these deposits are liabilities. Commercial bank Act 2031(1974) defines "Deposits" as the amount deposited in a current, savings or fixed accounts of a bank or financial institution. The deposits are subject to withdraw by means of cheque on a short notice by customers. The rate of interest varies depending on the nature of the deposits. The bank attracts deposits from customer by offering different rates of interest and different kinds of facilities. Though the bank plays an important role in influencing the customer to save and open deposit accounts with it, it is ultimately the customer who decides whether s/he should deposits his/her surplus fund in current deposit a/c, saving deposits or fixed/time deposit a/c. Bank deposits arise in two ways. When the banker receives cash, it credits the customer's account, it is known as a primary or simple deposit.

Deposit is a sum of money lodged with a bank, discount house or other financial Institution *(Shrestha & Bhandari 2002:281).*

2.2.1 Types of Deposit

There are different types of deposits. But for this study, major three types of deposits are taken. They are

Demand Deposit

It is the type of deposit that can be withdrawn on demand at anytime or any amount up to full amount of deposit. Current account, money orders and traveler's cheque are example of demand deposit. Customers having high no. of financial transactions use this type of deposit. Characteristics of demand deposits are as follows:

- Accountholders can do unlimited no. of transactions any time.
- Normally, this type of account doesn't generate or earn any interest except where it is specially permitted by the central bank.

- Account holders are given facility of overdraft if it is required after agreement with the bank.
- Accountholders are allowed to send cheques and note for collection from different locations.
- If account only holds mini mum balance, the bank can charge balance as handling charge

  It is classified into two categories:

Non-Interest Bearing Demand Deposit

This type of demand deposit provides customer-oriented services, but interest payments are prohibited. Current accounts are created by this kind of deposit, which are also called checking account in the United States.

Demand deposit can be withdrawn without any pre-information, so non-interest funds of banks. But today's bank is providing account with interest and nature of current accounts, so customers are attracted towards such deposits.

Interest Bearing Demand Deposit

Demand deposit, which provides customer with payment services, safekeeping funds and record keeping for any transactions, carried out by cheques as well as interest. It is also called negotiable order of withdrawal (NOW) account. NOWs are interest bearing demand deposit that gives the bank the right to insist on prior notice before withdraws by customers but because this notice requirement is easily exercised. It is behaved as checking account with interest. It is also called money market demand deposit account and interest bearing thrift account.

Saving deposit

According to commercial, Bank act 2013 (1974) saving account means "An account of amounts deposited in a bank for saving purposes". The saving deposit bears the features of both of the current and fixed period's deposits. Saving accounts are 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 if the

customer wants to withdraw more money from the information to the banks, s\he can withdraw more money. The bank fixes the minimum and maximum amount of bank goes into liquidation, priorities given to the saving deposit than current and fixed deposit holders while repaying the liabilities.

Fixed Deposit

Fixed deposits constitute a very important resource for banks as bank need not keep greater reserve in impact of such deposits. Under the commercial bank act 2031(1974), "Fixed account means as account of amount deposit in bank for certain period of time". The customers opening such account deposit their money in the account for a fixed period. Usually, only the person or institution who wants to gain more deposit as compare to saving deposits. 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 to 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

Call Deposit

It is the type of deposit between current and saving deposit. This type of deposit earns interest as well as can be withdrawn at call. The profit-oriented organization can't open saving accounts, so this call account can be good alternative. Interest rates are not published for this deposit generally. So it compromised between bank and depositor. Interest is calculated in daily balance.

Recurring deposit

Recurring deposit is developed to generate saving from public in regular basis. In this deposit, depositor has to deposit fixed amount of installments for specific period and bank refers total amount of principal and interest at maturity.

Margin Deposit

Bank issue letter of credit, Guarantee and indemnity on behalf of customer for certain money. These are amount to be paid the beneficiaries. This action is conditionally liability for bank. Bank demand certain money as deposit to reduce liability. This deposit is called margin deposit. It may vary under mutual understanding.

Interest is not paid under such deposit and these deposits are returned to customer, unless any claims by beneficiaries.

2.2.2 Deposit Mobilization

Collection scatted amount of capital and investing the deposited fund in productive sector to increase the income of the depositors is meant deposit mobilization. In other word, investing the collection fund in the productive sectors and increasing the income of the depositors, it also supports to increase the saving through the investment of increased extra amount. The main objective of deposit mobilization is to convert idle saving into live saving. In developing countries shortage of capital is the main problem for the developmental activities. Development is needed in the entire sector. It is not to handle and develop all the sectors by the government alone at time. People also cannot undertake large business because the per capita income of the people is very low while their propensity to consume is very high. To the low income their saving is very low and capital formation is also low. So their saving is not sufficient for carrying on development works. To achieve the higher rate of growth and per capital income, economic development should be accelerating. Economic development may be defined in a broad sense as a process of rising income per head through the accumulation capital but bow capital can be accumulation in the developing countries? In context on Nepal, commercial banks are the main financial institution which play very important role in the resource mobilization for the economic development in the country. Therefore, banks should mobilize its deposit in suitable and profitable banking activities and right sector. Generally bank has mobilized its deposits in the following activities.

a) Liquid Funds

A bank has kept a volume of amount in liquid funds. The funds have so many responsibilities in banking activities liquid funds has covered following transactions.

- Cash in hand
- Balance with NRB
- Balance with domestic bank
- Call money

b) Investment

Bank invests its fund in different banking activities and different fields. Many types of fields are shown in market for investment. But bank invest its funds in profitable and safety activities. Bank invests its funds in the following titles:

- Share and debenture
- Government securities
- Joint-venture

c) Loan and advance

Banks mobilize its funds or deposits by providing different types of loan and advance to customers, by charging foxed interest. Bank manages the different types of loan i.e. providing loan, business loan, and traditional loan to priority area.

d) Fixed assets

Land and buildings are essential for the establishment of bank. Bank's funds are used in buying of furniture, vehicle, computer, and other concerned instrument which are related to banking activities. Bank cannot take direct gain from these assets, but bank should buy it. A bank has a need of fund to purchase fixed assets for the new branches of the bank,

e) Administrative and miscellaneous expenses

Bank should manage funds for administrative and other miscellaneous expenses. The administrative expenses are:

- Salary of employee
- Allowances
- Pension
- Advertisement
- Provident fund
- Rent
- Income tax
- Donation
- Insurance
- Stationery

- Commission
- Tour expenses

The miscellaneous expenses are

- To distribute the dividend to shareholders
- To bear the loss on sale and purchase of banking assets
- Maintenance expenses
- To pay the interest expenses on borrowed amount
- Reserve fund

In this way, bank mobilizes its deposits by performing different activities to achieve its desired goals i.e. earning profit. Banks are able to earn sufficient profit by mobilizing its deposits in proper way into the different profitable sector. It can utilize its collected deposits as well as funds in all banking activities by performing effective deposit mobilization procedure.

2.2.3 Need for Deposit Mobilization

The following are some reasons for way deposit mobilization in needed in developing countries like Nepal. The following points show the need for deposit mobilization.

- Capital is needed for the development of any sector the country. The objective of deposit mobilization is to collect the scattered capital in different form with in the country.
- The need of deposit mobilization is felt to control unnecessary expenditure. If there is no saving, the extra money that the people have can flow forwards buying unnecessary and luxury goods. So, the government also should help to collect more deposit, sleeping legal procedures to control unnecessary expenditures.
- Commercial banks are playing a Vitol role for national development. Deposit mobilization is necessary to increase their activities. Commercial banks are granting loans not only in productive sectors, by also in other sectors like food, ga\rains, gold and silver etc though these loans are traditional in nature and are not helpful to increase productivity, but it helps, to some extent, to mobilize bank deposit.

Deposit mobilization plays a Vitol role for the economic development of an underdeveloped and developing country rather than developed one. It is because a

developed country does not feel the need of deposit mobilization for capital formation due to developed capital markets in every sector. But, in an under developed country and developing country, deposit mobilization plays an immense role in such countries. Low national income, low per capita income, lack of technical knowledge, vicious cycle of poverty, lack of irrigation and fertilizer, pressure of population increase, geographical condition etc are the main problems of developing countries like Nepal.

Again, instead of the development of a particular sector, the development of every sector on side and to accumulate the scattered and unproductive sectors deposit on the other is the felt need of and under developed country. we can take this in our country's prevent context.

2.3 Reviews from Relevant Studies

In this part a review of past studies are conducted by other researchers which are relevant to the topic.

2.3.1 Review of Books

Keynes (1936), in this book, *"The General theory of Employment, Interest and money"*. Has mentioned the following the viewpoints about the rate of interest. According to him, community's liquidity preferences and quantity of money determine the level and rate of interest. These three things liquidity preferences, quantity of money and rate of interest are negatively correlated. At low rate of interest, the liquidity preference of community is high and it is low at high rate of interest.

According to the modern view, interest rate determination depends upon the investment, saving, liquidity preferences and supply of money. This view is a combination of previous theories. It has expressed both monetary and non-monetary factors. In this opinion, the marginal efficiency of capital to the rate of interest and investment is equal to the desired volume of saving. Thus the total investment=Total Saving or I=S.

I=Investment and S=Savings.

Keynes In his argument said, Interest directly form from the supply and demand of money itself rather that the use of money. Liquidity is the unique characteristics of money and calls the demand of money to hold liquidity preferences. It is this, which requires the payment of interest. The marginal efficiency of capital determines the degree of liquidity preference and the rate of investment and interest there on.

The views of some economists on interest rates differ. According to these few, the interest rate is a major determinant,, and also traced out the time preference in the determination of interest rate. So, the interest rate must be taken as an important factor of economic policies of developing or less developed countries. Classical economists have their own say that interest rate depend upon the level of saving and the demand for real investment interest is that point where both the amount of saving and demand of investment are equal.

According to Neo-classical economists, demand and supply, factors are important in the determination of interest rate structure. The supply of loanable fund is composed fund is composed of real saving and credit money and demand of the loanable found is composed of the demand for the investment funds. The interplay monetary and non-monetary forces determine the rate of interest.

Deveet (2001), in his book, *"Modern Economics Theory*", mentioned Loan able funds theory of interest. The loan able funds theories believed in time preference explanation of how interest arises. According to loan able fund theory, the interest is the price paid for the use of loan able funds. Like the classical and Keynesian Theories of Interest, it is also a demand and supply theory. It asserts that rate of interest is determined by the equilibrium between demand and supply of loan able funds in the credit market. There are several sources of both supply and demand of loan able funds, which we discuss below.

Supply of loan able funds:

The supply of loan able funds is derived from four basic sources, namely:

a) Saving: Saving by individuals or household constitutes the most important source of loan able funds. Any individual's and household's savings primarily depend upon the size of their income. But, given the level of income, savings

vary at various rate of interest. More savings will be forthcoming at higher rate of interest and vice–versa.

b) Bank credit: Another source of loan able funds is the banking system. Banks can crate money and advance them to businessmen as loans. By contracting their lending, the banks can also reduce their amount of money. The bank's newly created money in a period, greatly adds to the supply of loan funds. The supply curve provided the banks are some degree interest elastic. It varies with various rate of interest.

c) Dishoarding: Labeled as another source of loan able funds, individuals may dishoard money form a hoarded stock, of a previous period. More stock will be dishoarded at higher rate of interest. Cash balances, lying idle in the past period, can become active balances in the present period and are available as loan able funds.

d) Disinvestments: They are considered to be the opposite of investment. This happens due to structural changes or bed ventures and the existing stock of machines and other equipment is allowed to wear out without being replaced or the inventories are drawn below the level of previous period. When this happens, a part of the revenue from the sale of products, instead of going into capital replacement, flows into the market for loan able funds.

Demand for Loan able Funds:

a) Investments: this is the most important constituent of the total demand for loan able funds. The interest serves as the price of the loan able funds required to purchase the capital good. The demand for the loan able funds obviously is the rate interest elastic.
b) Hoarding: those people who want to hoard money may make a demand for the loan able funds. It serves to satisfy their liquidity preferences. Hoarding signifies the people's desire to hold their savings as idle cash balances. The demand for hoarding money is "interest elastic." At a higher rate of interest, people will hold less money because much of the money will be lent to take advantage of the higher interest rates.

c) Consumption: consumption serves the purpose to the second biggest demand for the loan able funds. Individuals or households want to borrow and demand loan able funds when they wish to make purchases in excess of their current incomes and cash resources.

2.3.2 Review of Articles and Journals

Shrestha (2005) in his article "*Deposit mobilization, its problem and prospectus*" has presented that deposit is the life-blood of every financial institution like commercial bank, finance company, co-operative or non-government organization. He further adds in consideration of most of banks and finance companies, the latest figure does produce a strong feeling that serious review must be made of problems and prospectus of deposit sector.

The writer has highlighted following problems of Deposit Mobilization in Nepalese context:

- Most of the Nepalese do not go for saving in institutional manner, due to the lack of good knowledge however; they are very much used of saving be it in the form of cash or ornaments.
- NO more mobilization and improvement of the employment of deposits and loan sectors.
- Unavailability of the institutional services in rural areas.

The writer has also recommended for the prosperity of deposit mobilization which are as follows:

- By cultivating the habit of using rural banking unit.
- By providing sufficient institutional services in the rural areas.
- By spreading sufficient co-operating to the rural of development mini branch services.
- By adding service hour system a bank:
- Nepal Rastra Bank could also organize training program to develop skilled manpower.

Sharma (2008), in his article entitled, "Banking the future on competition" found that all the commercial banks are establishing and operating in urban area, his achievements are:

- Commercial banks are charging the higher rate of interest on lending.
- Commercial banks are establishing and providing their services in urban areas only. They have not interested to establish in rural areas. Only Rastriya Banijaya Bank and Nepal Bank Ltd. Have branches in rural areas.
- They do not properly analysis the credit system. The researcher further states that private commercial banks have mushroomed only in urban areas where large volume of banking transaction and activities are possible.

K.C (2009) Interest is one of the factors of production called value of capital. The differences between recent interest rate and inflation indicate the real interest rate. The best level of interest should be mentioned for the identification of the opportunities within economic investment interest rate changed according to the change in economic situation or according to the demand and supply of credit. He also mentioned the facts related to interest rates:

- The level of interest rates depends upon the internal liquidity inflation, external interest rates and changing exchange rate.
- The change in interest rate is by the deregulation of demand and supply change in real national income return on alternative income number of financial institutions, financial tools and the capacity of financial institutions.
- Desire of general people's saving largely depends on the interest provided by the bank and the bank capacity of providing interest rate depends upon the liquidity position and demand of loans
- Low rate of interest affects negatively in saving mobilization, flexibility of capital, effective utilization of capital resources. And high interest rate affects investment.
- Less spread shows the ability of financial institution. But it is necessary to keep appropriate spread level for financial institution to maintain them qualified in this sector.

Pant (2010) articles called management of internal loan and economic stability viewed that management of internal loan affected my interest rate directly. Interest rate structure helps Government to take decision regarding loans .It also decides about the level of investment, which can invest by the investors. In the supply of money,

which can be invest and its demand from private sector to government sector. But in developing countries interest rate must be higher because of government high demand for capital.

Bista (2011) in his articles that the financial system is dominated by the banking system where commercial banks are the largest and important constituent The financial system has undergone rapid transformation since late eights . This has led to significant improvement in the financial sector; several factor especially the process of economic liberalization; privatization and globalization have contributed to the development. So in the process of liberalization entry of commercial banks is set free. Also in order to free the banks from bureaucratic control and management, His Majesty's Government and NRB have immediately withdrawn its shareholding and managerial control from the commercial bank. He also added the era of liberalization resulted in following ways.

- These are no discrimination between domestic and foreign customer or Clint on Lending facility.
- Banks are free to invest and provide loans on shares and debentures on any magnitude because there is no provision for limiting the lending operations of banks on shares and debentures.
- Banks should leave free from the compulsion of directed lending hence the provision of priority sector lending should be withdrawn. Instead of priority sector lending should be withdrawn, instead, banks should be given incentives and benefits to go for priority sector lending.

2.3.3 Review of Thesis

Following literature have been reviewed for the justification of need and importance of the study.

K.C. (2008) Studies on deposits depend upon numerous factors besides income, inflation and interest rates, keeping the variable constant, the institutional interest rate are the important explanatory variable to influence the volume of deposit in Nepal. Interest rates play an important role in under developed country like Nepal where the demand for capital is increasing at each level of income. An appropriate interest rate

can divert investment improper field .This means, upward movement in the deposit rates increase the volume of deposits.

He also opines that most of the commercial banks in Nepal are concentrated only in the urban areas. Regarding the deposit mobilization credit and the credit is concentrated in urban areas. The volume of deposit had overcome the volume of credit.

The study is limited only on deposit and credit of two commercial banks. Some of the study's objectives are:

- To present picture of the interest rate and other variable.
- To predict the relationship between interest rate and other economic variables i.e. deposit, credit flows etc.

The study has considered the followings:

- Reference period for this study is concentrated before liberalization
- Similarly data has been analyzed in terms of interest rate and deposit and lending rates and credit

Bhandari (2009) Opinions that interest rate, plays a pivotal role in the economic growth of a developing country. It is a major determinant of the direction of the economic growth. So, the necessary of seriousness in forming the interest rate policy cannot be denied. He reflects the necessity of interest rate policy by saying "unless the interest policy be good, its positive impact on other factors i.e. deposit, credit, investment and monetary and fiscal policy cannot be expected.

Some of the objectives of this study are:

- To cast a glance at the historical background of interest structure of Commercial Bank’s(CB)' polices , decisions and strategies and their impact
- To access the impact of interest rate structure of CB on the investment portfolio by analyzing their deposits, loan /advances , interest spread investment and bills purchased and discounted . In the same way the statement of problem includes following points etc.

In the same way the statement of problem includes following points.

Has the interest rate structure of commercial banks had effect on their interest spread , deposit collection and saving mobilization ?

What different have been witnessed after the deregulation the interest rate structure of commercial banks? Etc

.

Shrestha (2010) mentioned on her study that changes in interest rate structure have some positive as well as negative effects in the financial market. The various economic indicator shows the impact of changing interest rate was not as positive as expected. She also opinions in her study, regarding the interest rate relaxation, the effects on deposit seem to be positive. There were positive effects on saving mobilization. She also mentioned some impacts of changing interest rate structure as follows:

The difference interest, Rate can make the financial market active and open.
Changing interest rate structure can create a competitive environment among financial institution and commercial as well. Interest rate will help to maintain quick, healthy and stable money market.

Chitrakaar (2008), In the opinion of Tara Chitrakar, "interest rate is an essential feature of loan based on the principle of probability. Interests are charged on the loans by the banks and interests on deposits are distributed. Substantial emphasis is given on the statement that higher rate of interest on loan results in lower demand of loan and vice versa. The interest rate for the loan, which the banks charges are higher than the interest rate for the deposit".

Neupanes (2009), Studies on interest rate depends upon the economic activities and existing policies of a nation. We find inverse relationship between investment and interest rate in every type of economy. Lower investment is the result of higher interest rate and vice versa. There is direct relationship between interest rates and savings. Lower interest rate brings about a fall in the deposits. There should always be equality in savings and investment. If the interest rates and appropriately fixed, investments can be directed towards proper fields.

Khatri (2009), in his thesis entitled *"impacts of Interest Rates on Deposit Mobilization of Commercial Banks of Nepal"* With the main objective of:

- To present the impacts of interest rate on deposit mobilization of commercial Banks.
- To see the impact of interest rates of deposit on the deposit collected by the commercial banks.
- To see the deposit- credit margin ratio throughout the changed incurred in the interest rate by which one can see that how far the deposits have efficiently utilized.

This study concern only a period of five years from the year ended 1997 to 2001. Only secondary data has analyzed. Simple analytical statistical tools such as graph, percentage, Karl Pearson's coefficient of correlation and the method of least square methods are adopted in this study. Similarly some strong accounting tools such as ratio analysis have also been used for financial analysis.

The writer found that the overall performances of commercial banks are satisfactory and Nepal Rastra Bank has to play more active role to enhance the operation. Liquidity position of the commercial banks has satisfactory. The interest rate has played important role in deposit mobilization of the bank. So the structure of interest rate should be changed according to the need to nation.

Karki (2009), on his thesis entitled *"Deposit mobilization of commercial banks in Nepal"* with the main objectives of:

- To examine how far the rate of interest influence the credit and deposit of RBB Janakpur branch.
- To examine how far the bank branch is successful to accumulate the deposits with special reference to RBB Janakpur Branch.
- To examine how far the deposit of RBB Janakpur Branch is efficiently utilized.

This study is based on secondary data. In his thesis Karl Pearson's formula of coefficient of correlation has been used to compare various variables. In this thesis the writer found that the deposit collection of Janakpur Branch is not satisfactory. He also found that the activities of RBB Janakpur Branch for mobilizing deposits seem to be

idle. The bank has not tried to find out the new sectors of investment. The central office has not given authority to the branch to the branch manager to advance or to invest govt-securities. The writer further fond that the bank provides short term credit and the lending process is also lengthy. The researcher suggested that the bank should reach different sectors for loan and advances and also suggested that RBB Janakpur Branch should extend loan term as well as medium term credit in addition to short term credit.

K.C. (2010) Observes interest rates that highly affect the deposits and lending positions. The relation of interest rate and deposit show that interest elasticity is greater than unity i.e. if the interest rate increases, deposit increases at a greater level. In the same way, credit is related with loan rate of interest. It is known that the relationship between loan rate of interest and credit flows is negative. There tends to be an increase in credit flow when the rate of interest on the loan is low. Therefore the deposits and loans depend upon the interest rate. If interest rate only is taken by keeping, other variable constant we will get that the institutional interest rate is the important explanatory variable to influence the volume of deposits in Nepal.

Rajbhandari (2010) studied Policy of interest rates deserves a vital role in the management of bank funds. It is the best tool to mobilize savings and channel them to desired channels. It is possible because the interest rate is sensitive to changes in both deposits and loans. But we should not accept that changes in the deposit and credits occur only due to the changes in the interest rates. Actually there are many other variables that affect the volume of deposits and credits of the banks. The inflations rate, the trade conditions, the policy legs of the state corporations, seasonal variations in some loans, the monopoly of banks., the non-development of the money markets, the lending policy of the banks, the tax rates, the margin rate and so on may affect the policy of interest rate as well as the credit-deposit operations of the banks."

In the research entitled "A Study on deposit mobilisation and utilization of commercial banks with special reference to Nepal Bank Limited" by Mrs. Shova Shrestha has specified, "Nepal Bank Limited has been much efficient in the collection of resources from the people in both urban and rural area of the country. But in the

progress of its utilization, they are still behind. There is a decrease in the ratio loans and investment deposits and a wide gap has existed between them.

Is to off short –term loans for working capital but they collect fixed deposits. Thus they have capacity to offer medium and long-term credit and are found keeping deposits idle. The interest rate has played an important role in mobilizing and utilizing the resources of the bank. So, the structure of interest rate should be changed according to the need of the nation. Even though the function of commercial banks. Thus it can be said that the Nepal bank Limited is not playing active role to utilize the collected savings according to the borrowers and national requirement of long term and medium term investments."

2.4 Research Gap

Though these above reviews are very useful to develop adequate insight to provide added input to carry this study. In previous thesis and study it has not been shown interest is the major factor that plays main role in to the activity of commercial bank and development of the whole economy of the nation. It has not been given also clear definition of different types of interest rate and its effect in the investment portfolio of commercial bank .it has not been collected the current &latest views of the customer and bankers towards the interest rate and not suggested to the bankers and government to maintain the interest rate in good position also. Therefore, in this thesis , focus will be on the simple application of interest rate of commercial bank and their impact on Deposit mobilization(i.e. lending , investment , borrowing will fulfill the total research gap which is mentioned above . This study covers the recent and an updated data of all the sample banks. Moreover this study has not been done by previous researcher as separately. This study also tries to analysis primary data. Thus, to fill the gap, this study had been conducted. This kind of study is expected to provide useful information for policy making and implementation at both micro and macro levels.

CHAPTER: III
RESEARCH METHODOLOGY

Research is the process of a systematic and in depth study or search of any particular topic, subject or of investigation backed by the collection, presentation and interpretation of relevant details or data. Research methodology is a way to solve the research problem systematically. This is the steps, guidelines and tools used in the research by the researcher. It considers the logic behind the methods used in the context of research study and explains why particular method or technique is used. It highlights about how the research problem has been defined, what data have been collected, what particular method has been adopted, why the hypothesis has been formulated etc. Really, it is one of the most important parts of the research which provides outlines of the research and also present method and process of entire research. *(Joshi; 2007:19)*

3.1 Research Design

Research design is a conceptual framework within which a researcher conducted. Research design is plan for the collection and analysis of data. It presents the series of guide posts enable the researcher to progress in the right direction in order to achieve the goal. The design may be a specific presentation of the various steps in the research process. These steps include the selection of a research problem, presentation of the problem, formulation of hypothesis, conceptual clarity and methodology, survey of literature and documentation, bibliography, data collection, testing of hypothesis, interpretation, presentation and report writing. Generally, a common research design possesses the five basic elements viz. (i) selection of problem (ii) methodology are used (iii) data gathering (iv) data analysis and (v) report writing. *(Joshi; 2007:52)*

This analysis is based on certain research design keeping on objectives of the study in mind. This research design is guideline studying profound way for research ability. This study focuses towards the bonus share issue and practices. In this research, research design is used for analytical as well as descriptive methods of collected data. This is the empirical research work, this research work help to understand some of the features of bonus share issue and impact on stock price in Nepalese corporate firms.

3.2 Population and Sample Selection

Population refers to the entire group of people, events or things of interest that a researcher wishes to investigate. As this study is about a study on interest rate and its impact on deposit, all 32 Commercial banks of Nepal are taken into account as population. Out of the total population i.e. 32 commercial banks, 2 commercial banks are taken for this study. These two banks are the samples selected by using judgmental sample methods for this research. The selected sample banks with the selected fiscal year are:

Bank	Fiscal Year	Period	% of cover
BOK	2006/07 - 2010/11	5	50
EBL	2006/07 - 2010/11	5	50
	Total	10	100

3.3 Data Collection Procedure

The research is mainly based on secondary data. However primary data is also used. The secondary data are collected mainly from sources like annual reports, prospectus published bulletins, news paper, journal internet and other sources. Secondary data are collected from various publications of concerning organizations from Nepal Rasta Bank and even from websites of various banks. The research work has covered a period of five years i.e. F/Y 2006/2007 to F/Y 2010/2011.

3.4 Data Processing and presentation

The information or data obtained from different sources will be in raw from. 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 (Banks publication) and presented. For presentation different figures and tables are used. Similarly graphical presentation is also made. So far as the computation is concerned, it has been done with the help of scientific calculator and computer software program.

3.5 Tools for Data Analysis

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.

3.5.1 Financial tools

A single figure by itself has no meaning. But when expressed in terms of related figure, it yields significant result. Financial tools are used to examine the strength and weakness of performance of the company. In this study, financial tools like interest rate spread and ration 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 firms or to it overtime. Therefore only those ratios have been covered in this study as required by the study.

Loan and advance to total deposit ratio

The loan and advance to deposit ratio is another ratio used in the study. The ration analyses the amount of loans that have been given out as loans and advances from all the deposits obtained. The deposits are mobilized in various places and funding of loans and advances is one of them. The ratio analyses to find out how successfully the banks are utilizing their total deposit 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 buy total deposits, this can be stated as below:

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

Investment to Deposit Ratio

Investment is one of the major sources of earning of profit. This ratio is used to determine how much of the deposits are utilized as investments by the commercial bank. The ratio determines the amount of investments that have come from the

deposits. The investments can be in various sectors such as government securities and treasury bills. This ratio is calculate by using following formula

$$\text{Total Investment to Total Deposit Ratio} = \frac{\text{Total Investment}}{\text{Total Deposit}}$$

Where, total investment includes investment on government securities. Investment on debentures and bonds, shares in subsidiary companies, shares in other companies and other investment

Interest Income to loan & advance ratio

Interest is also one of the major sources of income for the financial institution. Interest income is generated from giving loan & advances to different sector. This ratio indicates the financial position of the banks. Higher the ratio indicates good financial position and vice versa. This ratio can be calculated by using following formula.

$$\text{Interest Income to Loan and Advances Ratio} = \frac{\text{Total Interest Income}}{\text{Total Loan and Advances}}$$

Interest Expenses to Total Deposit & Borrowings Ratio

The major expenses of the commercial banks are interest on deposits used to generate revenue. The bank's total expenses consists the large percentage of interest expenses on deposits. The interest expenses incur when the interest owes on short-term borrowings in the money market mainly borrowings in the money market- mainly borrowings of central funds from their banks and security repurchase agreements. The interest expenses also consists the expenses paid on subordinated capital notes and debentures and other borrowed fund. This ratio shows the how effectively the banks are can be calculated by using following formula:

$$\text{Interest Expenses to Deposit and Borrowings Ratio} = \frac{\text{Total interest ratio}}{\text{Total Deposit and Borrowings}}$$

Interest Rate Spread

The interest rate spread measures the effectiveness of the bank in the intermediation function, where the bank borrows the fund at one lower level if interest rate and lend at another higher level of interest rate. The spread also use to identify the intensity of

completion among banks in the market. Higher positive interest spread shows the successfulness of the bank in collecting the funds at cheaper rate and granting them at higher rate. The higher interest rate spread is not possible for most banks in the time of strong competition. In this case, bank management seeks to look for other new revenue generating services to its clients to make up the decreased spread. The interest rate spread is the different in the interest rate between the lending rate and the deposit rate. The interest rate can be calculated as follow:

Interest rate spread = Interest rate on lending – Interest Rate on deposit

3.5.2 Statistical Tools

Statistical tools are the mathematical techniques used to analyze and interpret performance. It is used to describe the relationship between variables and interpret the result. Statistics is also used to test the hypothesis that is set to know the information of population.

Mean ($\overline{X}$)

The arithmetic mean or average is the sum of total values to the number of observations in the sample. It represents the entire data which lies almost between the two extremes i.e. the largest and the smallest item. For this reason an average is frequently referred to as a measure of central tendency. In this study it is used in data related to dividend of sample banks over five years. It is calculated as:

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

Where,

$\sum X$= Sum of total values

N = Number of observation

Standard Deviation (S.D.)

The measurement of the scatterings of the mass of figures in a series about an average is known as dispersion. S.D. is an absolute measurement of dispersion in which the drawbacks present in other measures of dispersion are removed. The high amount of dispersion reflects high standard deviation. The small standard deviation means the high degree of homogeneity of the observations. In simple term high SD means very less similarity in the values and low SD means high similarity among the values. SD

gives the accurate result between the values only if their mean are same. In case of different mean, SD cannot be the accurate result. It is calculated for selected dependent and independent variable specified. It is the positive square root of mean squared deviation from the arithmetic mean and is denoted by and is calculated as follows:

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum X^2}{N} - (\frac{\sum X}{N})^2}$$

Coefficient of Variation (CV)

Coefficient of Variation measures the relative dispersion and denoted by CV. It is used in such problems where we want to compare the variability of two or more series. The series for which the CV is greater is said to be more variables and conversely less consistent, less uniform, less stable or less homogeneous. On the other hand, that series for which the coefficient of the variation is less is said to be less variable or more consistent, more uniform, more stable or more homogeneous. It is obtained by dividing by the arithmetic mean to standard deviation. Thus

$$\text{Coefficient of variation(CV)} = \frac{\sigma}{\overline{X}} \times 100\%$$

Where,

$\sigma = \text{Standard deviation}$

$\overline{X}$ = Mean

CV reflects the relation between standard deviation and mean. The relative measure of dispersion based on the standard deviation is known as coefficient of standard deviation. The coefficient of dispersion based on standard deviation multiplied by 100 is known as C.V. It is used for comparing variability of two distributions.

Coefficient of correlation (r)

Correlation analysis is the statistical tool that can be used to describe the degree to which one variable is linearly related to another. The coefficient of correlation measures the direction of relationship between two set of figures. It is the square root of coefficient determination. Correlation can either be negative or positive. If both variables are changing in same direction, then correlation is said to be positive but

when the variation in the two variables take place in opposite direction the correlation is said to be negative.

The strength of correlation between the variables can be quantified. This is achieved by calculating the correlation coefficient. The correlation coefficient varies between +1 to -1; with +1 representing perfect positive correlations and -1 representing perfect negative correlation. In this study, simple coefficient of correlation is used to examine the relationship of different factors with dividend and other variables. The data regarding dividend over different years are tabulated and their relationship with each other are drawn out. In practical life, the possibility of obtaining either perfect positive or perfect negative correlation is very rare. The coefficient of correlation is calculated by:

$$r_{XY} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$$

Coefficient of Determination (r^2)

The coefficient of determination is the measure of the degree of linear association or correlation between two or more independent variables. It measures the percentage total variation in dependent variables explained by independent variables. If r^2 has a zero value then, it indicates that there is no correlation which means all the data points in scatter diagram fall exactly on the regression line. If it has the value equal to one then it indicates that there is perfect correlation and as such the regression line is the perfect estimator. But in most of the cases the value of r^2 will lie somewhere between these two extremes of 1 and 0. One should remember that r^2 close to one indicates a strong correlation between two variables and r^2 near to zero means there is little correlation.

$$\text{Coefficient of Determination } (r^2) = \frac{\text{Explained variation}}{\text{Total Variation}}$$

Or,

$$r^2 = 1 - \frac{\text{Unexplained variation}}{\text{Total Variation}}$$

Trend Analysis

The arrangement of Statistical data chronologically (according to occurrence of time) is known as time series and the statistical analysis of this chronological variation is termed as Trend Analysis. It helps to know the past behavior of data in certain span of time interval. On the basis of these past trends, one can make plan in forthcoming days. This Least square method is the most popular and widely used mathematical method of measuring trend. This is frequently used for future prediction. There are various types of curves that may be used to describe the given data but in this text, an attempt has been made to discuss only the fitting of linear trend by the least square method.

Let, the equation of Trend Analysis would be,

$Y = a + b x$

Where,

Y = the given value of the variable in time series. It is a dependent variable.

a = Intercept of trend line or y- intercept.

b = Slope of Trend Line.

x= Time variable.

CHAPTER- IV
DATA ANALYSIS AND PRESENTATION

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 of sample bank. This chapter consists of detail analysis and interpretation of data relating to interest rate on deposit, deposit collection amount of each selected organization from Nepalese financial system. This chapter is categorized in three parts presentation, analyses and interpretation. The analysis is based on secondary data. In presentation section data are presented in terms of table, graph chat 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. 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 deposit amount is made.

This chapter is the heart of the study. This chapter consists of relevant data and information necessary for the study. In this chapter the analysis part is presented in detail. This chapter is mainly concerned with the presentation of collected data in suitable tables and diagrams as well as the analysis and presentation of these collected data in a suitable manner using various statistical and financial tools. Different types of ration have been calculated to reach in the conclusion of the study.

4.1 Overview of Nepalese Financial Sector

The Nepalese financial sector is composed of Nepal Rastra Bank, commercial banks, development banks, financial companies, micro-credit development banks, cooperative financial institutions, non-government organizations performing limited banking activities and other financial institutions such as insurance companies, employee's provident fund, citizen investment trust, postal saving offices and Nepal

stock exchange. During the last two and half decades the number of financial institutions has grown significantly. At the beginning of the 1985s there were only three commercial banks and two development banks in the country. After the induction of the economic liberation policy, particularly the financial sector liberalization, it provided the impetus in the establishment of new bank and non-bank financial institutions. Consequently by the end of mid-July 2009 altogether 254 banks and non bank financial institutions licensed by NRB are in operation. Out of them, 32 are "A" class commercial banks, 87 "B" class development banks, 79 "C" class finance companies and 21 "D" class micro-credit development banks 16 saving and credit cooperatives and 38 NGOs.

Table 4.1

Growth of Financial Institutions in Nepal from 1985 to 2012

Type of Financial Institutions/Year	1985	1990	1995	2000	2005	2009	2012
Commercial Banks	3	5	10	13	17	26	32
Development Banks	2	2	3	7	26	63	87
Finance Companies	-	-	21	45	60	77	79
Micro-credit Development Banks	-	-	4	7	11	16	21
Saving and Credit Cooperatives	-	-	6	19	20	16	16
NGOs (Limited Cooperatives)	-	-	-	7	47	45	38
Total	5	7	44	98	181	243	273
Percentage Growth (%)	-	40	528.6	122.7	84.7	34.25	12.35

Source: Banking and Financial Statistics, NRB

4.2 Analysis of Deposit and Interest Rate position

In this section, detail study is made about deposit amount and interest rate of sample banks. Deposit is that amount which is deposited by saver in commercial banks of other financial institutions for safe keeping as well as for earning the interest from it.

Deposits are the main sources of resources to meet growing demands of financial existence. The existence of commercial banks basically depends upon the mobilization of deposits. The commercial banks may function when they have adequate deposits. Higher the volume of deposit, higher will be the volume of profit. So, a commercial bank first of all tries to mobilize as much deposit as possible. One of the main objectives of commercial bank is to safeguard the amount deposited by the general deposits on its mobilization in an effective manner. The following tables and figures show the situation of commercial banks in relation to deposit collection and its utilization in the recent years.

4.2.1 Deposit and Interest Rate Position of EBL

The following table and figures show the interest rate and amt of deposit collection by Everest Bank Ltd. Throughout the study period of 2006/07 to 2010/11. The table also presents the percentage change in deposit amount of EBL during the study period.

Table 4.2

Deposit and Interest Rate Position of EBL

Fiscal Year	Deposit Amount (Rs. In Millions)	Change (%)	Interest rate (%)
2006/07	19097.7	38.36	3.28
2007/08	23976.3	25.55	2.82
2008/09	33322.9	38.98	3.52
2009/10	36932.3	10.83	3.75
2010/11	41127.9	11.36	5.48

Source: Annual Reports of EBL (2006/07to2010/11)

The table 4.2 and figures 4.1 shows the total deposit amount of EBL and figure 4.2 shows the interest rate during the study period. The amount of total deposit by EBL during the study period is in increasing trend. The deposit amount was 19097.7 million rupees in FY2006/07 and amount increased to 41127.9 million rupees in FY2010/11, which is around 115% increase. It means the deposit amount of EBL has been increased substantially during the study period. Interest of the bank also is in increasing trend. Interest rate in year 2006/07 was 3.28% which increased in year 2010/11 in 5.48%. It means there is positive relation between interest rate and deposit amount.

Figure 4.1

Deposit Amount of EBL during Different FY

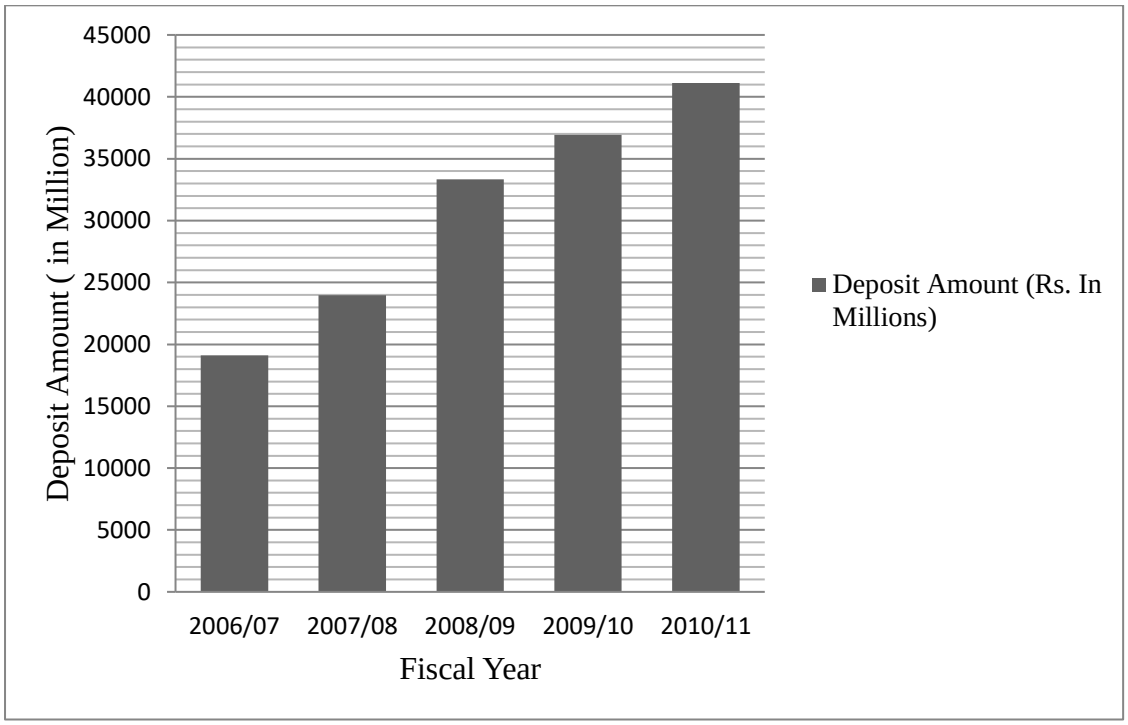
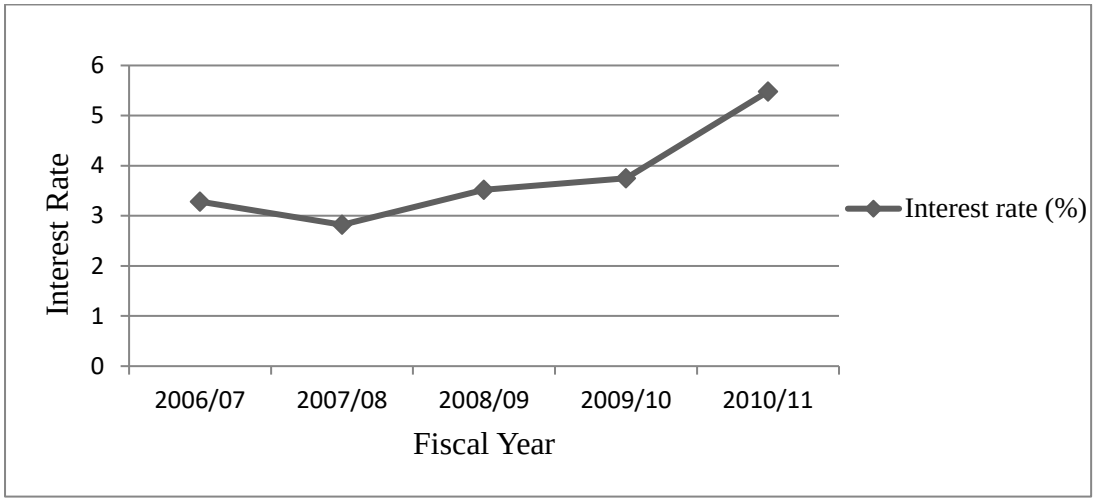


Figure 4.2

Interest Rate of EBL on Deposit during Different FY



4.2.2 Deposit and Interest Rate Position of BOK

The following table and figures show the interest rate and deposit collection by Bank of Kathmandu Ltd throughout the study period of 2006/07 to 2010/11. The table also presents the percentage change in deposit amount of BOK during the study period.

Table 4.3

Deposit and Interest Rate Position of BOK

Fiscal Year	Deposit Amount (Rs in Millions)	Change (%)	Interest rate (%)
2006/07	12358.6	18.50	2.64
2007/08	15833.74	28.12	2.78
2008/09	18083.98	14.21	3.12
2009/10	20315.8	12.34	4.71
2010/11	21018.4	3.46	5.67

Source: Annual Reports of BOK (2006/07 to 2010/11)

Figure 4.3

Deposit Amount of BOK during Different FY

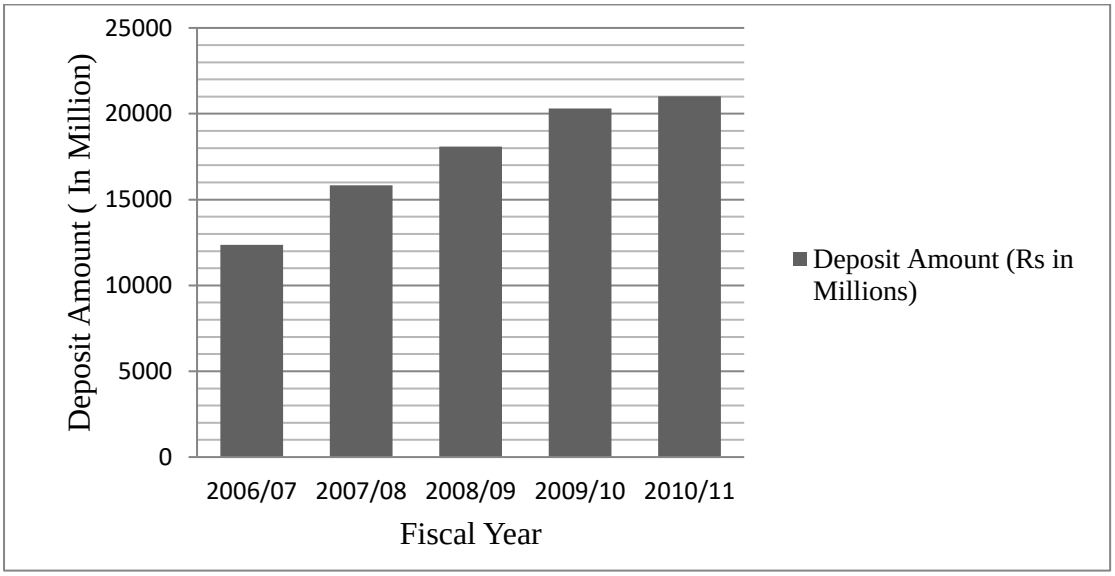
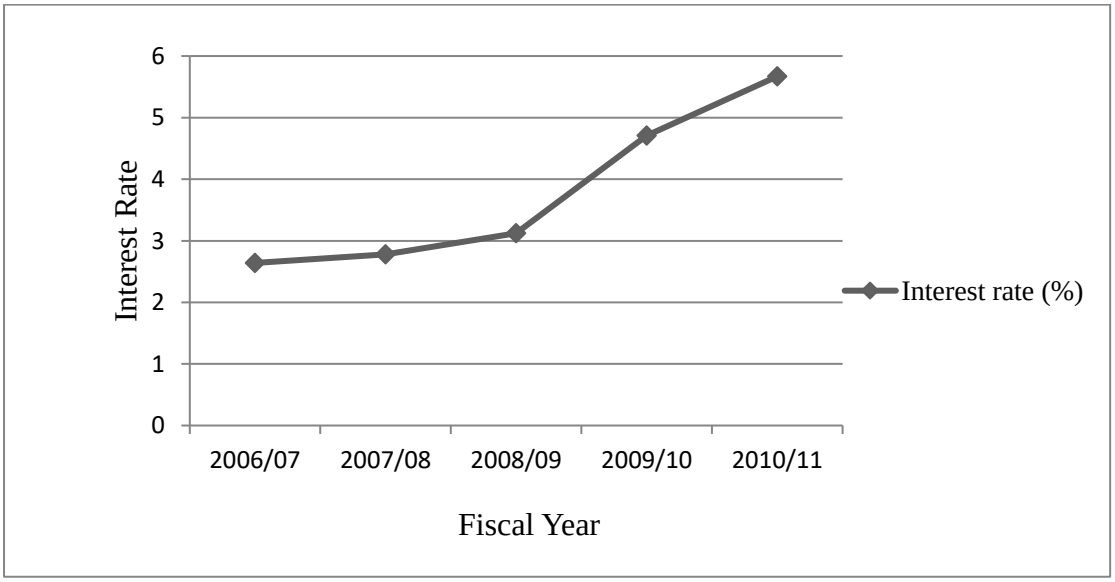


Figure 4.4

Interest Rate of BOK on Deposit during Different FY



The table 4.3 and figure 4.3 and 4.4 show the interest rate and deposit position of BOK. The position of deposit amount is in increasing trend. The deposit amount was 12358.6 million rupees in fiscal year 2006/07 but it has increased to 21018.4 million rupees in 2010/11, which is around 70.1 Percent increase, it means the deposit amount of BOK has been increased substantially during the study period. But interest rate is

also in increasing trend. It means there is positive relation between interest rate and deposit amount.

4.3 Mean, Standard Deviation and Coefficient of Variation Analysis

Arithmetic mean is the sum of all the observations divided by the number of observations. Arithmetic mean is also known as the arithmetic average. Standard deviation is defined as the positive square root of the mean of the square of the deviations taken from the arithmetic mean. The standard deviation is an important measure of the total risk of possible outcomes. Coefficient of variation is defined as the ratio of the standard deviation to the mean. It is a relative measure of variability, since it measure risk per unit. As the coefficient of variation increases, so does the risk.

4.3.1 Mean, Standard Deviation and Coefficient of Variation of Deposit

Table 4.4

Mean, Standard Deviation and Coefficient of Variation of Deposit

Banks	Mean (Rs. In Millions)	S.D	C.V. (%)
EBL	30891.42	8174.36	26.46
BOK	17522.1	3157.77	18.02

Source: Appendix II

From the table 4.4, we can find the bank EBL has highest mean deposit i.e. 30891.42 million than that of BOK which has mean deposit of 17522.1 million. Like that the EBL has also highest S.D i.e. 8174.36 whereas BOK has lowest S.D i.e. 3157.77. The bank BOK has low risk and more consistent than EBL because C.V of BOK i.e. 18.02% is lower than EBL i.e. 26.46%.

4.3.2 Mean, Standard Deviation & Coefficient of Variation of Interest Rate

From the below table 4.5, we can find that the bank BOK and EBL has nearly equal mean interest rate. BOK has highest S.D i.e. 1.21, where as EBL has lowest S.D i.e.

0.91. The bank EBL has low risk and more consistent than other banks because C.V of EBL i.e. 20.87% is lowers than that of C.V of BOK i.e. 32.01%.

Table 4.5

Mean, Standard Deviation and Coefficient of Variation of Interest Rate

Banks	Mean (Rs. In Millions)	S.D	C.V. (%)
EBL	3.77	0.91	24.08
BOK	3.78	1.21	32.01

Sources: Appendix II

4.4 Correlation Analysis

Correlation analysis is used as a standard tool to ascertain the association between variables. It may be noted that correlation analysis is one of the most widely used statistical techniques adopted by applied statisticians. Correlation table gives a preliminary idea of the direction of the relationship between the selected variables. The variables selected for this study are- Deposit Rate, Deposit Amount, Investment and Loan and Advances. A study has been made to find the relationships between all of these variables. Correlation table has been presented below showing the correlations between each variable.

4.4.1 Correlation between Deposit and Interest Rate

The relationship between interest rate and deposit is evaluated how successfully the banks are able to collect the deposit. Here, deposit and interest rate are two variables which are denoted by X_1 and X_2 respectively. The following table shows the correlation coefficient and coefficient of determination of both sample banks.

Table 4.6

Correlation between Deposit and Interest Rate

Banks	Correlation Coefficient (r)	Coefficient of Determination (r)
EBL	0.784	0.615
BOK	0.867	0.752

Source Appendix II

From the table 4.6, it is found that correlation coefficient between total deposit amount and 1 year interest rate BOK and EBL are 0.867 and 0.784 respectively. These moderate degrees of positive relationship between deposit and interest rate reveals that the movement of total deposit and interest rate is found in similar direction. It means that deposit amount is depends with interest rate and if interest rate increases, then deposit also increase and vice versa. The value of coefficient of determination of BOK and EBL are 0.752 and 0.615 respectively which means that 0.752% and 0.615% respectively variation in the value of deposit is due to the cause of interest rate.

4.4.2 Correlation between Deposit and Investment

The correlation between deposit and investment measures the degree of relationship between these two variables. The relationship between deposit and investment is evaluated in order to measure deposit mobilization of the banks. Deposit is mobilized in investment to earn profit by the bank. While mobilizing deposit in investment, bank should consider the adequate fund to invest as it generates enough profit and to preserve balance that can be provided to deposit holders their demand. Here, deposit and investment are two variables which are denoted by X_1 and X_2 respectively. The following table shows the correlation coefficient and coefficient of determination of all sample banks.

Table 4.7

Correlation between Deposit and Investment

Banks	Correlation Coefficient (r)	Coefficient of Determination (r^2)
EBL	0.5877	0.3454
BOK	-0.1227	0.0151

Source: Appendix III

From the table 4.7, it is found that correlation coefficient between deposit and investment of BOK and EBL are (0.1227) and 0.5877respectively. EBL has moderate degree of positive relationship between two variables. It reveals that the movement of total deposit and investment is found in similar direction. It means that deposit amount is depends with investment and if investment increases, then deposit also

increase and vice versa. BOK has low degree of negative relationship between two variables. It reveals that the movement of total deposit and investment is found in different direction. The value of coefficient of determination of BOK and EBL are 0.0151 and 0.3454 respectively which means that 1.51% and 34.54% respectively variation in the value of investment is due to the cause of deposit.

4.4.3 Correlation between Deposit and Loan and Advances

Deposit is mobilized in loan and advances to earn profit by the bank. While mobilizing deposit in loans and advances, bank should consider the adequate fund to invest as it generates enough profit and to preserve balance that can be provided to deposit holders and loan borrowers on their demand. The relationship between deposit and loan and advances is evaluated in order to measure deposit mobilization of the banks. Here, deposit and loan and advances are two variables, which are devoted by X_1 and X_2 respectively. The following tables show the correlation coefficient and coefficient of determination of all sample banks.

Table 4.8

Correlation between Deposit and Loan and Advances

Bank	Correlation Coefficient (r)	Coefficient of Determination (r^2)
EBL	0.9901	0.9803
BOK	0.9964	0.9928

Source: Annexure Appendix IV

From the table 4.8, it is found that coefficient of correlation between deposit and loan and advances of BOK and EBL are 0.9964 and 0.9901 respectively. The bank BOK and EBL have high degree of positive relationship between two variables. It reveals that the movement of deposit and loan and advances is found in similar direction. If deposit increases, than loan and advances also increases and vice versa. The value of coefficient of determination of BOK and EBL are 0.9928 and 0.9803 respectively which means that 99.28% and 98.03% variation in the value of loan and advance of BOK and EBL respectively is due the cause of deposit.

4.5 Trend Analysis

To find out the future scenario of deposit, investment and loan and advances for sample banks, trend analysis has been done. This statistical test describes the trend of any variables with passage of time. The most popular method for trend analysis is least square method.

4.5.1 Trend Analysis of Deposit

The trend analysis of total deposit of total deposit of all sample banks shows the trend values of seven years. Over the study period the analysis makes projection for the next two years. The following table describes the trend values of total deposit of the selected commercial banks.

Table 4.9

Trend Analysis of Deposit

(Rs in millions)

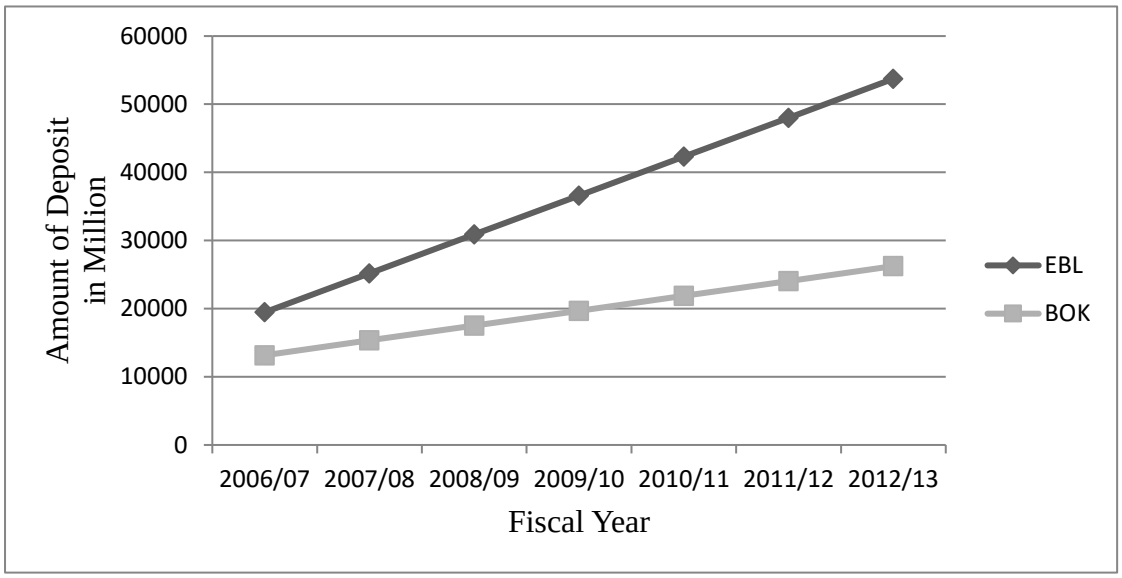
Year/ Bank	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
EBL	19470.14	25180.78	30891.42	36602.06	42312.7	48023.34	53733.98
BOK	13161.76	15341.93	17522.10	19702.27	21882.44	24062.61	26242.78

Source: Appendix V

The above table 4.9 shows that the total deposits of both sample banks are in increasing trend. The increasing trend of deposit of all sample banks shows the good performance of the bank on collecting the deposit from the depositors. This can also be presented in the figure 4.5 as:

Figure 4.5

Trend Analysis of Deposit



4.5.2 Trend Analysis of Interest Rate

The trend analysis of interest rate of all sample banks shows the trend values of seven years. Over the study period the analysis makes projection for the next two years. The following table describes the trend values of the selected commercial banks.

Table 4.10

Trend Value of Interest Rate

Year/ Bank	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
EBL	2.70	3.24	3.77	4.30	4.84	5.37	5.90
BOK	2.19	2.93	3.68	4.42	5.17	5.91	6.66

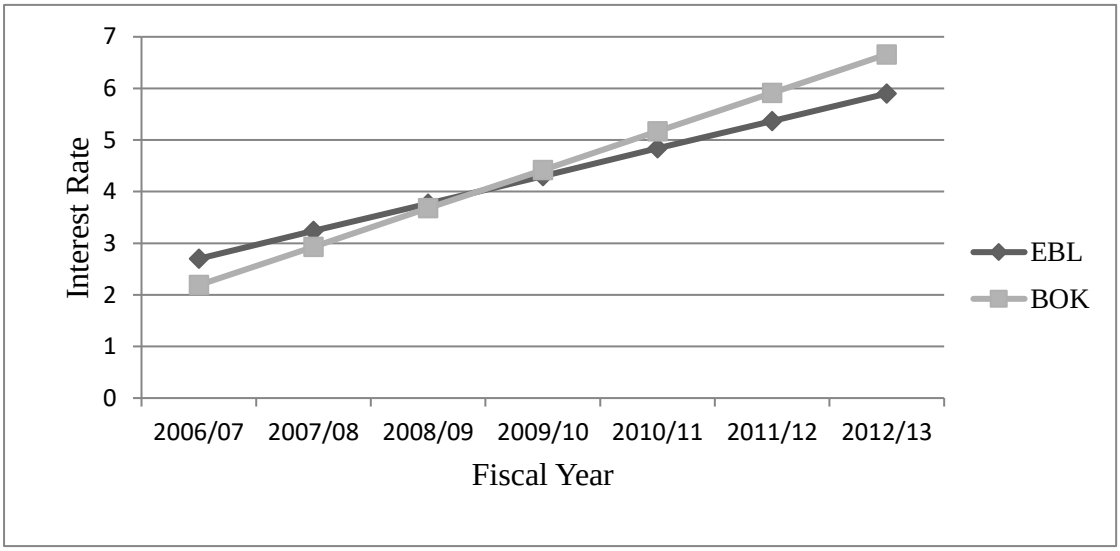
Source: Appendix VI

The table 4.13 shows that the interest rates of both sample banks are in increasing trend. The increasing trend of interest rate of sample banks does show good on collecting the deposit from the depositors. Depositors are benefited by the interest rate. The banks are failed to provide high interest rate to the depositors. The bank BOK has low interest rate comparatively to EBL in the beginning years and BOK has

high interest rate comparatively to EBL in the ending years. This can also be presented in figure 4.6 as:

Figure 4.6

Trend Value of Interest Rate



4.5.3 Trend Analysis of Investment

The trend analysis of investment of both sample banks for eight years study period from mid July 2006/07 to mid July 2010/11 and projection of trend for the next two years from 2011/12 to 2012/13 is calculated. The following table describes the trend values of investment of the selected commercial banks.

Table 4.11

Trend value of Investment

(Rs. In Millions)

Year/ Bank	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
EBL	4656.4	5202.9	5749.4	6295.9	6842.4	7388.9	7935.4
BOK	2778.16	3042.95	3307.74	3572.5	3873.3	4102.1	4366.9

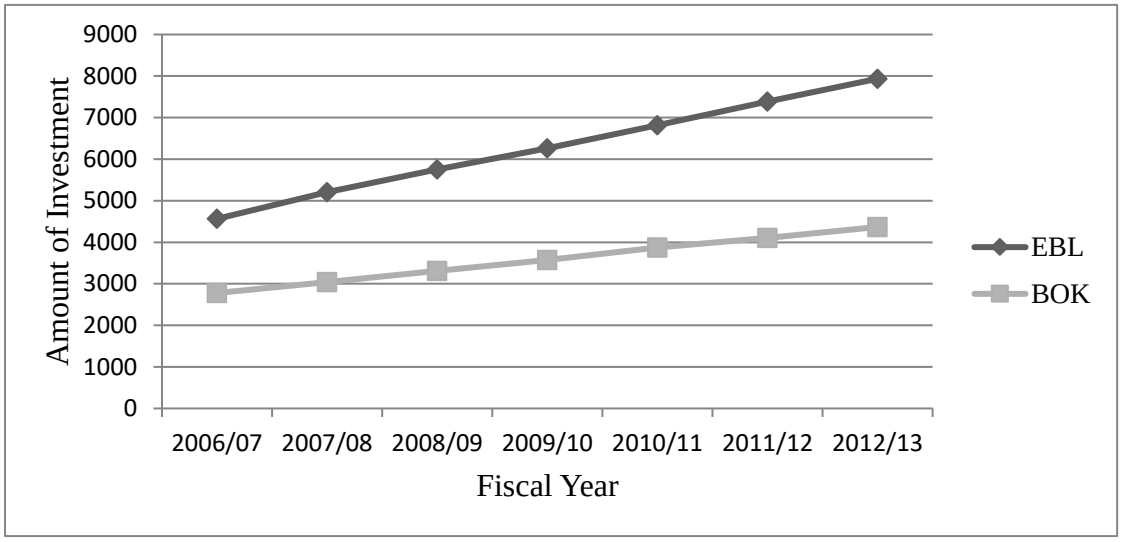
Source: Appendix VII

The table 4.11 and figure 4.7 describes the trend value of investment of both sample banks. The above trend analysis table shows the total investment of BOK and EBL are in increasing trend. The increasing trend of investment shows the increasing

opportunities in market. Among the two sample banks EBL has higher trend value of investment than that of BOK.

Figure 4.7

Trend value of Investment



4.5.4 Trend Analysis of Loan and Advances

The trend analysis of loan and advance of both sample banks shows the trend values of eight years. Over the study period the analysis makes projection for the next two years. The following table describes the trend values of loan and advances of the selected commercial banks.

Table 4.12

Trend Value of Loan and Advances

(Rs. In Millions)

Year/ Bank	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
EBL	14556	19000	23444.8	27889.2	32333.6	36778	41222.4
BOK	10428	12368.9	14309.8	16250.7	18191.6	20132.5	22073.4

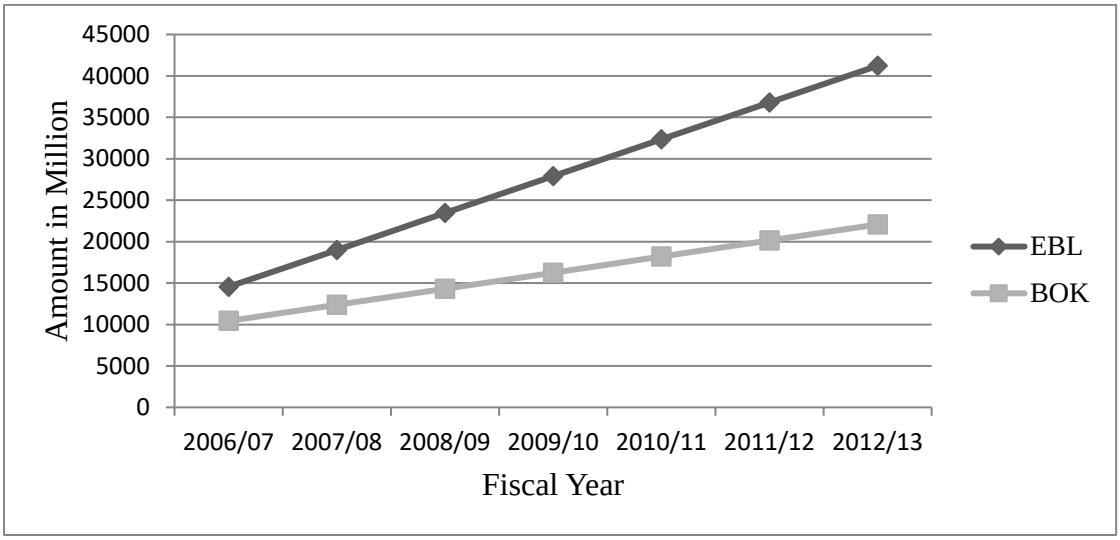
Sources: Appendix VIII

The table 4.12 and figure 4.8 shows that the total loan and advances of all sample banks are in increasing trend. The increasing trend of loan and advances of all sample banks shows the good performance of the bank on investing the deposit in profit

earning sectors. Among the two sample banks EBL has higher loan and advance compared to BOK.

Figure 4.8

Trend Value of Loan and Advances



4.6 Analysis of Different Ratios

4.6.1 Loan and Advances to Total Deposit Ratio

This ratio is calculated to find out how successfully the selected banks are utilizing their total collection or deposits on loan and advances for the purpose of earning profit. This ratio can be obtained dividing loan and advances by total deposits.

Table 4.13

Loan and Advances to Total Deposit Ratio

(Ratio in %)

Bank/Year	2006/07	2007/08	2008/09	2009/10	2010/11	Average
EBL	77.4	78.6	73.43	76.24	76.98	76.53
BOK	78.25	80.51	82.65	82.03	83.12	81.31

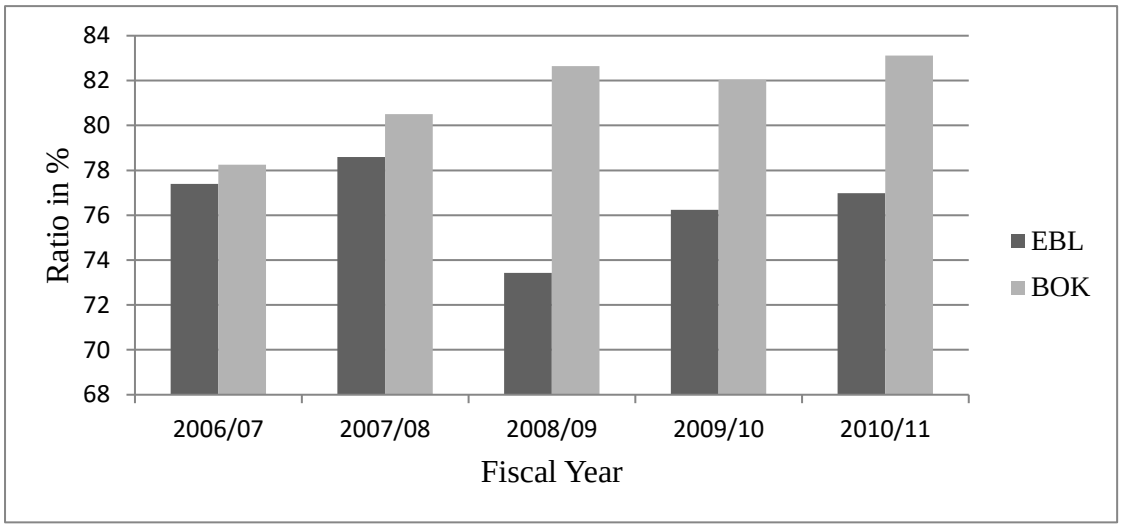
Source: Annual Reports of Respective Banks (2006/07 to2010/11)

From the table 4.13 and figure 4.9, it is depicted that loan and advance to total deposit ratio of BOK and EBL are 81.31% and 76.53% respectively in average. The average ratio of BOK is higher compared to EBL. The loan and advance to the total deposit

ratio of both banks indicates that both the sample banks under the study are able to mobilize its funds to the maximum extent.

Figure 4.9

Loan and Advances to Total Deposit Ratio



4.6.2 Total Investment to Total Deposit Ratio

Investment is one of the major sources of income for the financial institution in long run. It also helps in mobilization of deposit fund. Bank can invest in different securities issued by government and other financial institution. This ratio measures the investment proportion in the deposit. This ratio indicates how properly firm's total deposits have been invested on different sectors.

Table 4.14

Total Investment to Total Deposit Ratio

(Ratio in %)

Bank/Year	2006/07	2007/08	2008/09	2009/10	2010/11	Average
EBL	26.10	21.11	17.85	13.56	18.83	19.49
BOK	24.24	20.24	15.39	16.09	20.39	19.27

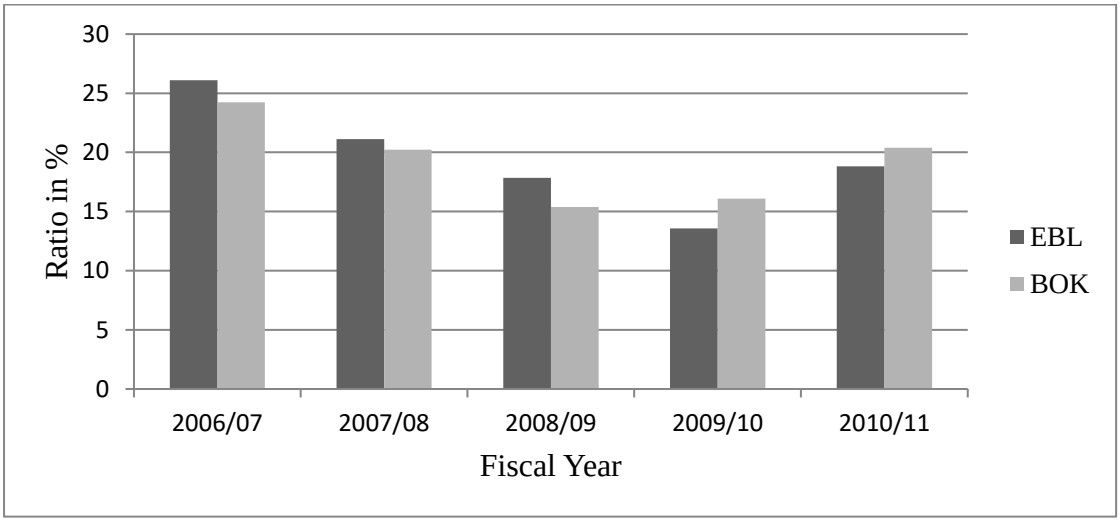
Source: Annual Reports of Respective Banks (2006/07 to 2010/11)

From the table 4.14 and figure 4.10, it is clear that total investment to total deposit ratio of BOK and EBL are 19.27% and 19.49% respectively in an average in the

period under study. The average ratio of BOK and EBL are nearly equal. The total investment to total deposit ratio of EBL is decreasing up to the fiscal year 2009/10 and increasing thereafter, whereas the ratio of BOK is decreasing up to the fiscal year 2008/09 and increasing thereafter.

Figure 4.10

Total Investment to Total Deposit Ratio



4.6.3 Interest Expenses on Total Deposit & Borrowings Ratio

The major expenses of the commercial banks are interest on deposits used to generate revenue. The bank's total expenses consists the large percentage of interest expenses on deposits. The interest expenses incur when the interest owe on short-term borrowings in the money market-mainly borrowings of central funds from other banks and security repurchase agreements. The interest expenses also consists the expenses paid on subordinated capital notes and debentures and other borrowed fund. This ratio shows the how effectively the banks are utilizing their funds for interest expenses according to deposit collection.

Table 4.15

Interest Expenses on Total Deposit & Borrowings Ratio

(Ratio in %)

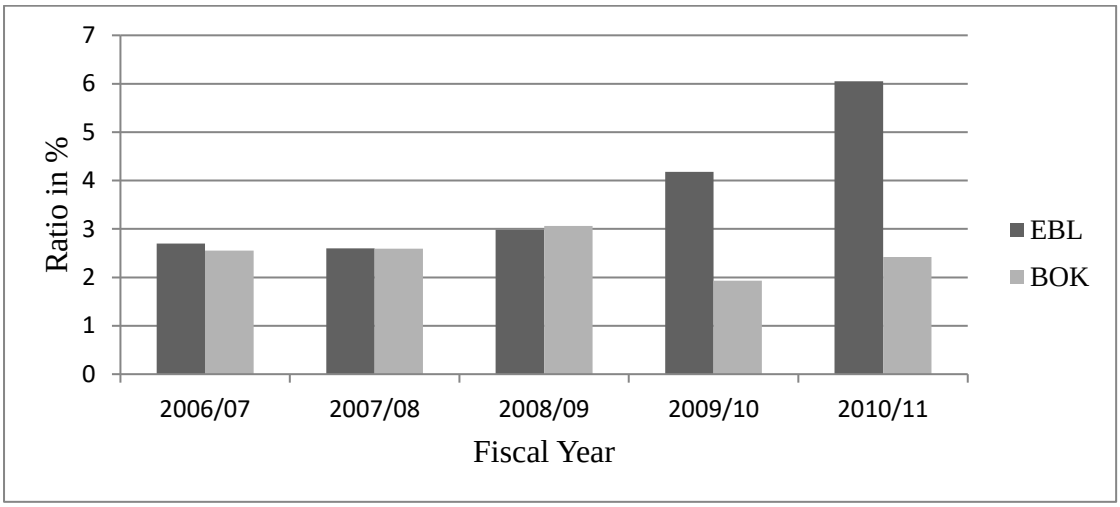
Bank/Year	2006/07	2007/08	2008/09	2009/10	2010/11	Average
EBL	2.7	2.6	2.98	4.18	6.05	3.70
BOK	2.55	2.59	3.06	1.93	2.42	2.51

Source: Annual Reports of Respective Banks (2006/07 to 2010/11)

From the table 4.15 and figure 4.11, it is clear that the average interest expenses to total deposit and borrowing ratio of BOK and EBL are 2.51% and 3.70% respectively. The bank EBL has highest average ratio compared to BOK. So the EBL has utilizing its funds for interest expenses according to deposit collection than that of BOK.

Figure 4.11

Interest Expenses on Total Deposit & Borrowings Ratio



4.6.4 Interest Income to Loan & Advances Ratio

Interest is also one of the major sources of income for the financial institution. Interest income as bank's revenue account the interest fees generated from loans. The principal source of bank revenue is the interest income generated by the bank's earning assets; mainly from its loan, securities holdings, any interest-bearing deposits, and any other miscellaneous assets generating revenue. Interest income is generated from giving loan and advances to different sector. This ratio indicates the financial position of the banks. Higher the ratio indicates good financial position and vice versa.

Table 4.16

Interest Income to Loan & Advances Ratio

(Ratio in %)

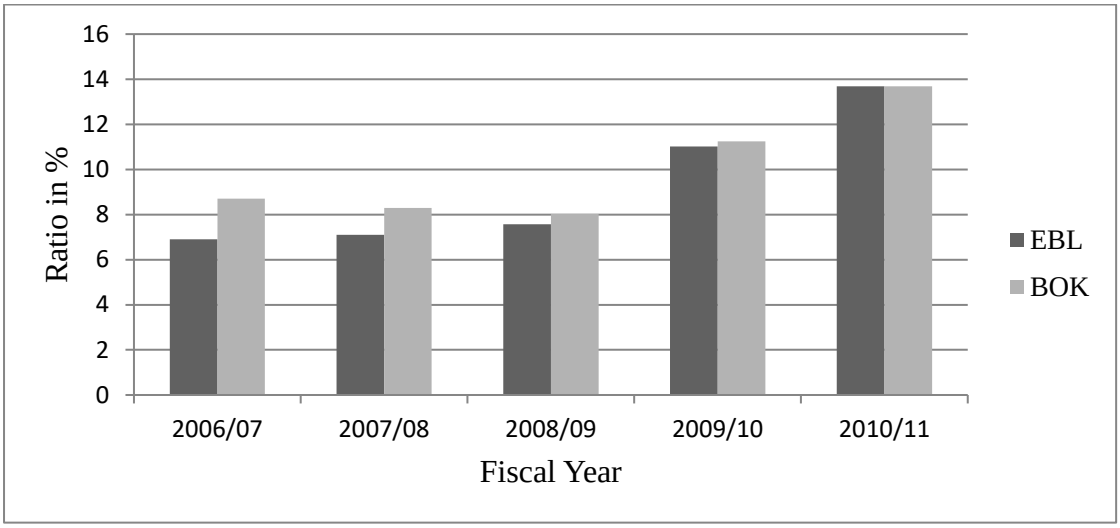
Bank/ Year	2006/07	2007/08	2008/09	2009/10	2010/11	Average
EBL	6.9	7.1	7.57	11.02	13.68	9.25
BOK	8.71	8.30	8.02	11.24	13.69	9.99

Source: Annual Reports of Respective Banks (2006/07 to 2010/11)

From the table 4.16 and figure 4.12, it is clear that the average interest income to loan & advances ratio of BOK and EBL are 9.99% and 9.25% respectively. Mainly the interest income to loan and advance of both banks are increasing which shows the good financial position of both banks.

Figure 4.12

Interest Income to Loan & Advances Ratio



4.6.5 Interest Rate Spread

The interest rate spread measures the effectiveness of the bank in the intermediation function, where the bank borrows the fund at one lower level of interest rate and lend at another higher level of interest rate. The spread also use to indentify the intensity of competition among banks in the market. Higher positive interest spread shows the successfulness of the bank in collection the funds at cheaper rate and granting them at higher rate. The higher interest rate spread is not possible for most banks in the time of strong competition. In this case, bank management seeks to look for other new revenue generating services to its clients to make up the decreased spread. The interest rate spread is the difference in the interest rate between the lending rate and the deposit rate. The interest rate can be calculated as follow:

Interest rate spread =Interest rate on Lending – Interest Rate on deposit.

Table 4.17

Interest Rate Spread

(Ratio in %)

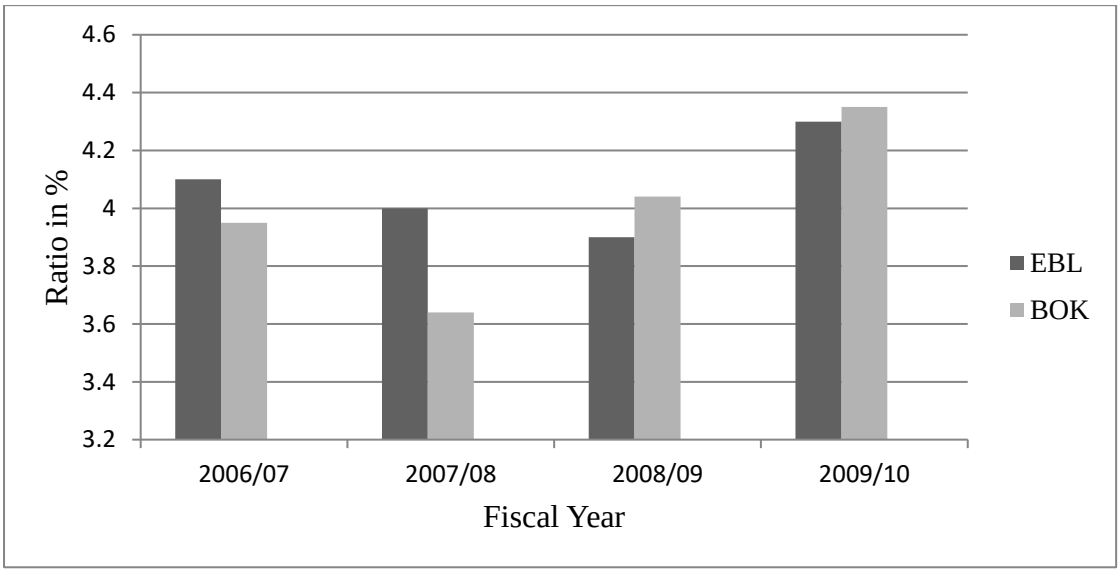
Bank/Year	2006/07	2007/08	2008/09	2009/10	2010/11	Average
EBL	4.1	4.0	3.90	4.3	4.37	4.13
BOK	3.95	3.64	4.04	4.35	4.72	4.14

Source: Annual Reports of Respective Banks (2006/07 to 2010/11)

From the table 4.17 and figure 4.13, it is clear that the interest spread rate of BOK and EBL 4.14% and 4.13% respectively in average. The interest rate spread as per NRB directives requirement i.e. 5%, so NRB is not successful to maintain spread rate to 5%. Therefore it is big problem to commercial banks because the main income of commercial bank is difference between interest paid and received. Bank has to manage all expenses through it and the spread rate seems quite low of both sample banks.

Figure 4.13

Interest Rate Spread



4.7 Analysis of Interest Rates and Their Segregation

Table 4.18

Interest Rate Structure on Deposit (%)

(Mid September, 2010)

Deposits/Banks	EBL	BOK
Saving	3.0	2.5
Special saving	2.75-4.0	2.0-7.0
7 days	-	3.0
14 days	-	3.5
1 months	-	4.0
2 months	-	-
3months	3.0	4.5
6 months	3.5	6.0
1 year	5.0	8.5
2 years/above	5.25-5.5	8.65-9.0

Source: Various Banking & Financial Statistics (NRB)

Table 4.19

Interest Rate Structure of Loan (%)

(Mid September, 2010)

Sector/banks	EBL	BOK
Overdraft	8.5-11.0	13.0-16.0
Export credit	7.5-10.0	12.0-14.0
Impart L/C	7.0-10.0	12.0-13.0
Against FDR	+1.5	12.0-15.0
Against Govt. Bond	7.0-8.0	12.0-13.0
Against BG/CG	7.5-8.5	12.0-13.0
Against other Guarantee	-	-
Industrial loan	8.0-11.0	-
Commercial loan	8.0-11.0	-

Source: Various Banking & Financial Statistics (NRB)

The table 4.18 shows the interest rate structure on saving and fixed deposits of the sample banks. This again may be due to the competition that exists among the commercial banks as they seek to attract and capture customers and funds. A total absence in special saving and on the two-month deposits rate must be taken under consideration here. The fixed interest rates for deposits for a year or more are considerably higher than the interest rates for short-term deposits.

The table 4.19 shows the loans and advances interest rates for the commercial banking sector. The interest rates for the loans and advances can be segregated into many different types with each type having a different interest rate. In the above table too, the overall interest rates can be seen as decreasing by looking to the interest rate means hare for the overall commercial banks, the overdraft interest rates are the costliest. The cheapest loans are providing against the FDR.

The loans and advances rate of interest of the sample banks have been shown above with segregations of the rates into various ones. The mean rate of loan interest has been decreasing year by year at a steady rate just like other sectors. The government loan rates come to prominence if you observe the decrement. The cheapest loans are provided for the government bond.

The loans and advances of different categories with their respective interest rates have been shown in the table above. The government bond loans have the cheapest interest rates. The costliest category of loans here falls under the term loan category.

The banks have been giving out loans & advances of different types, which can be seen in the table above. This might be because of the inconsistencies in effectively running the enterprise and losing the ever-inevitable battle against private banks of Nepal.

4.8 Analysis of Primary data (Bankers and Customers views)

A total of 55 respondents opinions were collected in this study. Out of the total respondents 5 bank manager, 10 small –current account holders, who keep an average balance of less than Rs of 500000 in their account. 10 big current accountholders, who keep an average balance of more than Rs. 500000 in their account. 10 Small saving

account holders, who keep an average balance of less than Rs. 1, 00,000. 10 big saving account holders who hold more than Rs. 1, 00,000 in their account, 5 small borrowers who had taken loan less than 5,00,000 and 5 big borrowers who had taken loan more than Rs 5, 00,000. After analyzing their views towards different types of interest rate and their impact on investment, lending and deposit we come to the conclusion that as follows. Out of the total respondents' more than 60% respondent tick on like as follows:

Table 4.20

Opinion of Depositors, Borrowers & Bank Executives on the Effect of Interest Rate

Changes in Interest Rate	**Increased**	**Decreased**	**Constant**
Effect on deposit if increased in the interest rate.	√		
Effect on deposit if decreased in the interest rate.		√	
Effect on borrowing if increased in the interest rate.		√	
Effect on borrowing if decreased in the interest rate	√		
Effect on investment if increased in the interest rate		√	
Effect on investment if Decreased in the interest rate	√		
Effect on lending if increased in the interest rate		√	
Effect on lending if decreased in the interest rate	√		

Figure:

After analyzing their views I came to the conclusion that is as follows.

- Low rate of interest affects negatively in saving mobilization, flexibility of capital, effective utilization of capital resources. And high interest rate affects investment. Less spread shows the ability of financial institution. But it is

necessary to keep appropriate spread level for financial institution to maintain them qualified in this sector

- Increase in interest rate of government securities has compelled banks to raise interest rate on deposit and thereby making lending to productive securities enjoying tax advantage so that there will be better effect on deposit and lending rates."
- Interest rate determination depends upon the investment, saving, liquidity preferences and supply of money.
- Banks seek loans more aggressively, and therefore lower their rates, including marginal borrower to come into the market. When the funds are scarce, banks raise their interest rates and potential borrowers may defer to use credit or seek it from elsewhere
- The interest rate is a major determinant, and also traced out the time preference in the determination of interest rate. The level of capital measured by the level and structure of interest rate. So, the interest rate must be taken as an important factor of economic policies of developing or less developed countries.
- Interest rate is the important explanatory variable to influence the volume of deposit in Nepal. Interest rates play an important role in under developed country like Nepal where the demand for capital is increasing at each level of income. An appropriate interest rate can divert investment improper field .This means, upward movement in the deposit rates increase the volume of deposits.
- Unless the interest policy is good, its positive impact on other factors i.e. deposit, credit, investment and monetary and fiscal policy cannot be expected.
- Changes in interest rate structure have some positive as well as negative effects in the financial market. The various economic indicator shows the impact of changing interest rate was not as positive as expected regarding the interest rate relaxation, the effects on deposit seem to be positive. There were positive effects on saving mobilization. Financial institution can lower lending as they can lower their deposit rates, which will have positive impacts.
- Interest rate depends upon the economic activities and existing policies of a nation. We find inverse relationship between investment and interest rate in every type of economy. Lower investment is the result of higher interest rate

and vice versa. There is direct relationship between interest rates and savings. Lower interest rate brings about a fall in the deposits.

- If the interest rate increases, deposit increases at a greater level. In the same way, credit is related with loan rate of interest. It is known that the relationship between loan rate of interest and credit flows is negative. There tends to be an increase in credit flow when the rate of interest on the loan is low. Therefore the deposits and loans depend upon the interest rate.
- "Policy of interest rates deserves a vital role in the management of bank funds. It is the best tool to mobilize savings and channel them to desired channels. It is possible because the interest rate is sensitive to changes in both deposits and loans.
- When there is a slight increase or decrease in interest rates of deposits, loans and investments, the mobilisation of deposits are affected. The study also concludes that commercial banks should pay very high attention on how they fix the interest rates on the deposits or the money that flows into the banks as funds. The interest rate greatly affects the collection of deposits, flow of credit capital, and investments. The interest rates have direct impact on the profitability
- The negative impact on deposit was seen in the bank from the month of Kartik 2009 that there is no alternative to bring reforms in the banking sector without increasing interest rates.
- The investment ratio had increased as compared to the ratio of deposit. The liquidity of banks has been affected due to the decrease of deposit amounts. So, it was necessary to increase interest rates to increase deposits of banks and solve rising problems of the banking sector.

4.9 Major Finding of the 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.

- The amount of total deposit by EBL during the study period is in increasing trend. The deposit amount was 19097.7 million rupees in FY2006/07 and amount increased to 41127.9 million rupees in FY2010/11, which is around

115% increase. It means the deposit amount of EBL has been increased substantially during the study period. Interest of the bank also is in increasing trend. Interest rate in year 2006/07 was 3.28% which increased in year 2010/11 in 5.48%. It means there is positive relation between interest rate and deposit amount.

- The deposit amount of BOK was 12358.6 million rupees in fiscal year 2006/07 but it has increased to 21018.4 million rupees in 2010/11, which is around 70.1 Percent increase, it means the deposit amount of BOK has been increased substantially during the study period. But interest rate is also in increasing trend. It means there is positive relation between interest rate and deposit amount.
- EBL has highest mean deposit i.e. 30891.42 million than that of BOK which has mean deposit of 17522.1 million. Like that the EBL has also highest S.D i.e. 8174.36 whereas BOK has lowest S.D i.e. 3157.77. The bank BOK has low risk and more consistent than EBL because C.V of BOK i.e 18.02% is lower than EBL i.e. 26.46%.
- BOK and EBL have nearly equal mean interest rate. BOK has highest S.D i.e. 1.21, where as EBL has lowest S.D i.e. 0.91. The bank EBL has low risk and more consistent than other banks because C.V of EBL i.e. 20.87% is lowers than that of C.V of BOK i.e. 32.01%.
- Form the calculation of coefficient of correlation between deposit amount and interest rate on deposit of both sample banks were found to be positive. It shows positive relationship between two variables. It reveals that the movement of deposit and interest rate is found in similar direction.
- The coefficient of correlation between deposit and investment of both sample banks were found to be positive except BOK and EBL. It shows positive relationship between two variables. It reveals that the movement of deposit and investment is found in similar direction. If deposit increases then investment also increases and vice-versa.
- The bank BOK and EBL have high degree of positive relationship between two variables. It reveals that the movement of deposit and loan and advances is found in similar direction. If deposit increases, than loan and advances also increases and vice versa.

- From the trend analysis, it is found that the amount of deposit, interest rate, investment and loan & advances of the sample banks under the study are in increasing trend. It shows that the financial position of all banks is in progressive trend.
- From the calculation of ratio analysis it is found that the loan and advance to total deposit ratio of BOK and EBL are 81.31% and 76.53% respectively in average. The average ratio of BOK is higher compared to EBL. The loan and advance to the total deposit ratio of both banks indicates that both the sample banks under the study are able to mobilize its funds to the maximum extent.
- The total investment to total deposit ratio of BOK and EBL are 19.27% and 19.49% respectively in an average in the period under study. The average ratio of BOK and EBL are nearly equal. The total investment to total deposit ratio of EBL is decreasing up to the fiscal year 2009/10 and increasing thereafter, whereas the ratio of BOK is decreasing up to the fiscal year 2008/09 and increasing thereafter.
- The average interest expenses to total deposit and borrowing ratio of BOK and EBL are 2.51% and 3.70% respectively. The bank EBL has highest average ratio compared to BOK. So the EBL has utilizing its funds for interest expenses according to deposit collection than that of BOK.
- The average interest income to loan & advances ratio of BOK and EBL are 9.99% and 9.25% respectively. Mainly the interest income to loan and advance of both banks are increasing which shows the good financial position of both banks.
- The interest spread rate of BOK and EBL 4.14% and 4.13% respectively in average. The interest rate spread as per NRB directives requirement i.e. 5%, so NRB is not successful to maintain spread rate to 5%.

CHAPTER - V

SUMMARY, CONCLUSION & RECOMMENDATIONS

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, literate 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 of the commercial bank of Nepal so that the banks can mobilize their deposits more smoothly and properly in the near future.

5.1 Summary

Many commercial bank, development banks and financial institutions are operating in, the economy to assist in the process of economic development of the country. Due to high competition between the financial institutions, the collected high amount of deposit from public is not properly invested. If is due to lack of demand for fund. Proper mobilization of deposit plays a vital role in the development of economy of the nation. Accepting deposit from savers and transferring the collecting deposit to the investment sector in one of the major functions of banking business. To collect deposit bank provide certain percentage of interest and when amount is loaned outside certain percentage of interest is charged to them. Even though these are various factors in the economy that affects deposit amount 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 amount this study is made.

The review of literature shows that there are so many economic and non economic factors on deposit. But it is real fact that there is relationship between interest rate and deposit. The volumes of deposit amount of banks are highly affected by their interest rate. According to the theoretical views there is positive relationship between interest

rate and deposit amount. That means, when interest rate on deposit increases that attract to the deposit and deposit amount of banks are increases and vice-versa.

For the purpose of the study, the necessary data on interest, deposit mobilization and other related variables were collected for the period 2006/07 to 2010/11. The effect of interest rate on deposit amount is analyzed from five commercial banks of Nepal for five year period by using statistical and financial tools mentioned in chapter there. Secondary data are collected form NRB's economic reports, annual reports of related banks and websites. The analysis of all banks shows average interest rate on deposit is in increasing. And deposit amount also is in increasing trend. This trend shows there is positive relationship between interest rate and Deposit amount. The statistical analysis also shows that there is significant relationship between interest rate and deposit amount. The interest rate spread of BOK and EBL are found not so satisfactory.

With the impact of theories and economic factors, interest rate fluctuates from to time; such fluctuations have been analyzed with the help of financial tools and statistical tools in a systematic manner. Deposit rate of both sample banks under the study are in an increasing trend. The total loan & advances to the total deposit ratio of both banks are in an increasing trend. This indicates that both sample banks under the study are able to mobilize its funds to the maximum extent. Trend of deposit, investment and loan & advances are in increasing trend. Also trend of interest rate is increasing trend. Similarly, statistical analysis shows that the correlation coefficient between deposit and deposit rate, deposit and investment and deposit and loan e& advances are positive. This means that these factors are correlated. Thus, interest rate structure of commercial banks has greater influence over funds mobilization in the productive sector. However, the commercial banks of Nepal have not been fully able to succeed in this regard.'

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 conclusion have drawn. This study concludes that fluctuations in the interest rate of the commercial banks slightly affect the deposit mobilization. When there is a slight increase or decrease in interest rates of deposits, deposits are affected slightly. This study

concludes that both sample banks have moderate positive correlation between interest rate and deposit. The interest rate on deposit of all sample banks is found to be in increasing trend. On the contrary to this, deposit amount is increasing every year. The study also concludes that commercial banks should pay very high attention on how they fix the interest rates on the deposits or the money that flows into the banks as funds. 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 seem fluctuating. Analysis of correlation between deposit amount and investment, deposit and loan & advance show the positive relationship of all sample banks. Trend of deposit, investment and loan & advances are in increasing trend of both sample banks. Also trend of interest rate is in increasing trend. The interest rate spread of BOK and EBL are found not so satisfactory.

5.3 Recommendations

To full fill the objective 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 conclusion of this study certain recommendation can be mace here. So that concerned authorities, further researcher, academicians and banker 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:

- Interest rate on deposit is too less in Nepal. Commercial banks are suggested to increase the interest rate on deposit so that depositors are benefited by their saving.
- The banks should try to carry out different schemes which may help to increase the deposit collection.
- The interest spread rate as per NRB directives requirement i.e. NRB is not successful to maintain spread rate to 5%. Therefore it is big problem to commercial banks because the main income of commercial bank is difference between interest paid and received. So commercial banks are suggested to maintain interest spread rate as per NRB directives.
- 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 savings and further saving may go outside of the country.

- 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.
- Most of the banks are operated only in the urban sector. Banks should make plan to open their forthcoming branches in rural sector so that large number of people living in rural sector might be able to take advantages of banking facilities.
- Some of the banks are security oriented rather than project oriented. The commercial banks of Nepal should lend their deposits more in projected oriented works. The commercial banks are strongly recommended to follow liberal lending policy.

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APPENDIX

APPENDIX- I

QUESTIONAIRE

This questionnaire is a part of my research work entitled "A Study on Interest Rate and its Impact on Deposit". I request you all to fill this questionnaire with sincerity. Your response will have direct impact on research outcome, so I request you to be honest.

Personal Information:

Name: ……. Occupation: ……..

Age/Sex: ..... Education: ……Qualification.....

Address.…….

1. What will be the effect on deposit if interest rate is increased?
   a. Increased
   b. Decreased
   c. Constant

2. What will be the effect on deposit if interest rate is decreased?
   a. Increased
   b. Decreased
   c. Constant

3. What will be the effect on borrowing if we decrease the interest rate?
   a. Increased
   b. Decreased
   c. Constant

4. What will be the effect on borrowing if we increase the interest rate?
   a. Increased
   b. Decreased
   c. Constant

5. What will be the effect on investment if we increase the interest rate?
   a. Increased
   b. Decreased
   c. Constant

6. What will be the effect on investment if we decrease the interest rate?
   a. Increased
   b. Decreased
   c. Constant

APPENDIX - II

Calculation of Mean, Standard Deviation, Coefficient of Variation and Correlation between Deposit and Interest Rate

Appendix II (A): EBL

(Rs in millions)

Year	Deposit(X)	Interest (Y)	XY	X^2	Y^2
2006/07	19097.7	3.28	62640.456	364722145.3	10.76
2007/08	23976.3	2.82	67613.166	574862961.7	7.95
2008/09	33322.9	3.52	117296.61	1110415664	12.39
2009/10	36932.3	3.75	138496.125	1363994783	14.06
2010/11	41127.9	5.48	225380.892	1691504158	30.03
Total	$\sum X$= 154457.7	$\sum Y$= 18.85	$\sum XY$= 611427.25	$\sum X^2$= 5105499712	$\sum Y^2$= 75.19

Calculation of Mean $(\overline{X})$

$$\overline{X} = \frac{\sum X_1}{N} = \frac{154457.1}{5} = 30891.42$$

$$\overline{Y} = \frac{\sum X_2}{N} = \frac{18.85}{5} = 3.77$$

Calculation of Standard Deviation (σ)

$$\sigma D = \sqrt{\frac{\sum X^2}{N} - (\frac{\sum X}{N})^2} = \sqrt{\frac{5105499712}{5} - (\frac{154457.1}{5})^2} = 8174.36$$

$$\sigma R = \sqrt{\frac{\sum Y^2}{N} - (\frac{\sum Y}{N})^2} = \sqrt{\frac{75.19}{5} - (\frac{18.85}{5})^2} = 0.908$$

Calculation of Coefficient of Variation (C.V)

$$C.V._D = \frac{\sigma D}{\overline{X}} \times 100 = \frac{8174.36}{30891.42} \times 100 = 26.46\ \%$$

$$C.V._R = \frac{\sigma R}{\overline{Y}} \times 100 = \frac{0.908}{3.77} \times 100 = 24.08\ \%$$

Calculation of Correlation Coefficient (r_{12})

$$r_{12} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 611427.25 \ - (154457.1 \times 18.85)}{\sqrt{5 \times 5105499712 - (15445.1)^2}\sqrt{5 \times 75.19 - (18.85)^2}}$$

= 0.7844

Calculation of Coefficient of Determination (r^2)

Coefficient of Determination, $\boldsymbol{r^2_{12}}$ = r_{12^2}

$\boldsymbol{r^2_{12}}$ = $(0.7844)^2$

= 0.615

Appendix II (B): BOK

(Rs in millions)

Year	Deposit (X)	Interest (Y)	XY	X^2	Y^2
2006/07	12358.6	2.64	32626.704	152734994	6.9696
2007/08	15833.7	2.78	44017.686	250706055.7	7.7284
2008/09	18084	3.12	56422.08	327031056	9.7344
2009/10	20315.8	4.17	995687.418	412731729.6	22.1841
2010/11	21018.4	5.67	119174.328	441773138.6	32.1489
Total	$\sum X$= 87610.5	$\sum Y$= 18.92	$\sum XY$= 347928.216	$\sum X^2$= 1584976974	$\sum Y^2$= 78.7654

Calculation of Mean $(\overline{X})$

$$\overline{X} = \frac{\sum X}{N} = \frac{87610.5}{5} = 17522.1$$

$$\overline{Y} = \frac{\sum Y}{N} = \frac{18.92}{5} = 3.78$$

Calculation of Standard Deviation (σ)

$$\sigma D = \sqrt{\frac{\sum X^2}{N} - (\frac{\sum X}{N})^2} = \sqrt{\frac{1584976974}{5} - (\frac{87610.5}{5})^2} = 3157.75$$

$$\sigma R = \sqrt{\frac{\sum Y^2}{N} - (\frac{\sum Y}{N})^2} = \sqrt{\frac{78.7654}{5} - (\frac{18.92}{5})^2} = 1.21$$

Calculation of Coefficient of Variation (C.V)

$$C.V._D = \frac{\sigma D}{\bar{X}} \times 100 = \frac{3157.75}{1752.1} \times 100 = 18.02\ \%$$

$$C.V._R = \frac{\sigma R}{\bar{Y}} \times 100 = \frac{1.21}{3.78} \times 100 = 32.01\ \%$$

Calculation of Correlation Coefficient (r_{12})

$$r_{12} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 347928.216 - (87610.5 \times 18.92)}{\sqrt{5 \times 1584976974 - (87610.5)^2}\sqrt{5 \times 78.77 - (18.92)^2}}$$

=0.8675

Calculation of Coefficient of Determination (r^2)

Coefficient of Determination, $\boldsymbol{r^2_{12}} = r_{12^2}$

$\boldsymbol{r^2_{12}} = (0.8675)^2$

= 0.7525

APPENDIX-III:

Correlation between Deposit & Investment

Appendix III (A): EBL

(Rs in millions)

Year	Deposit (X)	Investment (Y)	XY	X^2	Y^2
2006/07	19097.7	4985.1	95203944.3	364722145.3	24851222
2007/08	23976.3	5061.2	121348850	574862961.7	25615745.4
2008/09	33322.9	5948.5	198221271	1110415664	35384652.3
2009/10	36932.3	5008.3	184968038	1363994783	25083068.9
2010/11	41127.9	7743.9	318490345	1691504158	59967987.2
Total	$\sum X$= 154457.1	$\sum Y$= 28747	$\sum XY$= 918232448.3	$\sum X^2$= 5105499712	$\sum Y^2$= 170902675.8

Calculation of Correlation Coefficient (r_{12})

$$r_{12} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$\frac{5 \times 918232448.3 - (154457.1 \times 28747)}{\sqrt{5 \times 5105499712 - (154457.1)^2}\sqrt{5 \times 170902675.8 - (28747)^2}}$$

=0.6966

Calculation of Coefficient of Determination (r^2)

Coefficient of Determination, $\boldsymbol{r^2_{12}} = r_{12^2}$

$= (0.6966)^2$

=0.484

Appendix- III (B): BOK

(Rs in millions)

Year	Deposit (X)	Investment (Y)	XY	X^2	Y^2
2006/07	12358.6	2995.2	37016478.72	152734994	8971223.04
2007/08	15833.7	3204.1	50732758.17	250706055.7	10266256.81
2008/09	18084	2783.6	50338622.4	327031056	7748428.96
2009/10	20315.8	3269.2	66416413.36	412731729.6	10687668.64
2010/11	21018.4	4286.6	90097473.44	441773138.6	18374939.56
Total	$\sum X$= 87610.5	$\sum Y$= 16538.7	$\sum XY$= 294601746.1	$\sum X^2$= 1584976974	$\sum Y^2$= 56048517.01

Calculation of Correlation Coefficient (r_{12})

$$r_{12} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$\frac{5 \times 294601746.1 - (87610.5 \times 16538.7)}{\sqrt{5 \times 1584976974 - (87610.5)^2}\sqrt{5 \times 56048517.01 - (16538.7)^2}}$$

=0.5877

Calculation of Coefficient of Determination (r^2)

Coefficient of Determination, $\boldsymbol{r^2_{12}}$ = r_{12^2}

= $(0.5788)^2$

=0.3454

APPENDIX- IV:

Correlation between Deposit and Loan& Advances

Appendix IV (A): EBL

(Rs in millions)

Year	Deposit (X)	Loan & Advances (Y)	XY	X^2	Y^2
2006/07	19097.7	14100	269277570	364722145.3	198810000
2007/08	23976.3	18836.4	451627177.3	574862961.7	354809965
2008/09	33322.9	24469.6	815398033.8	1110415664	598761324
2009/10	36932.3	28156.4	1039880612	1363994783	792782861
2010/11	41127.9	31661.8	1302183344	1691504158	1002469579
Total	$\sum X$= 154457.1	$\sum Y$= 117224.2	$\sum XY$= 3878366737	$\sum X^2$= 5105499712	$\sum Y^2$= 2947633729

Calculation of Correlation Coefficient (r_{12})

$$r_{12} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 3878366737 - (154457.1 \times 117224.2)}{\sqrt{5 \times 5105499712 - (154457.1)^2}\sqrt{5 \times 2947633729 - (117224.2)^2}}$$

=0.9964

Calculation of Coefficient of Determination (r^2)

Coefficient of Determination, $\boldsymbol{r^2_{12}} = r_{12^2}$

$= (0.9964)^2$

=0.993

Appendix IV (B): BOK

(Rs in millions)

Year	Deposit (X)	Loan & Advances (Y)	XY	X^2	Y^2
2006/07	12358.6	9722.1	120151545.1	152734994	94519228.4
2007/08	15833.7	12748	201848007.6	250706055.7	162511504
2008/09	18084	14946	270283464	327031056	223382916
2009/10	20315.8	16664.9	338560775.4	412731729.6	277718892
2010/11	21018.4	17468.2	367153614.9	441773138.6	305138011.2
Total	$\sum X$= 87610.5	$\sum Y$= 71549.2	$\sum XY$= 1297997407	$\sum X^2$= 1584976974	$\sum Y^2$= 1063270552

Calculation of Correlation Coefficient (r_{12})

$$r_{12} = \frac{n\sum XY - \sum X \sum Y}{\sqrt{n\sum X^2 - (\sum X)^2}\sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 1297997407 - (87610.5 \times 71549.2)}{\sqrt{5 \times 1584976974 - (87610.5)^2}\sqrt{5 \times 1063270552 - (71549.2)^2}}$$

=0.9995

Calculation of Coefficient of Determination (r^2)

Coefficient of Determination, $\boldsymbol{r^2_{12}} = r_{12^2}$

$= (0.9995)^2$

=0.9990

APPENDIX -V:

Trend Analysis of Deposit:

Appendix- V (A): EBL

(Rs in millions)

Fiscal Year(X)	Deposit (Y)	x=X-3	x^2	xY
2006/07	19097.7	-2	4	-38195.4
2007/08	23976.3	-1	1	-23976.3
2008/09	33322.9	0	0	0
2009/10	36932.3	1	1	36932.3
2010/11	41127.9	2	4	82255.8
Total	$\sum Y$= 154457.1	$\sum x$= 0	$\sum x^2 = 10$	$\sum xY$= 57016.4

The equation of trend line is,

Y = a + b x

As, $\sum x = 0$

$$a = \frac{\sum Y}{n} = \frac{154457.1}{5} = 30891.42$$

$$b = \frac{xY}{\sum x^2} = \frac{57016.4}{10} = 571.64$$

Hence the trend line is,

Y = 30891.42 + 5710.64x…….(1)

Hence, the origin is 3,

The trend value Calculation from equation (1)by putting the respective values of x

When x=-2, Y =30891.42+5710.64×(-2) = 19470.14

When x =-1, y =30891.42+5710.64×(-1 =25180.78

When x = 0, y =30891.42+5710.64 × *0* = 30891.42

When x = 1, y = 30891.42+5710.64× *1* = 36602.06

When x = 2, y = 30891.42+5710.64×2 = 42312.7

When, x = 3, y = 30891.42+5710.64×3 = 48023.34 (for 2012)

When, x=4, y = 30891.42+5710.64×4 = 53733.98 (For 2013)

Appendix V (B): BOK

(Rs in millions)

Fiscal Year(X)	Deposit (Y)	x=X-3	x^2	xY
2006/07	12358.6	-2	4	-24717.2
2007/08	15833.7	-1	1	-15833.7
2008/09	18084	0	0	0
2009/10	20315.8	1	1	20315.8
2010/11	21018.4	2	4	42036.8
Total	$\sum Y$=87610.5	$\sum x$=0	$\sum x^2 = 10$	$\sum xY$=21801.7

The equation of trend line is,

Y = a + b x

As, $\sum x = 0$

$$a = \frac{\sum Y}{n} = \frac{87610.5}{5} = 17522.1$$

$$b = \frac{xY}{\sum x^2} = \frac{21801.7}{10} = 2180.17$$

Hence the trend line is,

Y = 17522.1+2180.17x…….(1)

Hence, the origin is 3,

The trend value Calculation from equation (1) by putting the respective values of x

When x=-2, Y = 17522.1+2180.17×(-2) = 13161.76

When x =-1, y = 17522.1+2180.17×(-1) = 15341.93

When x = 0, y = 17522.1+2180.17×0 = 17522.1

When x = 1, y = 17522.1+2180.17×1 = 19702.27

When x = 2, y = 17522.1+2180.17×2 = 21882.44

When, x = 3, y = 17522.1+2180.17×3 = 24062.61 (for 2012)

When, x = 4, y = 17522.1+2180.17×4 = 26242.78 (for 2013)

APPENDIX- VI

Trend Analysis of Interest rate

Appendix –VI (A): EBL

Fiscal Year(X)	Interest rate (Y)	x=X-3	x^2	xY
2006/07 (1)	3.28	-2	4	-6.56
2007/08 (2)	2.82	-1	1	-2.82
2008/09 (3)	3.52	0	0	0
2009/10 (4)	3.75	1	1	3.75
2010/11 (5)	5.48	2	4	10.96
N=5	$\sum Y$=18.85	$\sum x$=0	$\sum x^2 = 10$	$\sum xY$=5.33

The equation of trend line is,

Y = a +b x

As, $\sum x = 0$

$$a = \frac{\sum Y}{n} = \frac{18.85}{5} = 3.77$$

$$b = \frac{\sum xY}{\sum x^2} = \frac{5.33}{10} = 0.533$$

Hence the trend line is,

Y = 3.77 + 0.533 x……. (1)

Hence, the origin is 3,

The trend value Calculation from equation (1) by putting the respective values of x

When x=-2, Y =3.77 + 0.533 × (-2) = 2.70

When x =-1, y =3.77 + 0.533 × (-1) =3.24

When x = 0, y =3.77 + 0.533 × 0= 3.77

When x = 1, y =3.77 + 0.533 × 1= 4.30

When x = 2, y =3.77 + 0.533 × 2= 4.84

When, x = 3, y =3.77 + 0.533 × 3= 5.37 (for 2011/12)

When, x = 4, y =3.77 + 0.533 × 4= 5.90 (for 2012/13)

Appendix VI (B): BOK

Fiscal Year(X)	Interest rate (Y)	x=X-3	x^2	xY
2006/07 (1)	2.64	-2	4	-5.28
2007/08 (2)	2.78	-1	1	-2.78
2008/09 (3)	3.12	0	0	0
2009/10 (4)	4.17	1	1	4.17
2010/11 (5)	5.67	2	4	11.34
N=5	$\sum Y$=18.38	$\sum x$=0	$\sum x^2 = 10$	$\sum xY$=7.45

The equation of trend line is,

Y = a +b x

As, $\sum x = 0$

$$a = \frac{\sum Y}{n} = \frac{18.38}{5} = 3.676$$

$$b = \frac{\sum xY}{\sum x^2} = \frac{7.45}{10} = 0.745$$

Hence the trend line is,

Y = 3.676 + 0.745 x……. (1)

Hence, the origin is 3,

The trend value Calculation from equation (1) by putting the respective values of x

When x=-2, Y =3.676 + 0.745 × (-2) = 2.19

When x =-1, y =3.676 + 0.745 × (-1) =2.93

When x = 0, y =3.676 + 0.745 × 0= 3.68

When x = 1, y =3.676 + 0.745 × 1= 4.42

When x = 2, y =3.676 + 0.745 × 2= 5.17

When, x = 3, y =3.676 + 0.745 × 3= 5.91 (for 2011/12)

When, x = 4, y =3.676 + 0.745 × 4= 6.66 (for 2012/13)

APPENDIX VII

Trend Analysis of Investment

Appendix VII A) : EBL

(Rs in millions)

Fiscal Year(X)	Investment (Y)	x=X-3	x^2	xY
2006/07	4985.1	-2	4	-9970.2
2007/08	5061.2	-1	1	-5061.2
2008/09	5948.5	0	0	0
2009/10	5008.3	1	1	5008.3
2010/11	7743.9	2	4	15487.8
Total	$\sum Y$=28747	$\sum x$=0	$\sum x^2 = 10$	$\sum xY$=5464.7

The equation of trend line is,

Y = a +b x

As, $\sum x = 0$

$$a = \frac{\sum Y}{n} = \frac{28747}{5} = 5749.4$$

$$b = \frac{\sum xY}{\sum x^2} = \frac{5464.7}{10} = 546.5$$

Hence the trend line is,

Y = 5749.4 + 546.5 x…….(1)

Hence, the origin is 3,

The trend value Calculation from equation (1) by putting the respective values of x

When x=-2, Y =5749.4 + 546.5 × (-2) = 4656.4

When x =-1, y =5749.4 + 546.5 × (-1) =5202.9

When x = 0, y =5749.4 + 546.5 × 0= 5749.4

When x = 1, y =5749.4 + 546.5 × 1= 6295.9

When x = 2, y =5749.4 + 546.5 × 2= 6842.4

When, x = 3, y =5749.4 + 546.5 × 3= 7388.9 (for 2011/12)

When, x = 4, y =5749.4 + 546.5 × 4= 7935.4 (for 2012/13)

Appendix VII (B): BOK

(Rs in millions)

Fiscal Year(X)	Investment (Y)	x=X-3	x^2	xY
2006/07	2995.2	-2	4	-5990.4
2007/08	3204.07	-1	1	-3204.1
2008/09	2783.6	0	0	0
2009/10	3269.2	1	1	3269.2
2010/11	4286.6	2	4	8573.2
Total	$\sum Y$=16538.7	$\sum x$=0	$\sum x^2 = 10$	$\sum xY$= 2647.9

The equation of trend line is,

Y = a + b x

As, $\sum x = 0$

$$a = \frac{\sum Y}{n} = \frac{16538.7}{5} = 3307.74$$

$$b = \frac{\sum xY}{\sum x^2} = \frac{2647.9}{10} = 264.79$$

Hence the trend line is,

Y =3307.74 +264.79 x……. (1)

Hence, the origin is 3,

The trend value Calculation from equation (1) by putting the respective values of x

When x=-2, Y = 3307.74 +264.79 × (-2) = 2778.16

When x =-1, y =3307.74 +264.79 × (-1) =3042.95

When x = 0, y =3307.74 +264.79 × 0= 3307.74

When x = 1, y =3307.74 +264.79 × 1= 3572.5

When x = 2, y =3307.74 +264.79 × 2= 3873.3

When, x = 3, y =3307.74 +264.79 × 3= 4102.1 (for 2011/12)

When, x = 4, y =3307.74 +264.79 × 4= 4366.9 (for 2012/13)

APPENDIX- VIII

Trend Analysis of Loan & Advances

Appendix VIII (A): EBL

(Rs in millions)

Fiscal Year(X)	Loan & Advances (Y)	x=X-3	x^2	xY
2006/07 (1)	14100	-2	4	-28200
2007/08 (2)	18836.4	-1	1	-18836.4
2008/09 (3)	24469.6	0	0	0
2009/10 (4)	28156.4	1	1	28156.4
2010/11 (5)	31661.8	2	4	63323.6
N=5	$\sum Y$=117224.2	$\sum x$=0	$\sum x^2 = 10$	$\sum xY$=44443.6

The equation of trend line is,

Y = a + b x

As, $\sum x = 0$

$$a = \frac{\sum Y}{n} = \frac{117224.2}{5} = 23444.8$$

$$b = \frac{xY}{\sum x^2} = \frac{44443.6}{10} = 4444.4$$

Hence the trend line is,

Y = 23444.8 + 4444.4 x……. (1)

Hence, the origin is 3,

The trend value Calculation from equation (1) by putting the respective values of x

When x=-2, Y = 23444.8 + 4444.4 × (-2) = 14556

When x =-1, y =23444.8 + 4444.4 × (-1) =19000

When x = 0, y =23444.8 + 4444.4 × 0= 23444.8

When x = 1, y =23444.8 + 4444.4 × 1= 27889.2

When x = 2, y =23444.8 + 4444.4 × 2= 32333.6

When, x = 3, y =23444.8 + 4444.4 × 3= 36778 (for 2011/12)

When, x = 4, y =23444.8 + 4444.4 × 4= 41222.4 (for 2012/13)

Appendix- VIII (B): BOK

(Rs in millions)

Fiscal Year(X)	Loan & Advance (Y)	x=X-3	x^2	xY
2006/07 (1)	9722.1	-2	4	-19444.2
2007/08 (2)	12748	-1	1	-12748
2008/09 (3)	14946	0	0	0
2009/10 (4)	16664.9	1	1	16664.9
2010/11 (5)	17468.2	2	4	34936.4
N=5	$\sum Y$=71549.2	$\sum x$=0	$\sum x^2 = 10$	$\sum xY$=19409.1

The equation of trend line is,

Y = a + b x

As, $\sum x = 0$

$$a = \frac{\sum Y}{n} = \frac{71549.2}{5} = 14309.8$$

$$b = \frac{\sum xY}{\sum x^2} = \frac{19409.1}{10} = 1940.9$$

Hence the trend line is,

Y = 14309.8 + 1940.9 x……. (1)

Hence, the origin is 3,

The trend value Calculation from equation (1) by putting the respective values of x

When x=-2, Y = 14309.8 + 1940.9 × (-2) = 10428

When x =-1, y =14309.8 + 1940.9 × (-1) =12368.9

When x = 0, y =14309.8 + 1940.9 × 0= 14309.8

When x = 1, y =14309.8 + 1940.9 × 1= 16250.7

When x = 2, y =14309.8 + 1940.9 × 2= 18191.6

When, x = 3, y =14309.8 + 1940.9 × 3=20132.3(for 2011/12)

When, x = 4, y =14309.8 + 1940.9 × 4=22073.4 (for 2012/13)