CHAPTER I
INTRODUCTION

1.1 Background of the study

Capital in a free economy is allocated through the price system. The interest is the price paid to the borrowed capital. When in case of equity capital investors' return come in the form of dividend and capital gains. The cost is affected by the various factors. The most fundamental things that affect the cost of money are production opportunity and time preference for consumption. The returns available within the economy from investment in productive assets determine the cost of investment borrowing. Similarly, the preference of consumers for current consumption as opposed to saving for future consumption also determines the cost of borrowing or the return on lending.

An interest rate is the rate at which interest is paid by a borrower for the use of money that they from the lender. For example, a small company borrows capital from a bank to buy new assets for their business and in return lender receives interest at predetermined interest rate for deferring the use of funds and instead lending it to borrowers. Interest rates are normally expressed as a percentage of the principal.

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

Risk-premium depends upon the credit worthiness of the borrowers. Higher the perceived on part of the lender, more risk premium is added to the risk free rates and vice versa. An interest 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 rate discounted to factor increase in value of the money.

The four fundamental factors affecting the cost of money which are (a) production opportunities (b) time preference for consumption (c) risk and (d) inflation. They have added risk and inflation as fundamental factor as determining interest rate. Risk is the borrower's ability to repay the loan. In financial market context, risk is the chance that financial assets will not earn the return promised. On the other hand inflation is the tendency of the price to increase over time. (J Weston and F Bringham 1984)

Thus we can see that interest rate paid to savers depends in the following ways. On the rate of return, production expects to earn on invested capital.

- On savers time preference for current versus future consumption
- On the risk of the loan and
- On the expected rate of the inflation

The level of interest rate is set by the interaction of supply and demand forces, with demand for fund coming largely from business individuals, borrowers and when borrowers it is running deficit the federal government. Funds are supplied by the individual and corporate savers and under the control of the Federal Reserve System by the creation of the money by the bank. Depending on the relative level of supply and demand the basic part of interest rates is determined. Usually, the lower rates are safer for investment and higher on the risky one.

In 1986 financial institution 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 the certain sector of lending such as the rate of maximum of 15 percent of the priority sector loan.

And for other kind of loan, financial institutions were given freedom to maintain the interest rate structure. In this way the government has provided freedom as well as limitation on the determination of the interest rate. (Shrestha 1990)

Interest rate is sometimes referred as the financial oil of the economy. Therefore, a vision on its development is 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 rate could create an image of its future course combining these force in a number of relevant, plausible, and surprising scenarios, a clear image of risk and uncertainties with regard to interest rate development in future areas. The interest rate development has important consequence 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 is paid is a major expense and often indicator for the general economic situation and expectation. For customer, the interest rate inflation the burden of mortgages in a roundabout way also the value of business.

The collection of deposits and its mobilization are the two side of the same coin, in the absence of the one, another can't work i. e. without the collection of deposit, mobilization of deposits would be quite impossible and viceversa. They both got along with another under favorable condition interest being the most. Interest rate is the main factor in fund activities of commercial banks. Interest rate effects on the collection of deposit mobilization of saving portion.

1.2 Statement of the problem

As the economy has taken a reverse turn making the financial sector hitting the record low return, it has not left the banking sector either. Though banking sector has always been the promising sector giving high return and value to its promoters and shareholders, its down looking financial has created the very

less investment alternatives and comparatively lower return. The deteriorating situation of pace and security of the country has rendered the economy further sluggish, whereby the pace of landing to private sector is to accelerate. The establishments of new industries and organization have come to halt to giving banks fewer opportunities to mobilize its resources.

Our country shows several joint venture 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 future of the bank it has always been modified as per situation and economy. After commercial bank received autonomy to determine their own interest rate they have greater burden to carry if it is shareholders responsibility to drag country toward prosperity. An appropriate interest rate is always sought to keep both parties i. e. depositors and borrowers at profitable minimum. Due to stiff competition between the banks to increase the volume of deposit, 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 change in interest rate within and outside the bank has changed the banking habits of individual depositors. There has been high tendency to transfer fund from less interest bearing bank to high interest bearing ones while lower rated lending banks are seeing huge loan application.

The change in interest has deep impact on the activities of the commercial banks. This study basically deals with such impact of the interest rate on the deposit mobilization and ultimately the profitability of the company. The main attempt of the study will be to answer the following questions.

- What will be the impact of fluctuation (increment and fall) in the interest rate on the deposit, loan and investment ultimately the profitability of the company?

- Do interest structures affect the investment of commercial bank?
- Is interest rate main factor in attracting customers to deposit and lend in market?
- Is there is any stability in deposit mobilization policy of the bank?
- What are the alternatives to interest policies if we have to increase or decrease deposits and investment levels?
- What are the interest rate structures in Nepal in the past few years?

1.3 Objective of the study

The general objectives of the report will be to understand and analyze the impact of the interest rate on deposit mobilization and its long term effect on the profitability of the bank. The specific objectives of this report are as follows:

- To study the impact of the interest rates on the mobilization of the deposits.
- To study the dominance of interest income to total earning of the bank.
- To study the trend of deposit interest rates, the investment rates and the investors rates for loan and advances.

1.4Limitations of the Study

I have tried my best on this study to make accurate and reliable. But in spite of my best effort there are some limitations due to constraints of time and money.

- The study covers only a period of seven years. This is strictly due to resources and time.
- The study based on the annual data only. The rates that respective banks have been taken out in mid-July have been taken as interest rate for the whole year. This limit the reliability of the analysis. Deeper and more introspective view of monthly or quarterly data might significantly change the outcome of analysis

1.5 Organization of the study

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

Chapter I: Introduction

This chapter will introduce the research topic citing the research gap and a brief background regarding the study. This will further highlight the importance intellectual capital in Nepalese banks and depict the brief development process of bank in Nepal. The objectives of the study will also be listed in this chapter.

Chapter II: conceptual framework and review of literature

This chapter will further stress on conceptual understanding of impact of interest on deposit mobilization and its significance in the banking scenario. It will deal with what the empirical works are available and give brief review of Nepalese studies, if any.

Chapter III: Research methodology

This chapter will deals about the nature of the research design, nature of source of date and clearly the list the enterprises that are taken under study. This chapter also will describe the method and models of date analysis.

Chapter IV: presentation and analysis of data

This chapter primarily deals with anything of both primary and secondary data and it will end with some concluding remarks.

Chapter V: summary, Conclusion and Recommendation

This will be one of the most important chapters of the research work. It will briefly summarize the research work, draw the rational conclusion and make necessary recommendation to the authorities concerned.

CHAPTER II

CONCEPTUAL FRAMEWORK AND REVIEW OF LITERATURE

This review of literature provides the basic foundation of the study. The various concepts employed in this study are in fact derived from the different literature surveyed in this part. The review of literature has been described in three parts. The first part presents discussion on conceptual frameworks, while other two part deals with review of literature in the internal context and review of Nepalese studies.

2.1 Conceptual Framework

Different authors have defined interest and its working in different ways. A review of this definition is important in order to have a better insight into this subject matter. This part, therefore, deals with the concept of interest and the evaluation of this concept and the different component of it.

2.2 Meaning and Definition of Interest

Interest is a fee paid by a borrower of assets to the owner as a form of compensation for the use of assets. It is most commonly the price paid for the use of borrowed money or money earned by deposited funds.

When money is borrowed, interest is typically paid to the lenders as a percentage of a principal, the amount owed to the lender. The percentage of the principal that is paid as fee over a certain period of time (typically one month or year) is called the interest rate. A bank deposit will earn interest because the bank is paying for the use of the deposited funds. Assets that are sometime lent interest include money, share consumer goods through hire price, major assets like aircraft, and even entire factories in financial lease arrangement. The interest is calculated upon the value of the assets in the same manner as upon the money. Interest is compensation to the lend for a) risk of principal loss,

called credit risk; and b) forgoing other investments that could have been made with the loaned assets. Those forgone investment are known as the opportunity cost. Instead of lender using the assets directly, they are advanced to the borrower. The borrower than they enjoy the benefit of using the assets ahead of the effort required to pay for them; while lender enjoys the benefit of the fee paid by the borrower for privilege.

2.3 Function of the Interest Rate

1. Interest determines the priority of people to either save or consume: when interest rates are manipulated (by the fed) it influences the degree that people are willing to defer present consumption; i.e. save. If the interest are manipulated to low, like they like they are now, people are no longer willing to save. When interest rate become negative (the interest lower than the inflation rate) people since they are now being paid to go into debt, take an excessive debt as well as excessive risk because that is exactly what they are being paid to do. Conversely, when interest rates are high such as in the early 80's, people were willing to forgo current consumption in order to avail themselves of the ultra high interest rates and we ended up having high saving rates.
2. When interest rates are high the demand for cash is extremely low. People can't wait to deposit every cent that can spare so as earn that high rate of interest. However when rates are low, the prosperity to hold cash is very high because at 1% or 2% interest rate is not much to be forgone by keeping extra cash in your pockets.
3. The velocity of the money (how many time the money supply turns over during the year) and therefore the calculation of the money supply itself greatly affected by the level of interest rates. When rates are outside the normal range, the FED cannot calculate the velocity until long after the fact and thus they lose track of what the money really is and its effect on the economy, leading to the interest rate conundrum.

4. Interest rates also determine which investment should or should not be made according to the investment's rate of return. When interest rate are manipulated too low, a great many investments and risks are also undertaken that should not have been because those poor investments will fail at the first sign of weakness in the economy or be forced into bankruptcy with the eventual return to rising interest rates. This is the main underlying cause behind the business cycle. The imbalances (wasted resources) in the economy must be liquidated before the economy can stabilize so that misused resources become available for the next growth phase.

2.4 Interest Rate Theories

R. D. Pant mentioned the following theories about interest rate in his book.

1. The Traditional Approach

This approach believes the change in the demand for any supply of money cannot affect interest rates except for transitional states in which system moves from one long term equilibrium position to another. Kaynes relegated the level of interest quantity of the money primarily to the job of determining the level of interest rate by the liquidity preference and the quantity of money it is needed to keep the interest rate at low level, to hold the interest payment in the government budget, to increase investment and to stimulate the aggregate demand to increase both real income and employment.

Economist and policy maker have, no doubt, long recognized the effects of variations in the stock of money on the rate of interest. There has been less agreement, however, on the precisely what in the economy effect, although it is generally agreed that the effect, transmission process and the stability of relationship depend on what one assumes about the state of the economy. In under employment situation like those, for example the, experienced the Western world in 1930s, when the increase in the demand for goods is expected

to result in the increase in output rather than price, both income and interest rate, given the saving consumption and the liquidity preference function and the money supply are mutually determined as in IS.LM analysis. In such a situation, both fiscal and monetary changes, given the price level, affect the interest rate. Once the full employment situation is reached, however the price level rather than rate of interest rate will be given public demand for real balances, move in proportion to excess money supply and it is precisely effect on the money market of such a rising price level that rides the economy of excess demand and bring it to equilibrium. In real world, however, both real income and price may change simultaneously and the current controversy in the theory of interest are due to lack of consistent economic theory designed to explain the division of change in nominal income prices and output.

2. Modern Approach

In the modern view that the natural rate hypothesis and the theory of rational expectation in economic theory trace out of any facts like, monetary changes are the dominant cause to change in nominal interest rate even in the short monetary authorities can make temporary change in the interest are provided it changes of growth of money in unpredictable way. The continued growth of money supply, however, will not lower interest rate if the initial position is one of the full employments. The excess supply of money will increase expenditure partly because of effect of low real interest rate on investment and due to partly to an increase in other spending since for an individual nothing has occurred to make the cash holding more attractive. If the public expect the rise, price borrower will be willing to pay higher interest and lender will be willing to pay more to compensate for rising prices.

The monetary effect on interest rate can be separated into three effects. They are as follows:

a) Liquidity Effect
b) Income Effect
c) Expectation Effect

The nominal demand for money at time is assumed as follows:

$Mt = F(Yt , It)Pt$

Where, t= Time

Yt= Real Income

It= Nominal Interest Rate

Pt= price Level

Mt= Money

And money supply is assumed to be exogenously determined as Mst = Mst. The nominal interest rate I equal the real interest plus the expected rate of the inflation. The basic form is like this.

$I = r + (I/P = DP/Dt) e$

Where,

I = Nominal Interest Rate

R = Real Rate of Interest rate

(I/P + D/P/Dt)e = Expected Rate of Inflation

The real investment is negatively related with the real interest rate and saving function is positively related with the interest rate.

So, the equilibrium form of investment and saving is I/P = S/P

The increase in the growth of rate of money supply will create excessive supply of money. The nominal and real interest rate must decline to create excess supply in the money market if there has been no change in income or price. It is due to the liquidity effect. Nominal and real interest rates decrease from the equilibrium level if there was an unexpected change in money growth rate. The decrease in real interest rate will stimulate expenditure due to partly to the

effect of lower interest rate on investment and increase in the consumers spending due to excess supply of money. The increase in the rate of inflation will reduce the demand for cash balance and the public may hold more capital goods at the expense of the real balance. This will lead to an increase in capital labour ratio and make the real interest rate permanently lower than it would otherwise be. The real interest will return to the original stage and an increase in money supply will rise the price level and nominal interest rate in proportion to the rise in money supply with no change in real interest rate.

The change in nominal and real interest rate is based on the following expectation:

- An increase in real the real rate of growth of money supply will initially decrease the real and nominal interest rate.
- In the equilibrium stage inflation will rise to the new value equal to the change in the rate of growth of money supply.
- The nominal interest rate rise in population to the rise in inflation when the position in equilibrium. There will be no change in the real rate of interest.

2.5 Determining the Interest Rate

Pant Ragav has specified the balance sheet of commercial bank as follows.

Account 1

Assets	Liabilities
Required Reserve (A) Excessive Reserve(B) Earning Assets Loans and Advance Investments	1.Loanable Fund(D) a. Time b. Current c. Others 2. Capital Reserve and other Net Liabilities

Account 2

Interest earned (F) Interest Cost

Effective Interest Rate = (F/C)*100%=λ

Effective Interest Cost = (I/D)*100%=β

Hence he has determined the effective interest as =

Interest earned/ interest earning assets*100%

And effective interest cost as

= interest cost/ interest paying liabilities*100%

If Rastra Bank changes the interest rate structure the change in the interest rate will affect both supplies of deposits and demands for loans from the commercial banks. Both the earning assets and the loan able funds may not change in same proportions and this will affect the excess reserve position of the banks.

Rate of return on capital is λ-β-λ(d-c). This return will be positively only if the λ (1(D-C)/C>β. This indicates that's that apart from the margin between lending and deposits rates. The changes in both loan able funds and earning assets, which in turn, determines the excess reserve available to the banks, play a major role to determine the profit positions of the banks. (Pant, 1965)

2.6 NRB'S Domination on Interest Rates

NRB has been a dominant force in the development and regulation of the financial and economic sector in Nepal. Commercial banks have been allowed to determine to their own interest rate on deposits and loans as a result of interest rate deregulations. This whole are of interest rate structures and its role has been a major concern for both commercial banks and NRB. Commercial banks can their own interest rates on deposits and loans due to the deregulation of the interest rates but it has been decided that the disparity should not exceed more than 6 per cent. The authority of controlling the commercial banks and

financial institution has fallen to the NRB after its establishment. NRB was actively involved in formulating the monetary policy and fixing the interest rate.

The establishment and growth of commercial banks in the country within short span of time have been encouraged by the economic liberalization policy of the government. The proper determination of the interest rates is one of the important instruments of monetary policy especially in situation when existing financial institutions such as commercial banks are unable to supply timely and any capital market activities. According to the monetary policy, Nepal Rastra Bank control over the commercial banks, statuary reserve of liquid assets, limitation and spread of interest rates over deposits and loans, ceiling to the flow of loans on priority sector etc. Nepal Rastra Bank has also sometimes controlled and provided facility in the past in determination of interest rates of commercial banks.

2.7 Overview of Interest Rate Policy and Financial Development

Interest rate in general reflects the cost of funds. The interest rate can be viewed as the rental price for money or alternatively can be viewed as the opportunity cost for money where the cost of not using money is its next best alternatives. The policy rate is the rate by which the monetary the authority signals the cost of borrowing from the central bank. The effect of policy rate to the market interest rates however depends upon the structure of interest rates and the level of financial development. In this regard it is difficult to explain interest rate policy in Nepal without understanding the level of financial development (FD).

- Pre Interest Rate Phase (pre 1955): Prior to 1955 the domestic financial system was underdeveloped. It was dominated by unorganized/informal financial system generally driven by private individuals, Shahus (merchants) and landlords. To provide financial service, Nepal Bank Limited (NBL) which is the first commercial bank in the country, was

established 1973, and reflects the start of the formal financial system. Despite the beginning, the Nepalese financial system remained in an embryonic stage which can be seen through some comparative ratios of Nepal, UK and India at that time: Nepal had 400,000 persons per bank branch while it was 4000 and 70000 persons for UK and Indian respectively; further per capital deposits at that time in Nepal was NRs 8 or less than a dollar, compared to 367 US dollar for UK and 9 US dollar for India. During that time country monetary system was characterized by being a dual currency system. Financial transactions were dominated by the use of Indian Currency (IC) with there being a volatile exchange rate between the IC and NC and very low level of monetization in the country. Therefore, in the initial period the primary responsibility for Nepal Rastra Bank was to bring the monetary system under its control. This was reflected in the preamble of the Nepal Rastra Bank Act of 1955.

- Controlled interest phase (1956-1983): the establishment of Nepal Rastra Bank (NRB) in 1956 coincided with the period of planning (such as the first development plan from 1956-1960; GON(1956). At that initial stage; the financial system was udimentary and described as "predominantly as a cash financial system was reflected in the establishment of a) Nepal Industrial Development Corporation (NIDC) in 1959 b) Ratriya Banjya Bank (RBB) 1964 and c) Agriculture Development Bank in 1968; these institution facilitated the elimination of the dual currency system in 1967, which predominated in Nepal. In that year, NRB also adopted interest rate regime, where the bank used to fix deposit and lending rates of the commercial banks. Different rates were fixed for the different instruments and the purpose of loan. As the market based monetary policy were not developed determination of the interest rate was one of the few options left for the NRB at that time. Also at that time there was a lack of competition in the domestic financial market due to the limited number of banks operating in the

country. Before 1983, there were only two commercial banks operating in the country (e.g. NBL and NBB) which controlled the lion's share of the resources.

- Transitional Interest Rate Phase (1984-1989): In early 1980's, Nepal experienced a series of BOP problem. To control the depletion of international reserve Nepal adopted the International Monetary Fund (IMF) supported economic stabilizing program in 1985, and subsequently entered into IMF's structural Adjustment Facility, this presaged gradual reform measures in the financial sector. In this regard, on November 16, 1984, NRB initiated a limited flexibility to the commercial banks to fix the interest rates. Commercial banks were then allowed to offer interest rate on saving and time deposits to the extent of 1.5% to 1.0% above the minimum level. This form of limited deregulation on interest rate helped inverse the competitiveness among banks and financial institution. In this liberalizing environment, three joint venture banks were established during 1984-1987. Effective May 29,1986; interest rates for lending and deposits were further liberalized except from the priority sector lending, in which bank were not allowed to change interest rate more than 15%. The objective of gradual deregulation of interest rates was to create competitiveness in the banking sector thereby increasing efficiency, effective mobilization of resources.
- Liberalized Interest Rate Policy (1990-present): controlled interest rate regime was completely abolished on august 3,1989. Banks and financial institution were now given full autonomy to determine their interest rates on deposit and lending. This coincided with the period of liberalization, which shows a huge spurt in the number of banks and financial institution. The number of institutions increase tremendously form 7 banks and financial institutions in the last phase to 277 in the current phase- an increase by over 39 times ! Although the NRB has given the autonomy to determine the interest rate, the Banks has been

forced to intermittently issue directives in regard to anomalies in the interest rate determination as there hada high interest rate spread between deposits and lending rates. Therefore, the objective of interest rate deregulation to lower the financial intermediation cost was met. The promulgation of Nepal Rastra Bank Act 2002 attempted to address development in the financial market. But the continuing high level of interest rate spread suggested that greater financial sector development (FD) had not brought efficiency in the financial system. To address this NRB attempted to maintain the interest rate spread of commercial Banks at a desired level through using moral suasion only. Additionally, in the spirit of interest rate spread of 5.5% was withdrawn by the NRB in 2003. Since then no direct or indirect restriction is implied as far as determination of interest rates.

2.8 Deposit

The word Bank is synonymous with the Banks' activity of accepting deposit and providing loans. The fund collected from the public is the primary source of funds for any banking institution. Since the banking business depend on the others people's money (OPM), Banks accept huge amount of fund as various forms of deposits having different features and characteristics. Deposit is the foundation upon which banks grow as. It is the main item in the bank's balance sheet which distinguishes it from other type of business. It provides most of the raw materials for bank loan. Hence it represents the ultimate sources of banks' profit and growth. Bank's sustainability depends on its strong deposit base. Huge volume of deposit indicates that the bank has gained sufficient public confidence.

2.8.1 Importance of Deposits

Banks and Financial institution cannot be expected to operate without taking deposit. Deposit taking means accepting money (notes/coins) or near money

(like cheques, banker's draft) for keeping it in deposit accounts. The importance of deposit can be explained the following bullets.

a) For Banks

- Financial soundness of the Bank that built confidence in the public to entrust their deposits with the Bank being assured of its safety.
- The number of branches and other banking channels that offer deposit services to customer.
- The range of deposit and other products available.
- The efficiency in product delivery.
- The quality of customer services.
- Interest offered on deposits as compared to its competitors/ other Banks and financial institution.

b) For Depositors

- Liquidity and easy withdrawal by cheques/ ATMs for meeting their regular expenses. Liquidity refers to the quality of the assets in terms of its convertibility to cash without causing risk of loss to the holders.
- Quick and convenient transferability of funds to third parties and to the depositors other accounts by cheque/debit card/clearing/collection and other system and delivery channels.
- Safety of funds.
- Reasonable earning from interest on deposits.
- Systematic and reliable record keeping via statement of accounts and pass books.
- To enjoy other facilities e.g. safe deposit lockers, credit/debit card, insurance, credit facility etc.

c) **For Economy:**

Banks and financial institution mobilize a large portion of the saving of community and deploy the same in loans and advances to different sectors of economy such as; industry, trade, agriculture, infrastructure, service sector and other bankable economic activities. Effective utilization of public saving is only possible through effective banking system. Banks intermediate between deposits (surplus groups) and business (deficit groups) by lending the depositor money to the letter. Thus, Banks play an important role in economic growth of the country by mobilizing the community's saving toward productive purposes.

2.8.2 Types of Deposits

a) Current Deposit: current deposit is known as Demand Deposit. These deposits are generally maintained by the traders and businessman who have to make a number of payments frequently and regularly. These deposits are withdrawal by the depositors any time by means of cheques. Usually no interest is paid on them hence called non-interest bearing. Depositors may have to pay certain charges to the bank for the service rendered. Any amount of money may be deposited in this account.

b) Saving Deposit: these deposits stand midway between current and fixed deposits. Banks may impose certain restrictions on the depositors regarding the number of withdrawals and amount to be deposited in the given period. Cheque facility is provided to the depositors. Rate of interest paid on these deposits is low as compared to that of fixed deposits. These deposits encourage the habit of thrift amongst people.

c) Fixed Deposit: A fixed deposit (also known as a term deposit) is a deposit at a banking institution that cannot be withdrawn for a certain "term" or period of time. When the term is over it can be withdrawn or it can be held for another term. The longer the term the better the yield (interest) on the deposit. Unlike current and saving deposits no transaction are allowed to be performed by customer against the fixed deposit.

d) Call Deposit: Call deposit, also known as hybrid deposit, is a combination of current and fixed deposit invested for meeting customer financial needs in a flexible manner. Increasing competition has facilitated to introduce this deposit product. This deposit mainly serves the need of appropriate assets liability management of the banks and financial institutions. Generally the practice of intra-bank borrowing and lending activities are conducted through this product.

d) Margin Deposit: This account is meant for holding margin money of the customers as deposits (non-interest bearing) to avail various facilities from the bank. Customers are not allowed to withdraw any amount form such accounts till the expiry of the availed facilities. Margins are required for LC, Guarantee, remittance and some other facilities.

2.9 Review of some relevant books

Keynes in his book has mentioned the following view point about the rate of interest. According to him, community liquidity preference and quantity of money determine the level of rate of interest. These three things liquidity preference, 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 interest rate.

According to modern view, interest rate determination depends upon the investment, saving, liquidity preference and supply of money. The view is combination of various 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.

Where,

I = Investment and S = Savings

Keynes in this argument said, “Interest stems directly from the supply of and demand for money itself rather than the use of money. Liquidity is the unique

characteristics of money and calls the demand of money to hold the liquidity preferences. It is this, which requires the payment of interest. The marginal efficiency of capital determines the degree of liquidity preference and rate of investment and interest rate there on (Keynes, 1936).

A vital role played by the cost of capital in the economic decisions empirical studies have looked for rate, effects and investment decision and expenditure since the rate of interest is a major determination in capital costs. Short-term rates are supposed to influence the inventory investment and trade credit, while long-term rate; influence plans for plant and equipment installations and for residential housing. Philip Cagon. Studied and tested the pattern of bond yields. He opined "if we expect the interest rate to influence the investment, expenditures and thus aggregate business activity, arise in interest rates in business expansion should restrain aggregate expenditure and shorten the duration of expansion" (Cagon,1996)

Higher interest rate affects loan/advances and deposits directly. There are opposing views of higher interest rate on loans.

According to H.D.Crosse, when funds are plentiful market rate generally trend to decline. Banks seeks loan more aggressively, and therefore lower their rate including marginal borrowers to come into the market. When the funds are scare, bank rise their interest rates and potential borrowers may differ to use credit or seek it from elsewhere"

The views of some economist on interest rates differ. According to these few, the interest rate is the major determinant, and also traced out the time preferences in the determination of interest rate. The level of capital is measured by the level of structure of interest rate. So, the interest rate must be taken as important factor of economic policies developing or less developed countries.

Classical economist have their own say that the interest rate depends upon the level of saving and demand for real investment interest is that point where both the amount of saving and demand of investment are equal.

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

Loan able Funds Theory of Interest is mentioned inDeveete's book "Modern Economic Theory": The loan able theories believed in time preference explanation of how interest arises. According to loan able funds theory, also called Neo-classical theory, the interest rate is the price paid for the use of loan able funds. Like classical and Keynesion theories of interest, it is also a demand and supply theory. It asserts the 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 demand and supply of loan able funds, which we described below.

Supply of loan able funds:

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

a) Saving: saving by individual and household constitute the most important sources of loan able funds. Any individual and household saving primarily depends upon the size of their income. But, given the level of income, saving varies at various rate of interest. More saving will be fourth coming at higher rate of interest and vice versa.
b) Bank credit: Another source of loan able fund is the banking system. Banks can create money and advance them to businessman as loans. By contracting their lending bank 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 to some degree interest elastic. It varies with various rate of interest.

c) Dishoarding: Labeled as another source of loan able funds, individual may dishoard money form a hoarded stocks of previous period. More stock will be dishoarded at higher rate of interest. Cash balance lying idle in the past period can become active balance in the present period and are available as loan able funds.
d) Disinvestment: They are considered to be the opposite of investment. This happens due to structural changes or bad returns 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 from loan able funds.

Demands for Loan able Funds:

The demands for loan able funds come only from three fields:

a) Investment: This is the most important consistent of the total demand for the loan able funds. The interest serves as the price of the loan able funds requires purchasing the capital goods. The demand for the loan able funds obviously is the rate of 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 desire to hoard their savings as idle cash balances. The demand for the hoarding money is "interest elastic". At a higher rate of interest, people will hoard or hold less money because much of money will be lent to take advantage of higher interest rates.
c) Consumption: consumption serves the purpose of the second biggest demand for the loan able funds. Individuals or households want to borrow

and demand loanable funds. When they wish to make purchase in excess of their current incomes and resources.

2.10: Review of Some Relevant Thesis

- Mrs.RajaBhandari(2010) in her study "Structural change in Interest Rate and its Effect on Deposit and Lending" the main objective of the study are as follows:
    - To present the concrete picture of the interest rates structure of the sampled two banks in different time periods.
    - To evaluate the relationship between interest rate and loans.
    - To examine the relationship between interest rates and deposit.

Mrs. Rajbhandari on her study she conclude the following major finding:

Interest has greater influence over the resources mobilization and utilization of productive sector. It is the determination factor of firm profit. The interest rates that have greater effects on deposit, flow of credit are fully liberalized in August 1991. Before liberalization it was fixed and monitored by NRB. After liberalization period NRB has allowed commercial bank to fix the interest rates on their own under some directives. From this study we come to know that different structural changes has been occurred on interest rate under which commercial bank operated an era of reducing lending rate to mobilize the resources into productive sector. In spite of decreasing the deposit rate under study period deposit collection has been increasing significantly. It is because of the increasing people awareness and education about bank and banking system and as well as efficiency of commercial banks.

Mr. Sing (2010) on his study entitled "Interest Rate Structure and its Impact on Deposit Mobilization" the main objectives are as follows:

- To explore the relationship of interest rate with the deposit amounts (existence of the substitution effects) in Nepalese market.

- To examine the sensitivity of interest rate to the investment (borrowing)
- To examine the relationship of interest rate with inflation in Nepalese market.

On his study he concludes the following major points:

- The interest rate on both deposit and lending of all banks are found to be decreasing trend. But on the contrary to this deposit amount and lending amount is increasing every year except NBBL.
- The saving deposit amount and saving interest have negative relationship (i.e. correlation ranging from -0.6856 to -0.9628). it means they have highly inverse relationship. If one variable increases other variable decreases and vice-versa. This case is against the theory of theory of substitution effect. This may be due to the fact that in the last FY's people accumulated their most of their funds on saving account, though they didn't get appropriate interest on it. It may be just because of unavailability of other acceptable investment opportunity, in which a separate study can be made. Similarly, the convenience of using saving account provokes the investor deposit on saving account. Similarly the excess supply of saving deposit reduces interest rate of saving account.
- To clarify the above conclusion the t-statistics of negative correlation between saving deposit amount and saving interest rate is significant except NABIL. It means they have strong negative relationship.
- Analysis of fixed deposit amount and fixed interest rate shows negative relationship except NBIL, NBBL and SCBL. The correlation coefficient for NABIL, NBBL and SCBL is 0.0122, 0.7403 and 0.5126 respectively. According to correlation coefficient, the substitution effects occur for three NABIL, NBBL and SCBL in case of fixed deposit that means fixed rate when interest rate on fixed deposit decrease/increases. But other three banks HBL, DFL and NSBI the correlation coefficient is negative meaning people deposit more money even if the bank offer lower yield rate for fixed deposit.

- The t-statistics between fixed deposit interest rate and fixed deposit amount is insignificant. It means that all sample banks have positive for fixed deposit.
- One of the variables that affect the demand of fund (lending activity) is lending interest.

- Mrs. Shrestha conducted a study entitled; "Interest Rate Assessment of Commercial Bank and its Impact on Deposit and Lending" the objective of his study is as follows:
  - To study and analyze the relationship of the interest rate on the volume of deposit of commercial banks.
  - To study and analyze the relationship of interest rate on the volume of lending of commercial banks.

  On her study she concludes the following major finding points:
  - According to theory, there is positive relationship between deposit rate and deposit amount. But the analysis of substitution effect for both fixed and saving deposit shows that substitution effect do not exist for all sample bank.
  - There is negative relationship between deposit interest rate and deposit amount of all sample bank.
  - Fixed depositors are not motivated by interest rate but by the safety of the investment, guarantee of return easy liquidity offered by the banks. Interest is not key factor for mobilizing fixed deposit.
  - According to theory there is negative or inverse relationship between landing rate and lending amount. The study that all sample bank also conclude the same result.
  - It is found that the deposit rate and lending rate of sample bank are moved into same direction. There is high degree of positive correlation between deposit rate and lending rate which indicated

the change in one variables causes to change in another variables in same direction.

- Mr. Nepal conducted a study entitled; “A Study on Deposit and Investment Pattern of the Commercial banks" (with reference to SBI Bank Limited, EBL and SDTC) the objectives of his study is as follows:
  - To analyze the relationship between deposit loan and advances, investment, net profit and compare between the banks under study.
  - To analyze the impact of loan and investment in profit under study period.
- To study and recommend some measures for fund mobilization and investment policy.

  On his study he concludes the following major finding:
    - The deposits collected by commercial banks are not invested into productive sectors. Commercial banks are spending their money on government securities.
    - The increasing deposit and reducing loans are great problem for banks.
    - Risks and profitability analysis shows there is significant relationship deposit investment and loan and advances of all the commercial banks.
    - Strengthening and institutionalization of commercial banks and national development through shift of credit to the productive industrial sector.

- Mr. Bhattarai conducted a study entitled; “Relation of Interest Rate with Deposit Lending and Inflation in Nepal” the objectives of his study is as follows:
- To show the relation of interest rate with deposit and lending amount in Nepalese market.
- To find out the relationship of interest rate with inflation in Nepalese market.

- To provide suggestion and recommendation for the improvement on the basis of finding of the study.

  On his study he concludes the following major finding as follows:

  - The interest rate on both deposit and lending of all banks are found to be in increasing trend. But on the contrary to this deposit amount and lending amounts is in increasing trend.
  - The saving deposit amount and saving interest rate have negative relationship.
  - Analysis of fixed deposit amount and fixed interest rate shows negative relationship.
  - The relationship between interest rate on deposit and inflation rate is negative

CHAPTER III
RESEARCH METHODOLOGY

Research methodology is the procedure by which researcher go about their work of describing, explaining and predicting phenomenon. In other words, research methodology describes methods and process applied in the entire aspect of the study. In this chapter, efforts have been made to present and explain the specific research design for the sake of attaining the research objectives.

This chapter has been organized into five sections. Sections one present the research design, while section tow describes the nature and sources of data. Section three descries the selection of enterprises. Section four explains the methods of analysis employed in this study. Similarly the definition of key terms in and limitation of the study are described in the last two sections.

3.1 Research Design

Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research questions and to control variance. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do from writing the hypothesis and their operational implications to the final application of data. The structure of research is more specific. It is the outline, the scheme, the paradigms that outline the variable and their relation and juxtaposition we build structural scheme for accomplishing operation research purposes. Strategy, as used here, is also more specific than plan. In other words, strategy implies how the research objectives will be reached and how the problems encountered in the research will be tackled.(Karlinger, 1989, p. 275)

There are many types of research designs suggested by many scholars. Mc. Grath (1970) has suggested five different models a) study b) survey c) controlled experiment d) investigation e) action research. Selltiz,et. al. (1980) suggested three broad categories of research design: a. formative or exploratory studies b. descriptive studies and c. study testing causal hypothesis. Cooper and schindler (2003) suggest four categories of research designs: exploratory, descriptive, causal and experimental.

But here in this research study descriptive research design will be used.
Haward K Wolff and Prem R Pant describes on their book Social Science Research and Thesis Writing (page. 98):Descriptive research studies involves the systematic collection and presentation of data to give a clear picture of particular situation. These studies attempt to obtain a complete and accurate description of a situation.

3.2 Population and Sample (Selection of Enterprises)

There are 32 commercial banks in Nepal according to the date provided by Nepal Rastra Bank in 2011 mid-January. But to carry out this research five commercial banks have been selected. The selected banks are as follows.

- Nabil Bank Limited (NABIL)
- Bank of Kathmandu (BOK)
- Himalayan Bank Limited (HBL)
- Everest Bank Limited (EBL)
- Rastriya Banijya Bank Limited (RBB)

Table 3.1

Name of commercial banks and their dates Taken into consideration

S.N	Name of Commercial Banks	Study period(Mid-July)	No. of Observation
1.	Nabil Bank Limited	2005-2011	7
2.	Bank of Kathmandu	2005-2011	7
3.	Himalayan Bank Limited	2005-2011	7
4.	Everest Bank Limited	2005-2011	7
5.	Rastriya Banaijya Bank Limited	2005-2011	7

3.3 Nature and Source of Data

The research work has covered a period of seven years i.e. FY 2005/2006 to 2010/1011. The secondary data will be used to a higher extent due to time constraints. These secondary data will be collected mainly from published sources like annual reports, prospects of banks, balance sheets, newspapers, internets and others sources. Furthermore, various data also will be collected through periodical and economic journals.

3.4. Tools for Data Analysis

There are many research methods available in practices to conduct research. But due to time and money constraints all available methods cannot be used. Being a small research, only important and suitable tools have been selected for this study. The research tools that will be used in this study are:

3.4.1 Arithmetic Mean:

The most popular and widely used measure of representing of entire data by one data is called arithmetic mean. It is the sum of the entire observations divided by the number of observations. In such a case all the item is important. In this study, arithmetic mean is widely used as per the necessity for analysis. It is computed by using the following formula.

Mean ($\overline{X}$) = $\frac{\Sigma x}{n}$

Where, ($\overline{X}$) = Mean

Σx = Sum of all variable x

n = Variable number involved

3.4.2 Standard Deviation:

The standard deviation is a statistics used as a measure of the dispersion or variation in a distribution equal to the square root of the arithmetic mean of the square of the deviations from the arithmetic mean. It is the best tool to study fluctuation in any data. It is usually denoted by the letter sigma (σ). It is also known as 'Root Mean-Square Deviation' and is computed by using following formulas:

Standard Deviation (σ) = $\sqrt{\frac{\Sigma(x-\overline{x})^2}{n}}$

Where, ($\overline{X}$) = Mean

Greater the magnitude of standard deviation higher will be the function and vice versa.

3.4.3 Correlation Coefficient(R):

The measure of relation between two or more variables is called correlation. The scale of measurement of correlation ranges from -1.00 to +1.00. A perfect correlation is one that has value of +1.00 and a perfect negative correlation is one that has value of -1.00. And uncorrelated date refers to those which have a value of 0.00 or near zero.

A necessity of correlation analysis is required here to find out whether the variables that have been selected have any sort of relationship or not.

The simple correlation coefficient is calculated by using following formula.

Simple correlation coefficient (r) = $\frac{\text{covariance } (x_1, x_2)}{\sigma x_1 \, . \, \sigma x_2}$

Where, covariance $(x_1.x_2) = \frac{n}{1} \{(x_1 - \overline{x_1}) (x_2 - \overline{x_2})\}$

n = total number of observation.

3.4.4 Coefficient of Determination (R_2):

The Square of the simple correlation coefficient is called coefficient of determination and it is very useful in interpreting the value of the simple correlation coefficient. The main significance of the coefficient of determination is to represent the portion of total variation due to independent variables. It measures the percentage of total variation in dependent variables. It represents the percentage of the total variation in dependent variables explained by independent variables.

Coefficient of Determination = $(r_{12})^2$

3.4.5: Research Hypothesis, test of hypothesis and t-test for significance

Testing hypothesis is one of the vital aspects of the decision making theory. It consists of the decision rules required for drawing probabilistic inferences about the population parameters. “A hypothesis is the conjectural statement of the relation between two or more variables. Hypothesis are always in declarative sentences form and they relate either generally or specifically variables to variables. By testing the hypothesis we can find out whether it deserves the acceptance or rejections of the hypothesis. Generally, two complementary hypotheses are set up at one time. If one hypothesis is accepted then another is rejected and vice versa.

- Is there any significance correlation between interest rate and deposit of commercial banks?

Null hypothesis H0: P=0 i.e. interest rate provided on deposit and volume of deposit of commercial banks are not correlated.
Alternative hypothesis H1: P≠0 i.e. interest provided on deposit and deposit amount of commercial banks are not correlated.

- Is there any significance correlation between interest rate and lending of commercial bank.

Null hypothesis H0: P=0 i.e. interest rate charged on lending amount of commercial banks are not correlated.
Alternative hypothesis H1: P≠0 i.e. interest rate charged on lending rate and lending amount of commercial bank are correlated.

- Is there is any significant correlation between interest rate of deposit and lending of commercial banks?

Null hypothesis H0: P=0 i.e. interest rate provided on deposit and charged on lending of commercial banks are not correlated.
Alternative hypothesis H1: P≠0 i.e. interest rate provided on deposit and charged on lending of commercial banks are not correlated.

If 'r' is the observed sample correlation coefficient of 'n' paris of observations from bivariate normal population, the test -statistics for significance of correlation under null hypothesis is given by:

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

i.e. t follow t distribution n -z degree of freedom (d.f.) 'n' being the sample.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

In the previous chapters, we discussed about the impact of interest rates on funds mobilization of commercial banks, historical background of interest rate and NRB's policies regarding it. Likewise in the second chapter, we discussed about the previous studies through literature review and in the subsequent chapter, we presented the methods that have been used to analysis the information. This chapter is the heart of the study. This chapter consists of relevant data and necessary information for the study.

4.1 Overviews of Nepalese Financial Sectors

4.1.1 Component of the Nepalese Financial Sectors

The Nepalese financial sector is composed of Nepal Rastra Bank (NRB) and commercial banks, development banks, finance companies, micro-credit development banks, cooperative, financial institutions, non-governmental organizations, (NGO) performing limited banking activities and others financial institution such as insurance companies, employees provident fund, citizen investment trust, postal saving offices and Nepal Stock Exchange. During the two and half decades the number of financial institution has grown significantly. In the beginning of 1980s there only two commercial banks and a development bank in the country. After the introduction of economic liberalization policy, particularly financial liberalization, it provided the impetus in the establishment of a new bank and non-bank financial institutions. Consequently, by the end of mid-January there are 277 banks and non-bank financial institutions licensed by NRB are in operation. Out of them, 30 are "A" class commercial banks, 87 "B" class development banks, 79 "c" class financial institution, 21 Micro Finances Development Banks, 15 service and cooperative limited and 45 NGO (Financial Intermediaries).

Table: 4.1

Growth of Financial Institutions

Types of	Mid-July											Mid-Jan
financial institution	1980	1985	1990	1995	2000	20005	2006	2007	2008	2009	2010	2011
Commercial Banks	2	3	5	10	13	17	18	20	25	26	27	30
Development Banks	2	2	2	3	7	26	28	38	58	63	79	87
Finances Companies				21	45	60	70	74	78	77	79	79
Micro Finance Dev. Banks				4	7	11	11	12	12	15	18	21
Saving and Cooperatives				6	19	20	19	17	16	16	15	15
NGOs Financial intermediaries					7	47	47	47	46	45	45	45
Total	4	5	7	44	98	181	193	208	235	242	263	277

Sources: Banking and Financial Statistics: Mid-January, NRB 2011

Table 4.1 presents a clear picture of the growth of financial institution in Nepal. After the liberalization there has been a large growth in the number of banks and financial institutions.

4.1.2 Status of Nepalese Financial System

Nepalese financial system is largely dominated by the commercial banking activities. Though the financial institutions have led in term of their numbers but it is truly the commercial banks that have largely contributed to financial growth in Nepal. Among all other financial institution commercial banks are the leading players in term of overall financial activities like deposit accumulation, loans and advances and assets positions as shown below in table 4.2.

Table: 4.2

Study of total assets, total deposits and loans and advances from 2003 to 2011

(Rs. in Million)

						Mid-July				Mid-Jan	Average
		2003	2004	2005	2006	2007	2008	2009	2010	2011	
1	Total Assets	357050.9	387432.2	474325.9	505958	572477.3	706324	988878.8	1026595	1198470.5	690834.73
	Commercial banks	85.60%	87.71%	86.70%	84.70%	84.20%	80.20%	82.10%	76.70%	77.90%	0.8286778
	Development Banks	7.50%	4.70%	4.90%	5.20%	3.90%	5.60%	6.90%	10.6	10.5	0.064444
	Finance Co.	6.20%	7.00%	6.40%	7.70%	9.20%	11.40%	8.80%	10.90%	9.90%	0.0861111
	Micro Fin. Dev.Banks	1.20%	1.30%	1.30%	1.60%	1.80%	1.80%	1.60%	1.80%	1.70%	0.0156667
	others	0.70%	0.60%	0.70%	0.70%	0.90%	1.00%	0.60%			0.0057778
2	Total Deposit	228736.4	258742	284115.2	327925.3	391152.6	5089065.7	674584.3	794328.3	799127.7	983086.39
	Commercial banks	89.10%	90.40%	88.80%	88.80%	86.30%	83.70%	83.50%	79.40%	78.40%	0.8537778
	Development Banks	2.80%	1.50%	2.40%	1.80%	3.90%	5.10%	7.10%	9.70%	10.00%	0.0492222
	Finance Co.	7.20%	7.50%	7.90%	8.30%	8.80%	10.30%	8.50%	9.80%	10.20%	0.0872222
	Micro Fin. Dev.Banks	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	1.10%	0.40%	0.004
	others	0.50%	0.30%	0.60%	0.80%	0.70%	0.60%	0.6			0.0705556
3	Loan and Advances	165119.1	184339	209353	230242.7	291605.8	391537.7	511752.8	620837.5	678796.9	364842.72
	Commercial banks	75.40%	75.90%	78.30%	76.70%	79.50%	78.30%	77.80%	75.20%	74.40%	0.7683333
	Development Banks	14.90%	13.80%	9.20%	8.70%	5.30%	6.00%	8.20%	10.60%	11.50%	0.098
	Finance Co.	8.80%	9.50%	10.20%	11.80%	12.20%	13.20%	11.70%	12.40%	12.20%	0.1133333
	Micro Fin. Dev.Banks	1.50%	1.50%	1.70%	1.90%	2.00%	1.80%	1.60%	1.80%	1.90%	0.0174444
	others	0.90%	0.70%	0.70%	0.90%	1.00%	0.70%				0.0054444

Sources: Banking and Financial Statistics: Mid-January, NRB 2011

Table 4.2 provides a brief outlook to the prevailing financial system of Nepal as determined by the size of total assets, deposits positions and loans and advances. Commercials banks undoubtedly are the key players in the financial system with their huge contribution in deposits accumulation, loans and advances and assets positions. Under total assets, commercial banks (82.86 percent) are followed by finances companies (8.61percent), development banks (6.44 percent), micro finance development banks (8.61 percent) and others (0.57 percent). The assets position of each of the financial institutions has been growing persistently except for development banks that exhibit fluctuating figures. As per total deposit commercial banks covers 85.37 percent of total assets followed by the finances companies 8.72 percent, development banks, 4.9 percent micro finances development banks 0.4 percent and others 0.7 percent. All financial companies exhibit a growing trend in total deposits. Under loans and advances, the share of commercial banks 76.83 percent is bit low as compare to their share in total deposit (85.36 percent) and total assets (82.86percent). However they are still the leader with an average loan and advance 9.8 percent development banks 11.33 percent financial companies 1.7 percent micro finances development banks and 0.5 percent others, exhibits a fluctuating trend in loans and advances whereas the rest depict a consistent growth.

Apart from this analysis the total deposit, total assets, and loans and advances for entire system, it is imperative to analyze the same within the commercial banking framework. The following sections deals with the analysis of total deposits for the entire commercial banks under study. The trend of total deposits of public banks, joint venture banks and private bank from 2005 to 2011 has been presented in table 4.3.

Table: 4.3

Total Deposit Trend of Selected Commercial Banks

Trend of Deposit of Banks

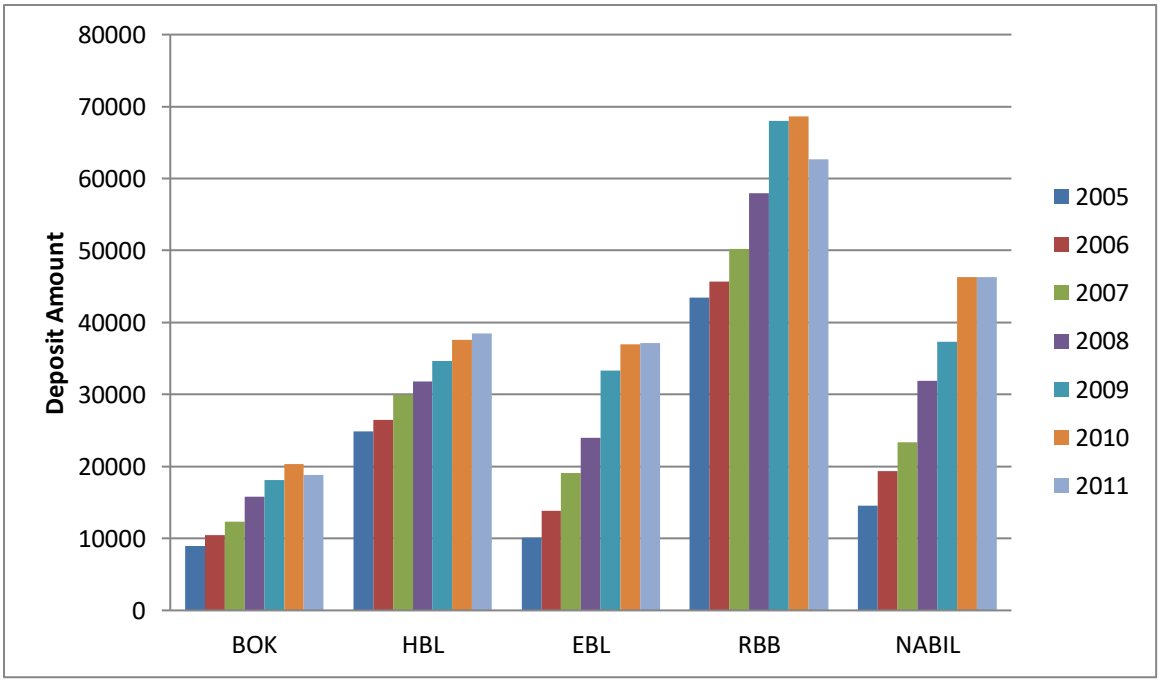
(Rs. In million)

BANKS	2005	2006	2007	2008	2009	2010	2011
BOK	8942.8	10429.3	12358.6	15832.7	18083.9	20315.8	18855.4
HBL	24831	26456	29906	31842	34681	37611	38475
EBL	10098	13802	19098	23976	33322	36932	37139
RBB	43489	45701	50193	57990	67976	68623	62641
NABIL	14587	19348	23342	31915	37348	46340	46339

Chart 4.1

Total Deposit Trend of Selected Commercial Banks

Trend of Deposit of Banks



The above table 4.3 and chart 4.1 clearly shows that there is continuous growth in deposit collection of banks. RastryaBanijaya Bank is able to collect the biggest portion of deposit amount and Bank of Kathmandu covers the smallest

portion. The RBB's deposit collection is increasing since 2005 to 2010, but there is slight decrease in 2011. Like RBB, the deposit collection of NIBIL, BEL and HBL is also in increasing trend. But the deposit collection of BOK increased since 2005 to 2010 but there is slight decrease in 2011. There is continuous growth in deposit collection of EBL and HBL since 2005 to 2011. Deposit collection of NABIL also in increasing trend. The Chart shows that the deposit collection of NABIL banks is increasing every year.

Table 4.4

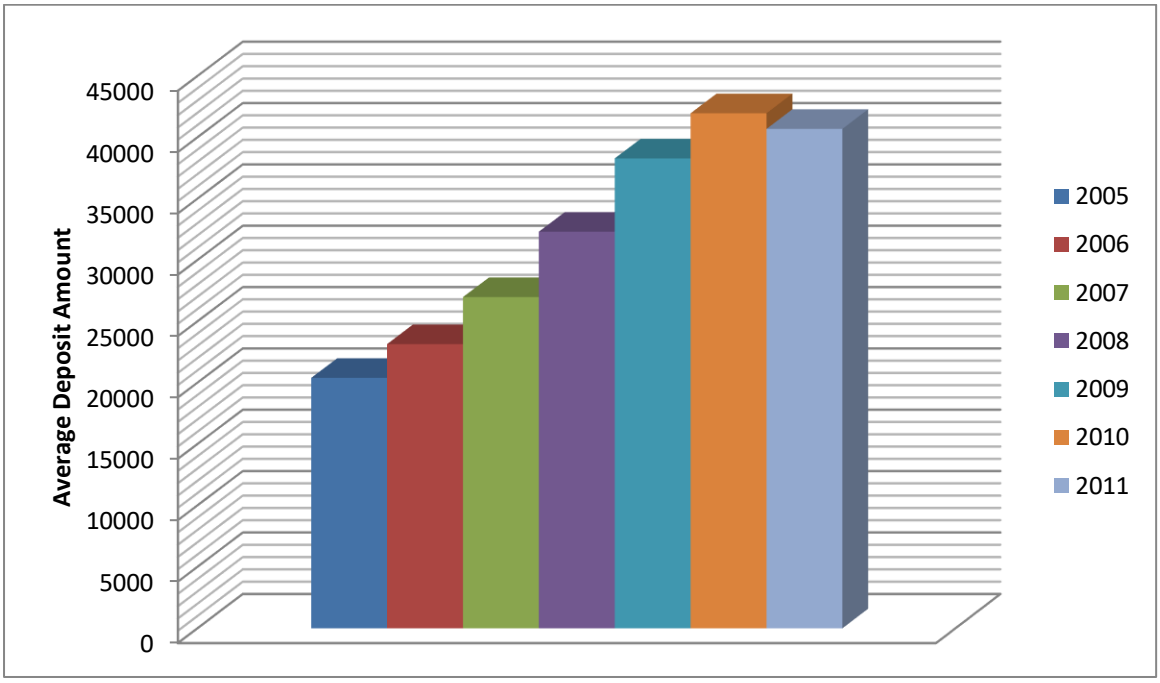
Average Deposit Collection of Selected Banks Since 2005 to 2011

(Rs. In million)

Banks	2005	2006	2007	2008	2009	2010	2011
BOK	8942.8	10429.3	12358.6	15832.7	18083.9	20315.8	18855.4
HBL	24831	26456	29906	31842	34681	37611	38475
EBL	10098	13802	19098	23976	33322	36932	37139
RBB	43489	45701	50193	57990	67976	68623	62641
NABIL	14587	19348	23342	31915	37348	46340	46339
Total Deposit	101947.8	115736.3	134897.6	161555.7	191410.9	209821.8	203449.4
Average Deposit	20389.56	23147.26	26979.52	32311.14	38282.18	41964.36	40689.88

Chart 4.2

Average Deposit collection of BOK, HBL, EBL, RBB and NABIL Banks



The above Chart clearly shows that in spite of continuous growth of financial institutions in Nepal, the deposit collection of financial institutions is in increasing trend. Since 2005 to 2010 there is continuous growth in deposit collection of bank. But there is slight decrease in 2011.

4.2 Analysis of Deposit and Interest Rate

In this section, detailed study of fluctuation in interest rate on deposit of five sample banks is studied. For this study, only saving and fixed deposits are taken, as current deposit does not earn any interest.

4.2.1 NABIL Bank Limited

Table 4.5

Interest rate structure of NABIL on deposit (Mid-July 2005 to 2011)

Deposit	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Saving	2.5	2	2	2	2	3	3
Fixed							
7 Days							
15 Days							
1 Month	3	3	2	3.5	3.5	7.5	7.5
2 Months							
3 Months	3.25	3.25	2.75	6.75	4.5	8.5	8.5
6 Month	3.5	3.5	3	5	5.5	9.5	9.5
1 Year	4	4	3.5	5	7.5	10	10.25
2 Years and above	4	4.125	4	6.75	8.5	11.5	11.5
Fixed Deposit Mean	**3.55**	**3.575**	**3.05**	**5.4**	**5.9**	**9.4**	**9.45**
Whole Mean	**3.375**	**3.3125**	**2.875**	**4.8333**	**5.25**	**8.333**	**8.375**
Standard Deviation (σ)	**2.082**						

Source: Banking and Financial Statistic, NRB

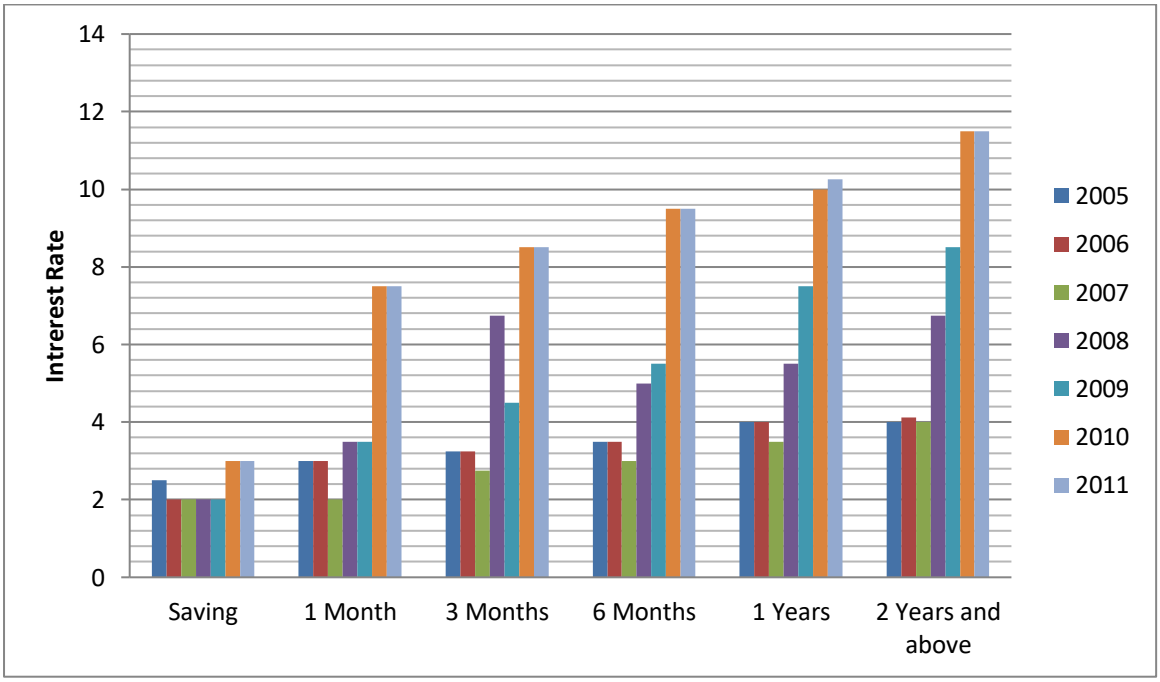
(Note: Calculation of whole mean, fixed deposit mean and standard is shown in Annex 1)

The table 4.5 shows the interest rate structure on deposit of NABIL bank during the last seven years. For this study, 2005 is taken as initial year and 2011 as final year. Table shows the interest rate which NABIL bank applied in the Nepalese financial market during last seven years. The above table data shows increasing tendency of in interest rate. For saving deposit 2.5 percent for the year 2005, but it remain 2 percent for the year 2006, 2007, 2008 and 2009. After 2009, it increases by 1 percent for the year 2010 and 2011. Similarly,

there is not much change in interest rate of fixed deposit till 2008, but after 2011 there is rapid increase in interest rate. Average fixed deposit interest rate for the year 2005 is 3.35, 3.575 for 2.6, 3.05in 2006. After 2006, there is continuous growth in interest rate till the year 2011. Similarly, the whole average interest decreased till the year 2007 and increased rapidly after the year 2007.

Chart 4.3

Interest Rate on Saving and Fixed Deposit of NABIL



The above Chart clearly shows that there are no significant ups and downs in interest rate till 2005 to 2007, but after 2008. But after 2008 there is rapid increase in interest rate for deposit till 2011.

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

Table 4.6

Relationship between Interest Rate on Deposit and Deposit Amount of NABIL

(Rs. In Million)

Year (1)	**Saving Deposit Interest Rate (2)**	**Saving Deposit Amount (3)**	**Fixed Deposit Interest Rate (4)**	**Fixed Deposit Amount(5)**
2005	2.5	7026.4	3.55	2078.6
2006	2	8770.8	3.575	3450.2
2007	2	101874.74	3.05	5435.4
2008	2	121620.4	5.4	8464.1
2009	2	14720.4	5.9	8310.7
2010	3	13783.6	9.4	14711.1
2011	3	14005.3	9.45	15641.3
Correlation	r_{23} =0.305		r_{45}=0.97	
Coefficient of Determination	r_{23}= 0.095		r_{45}=0.94	
t-statistics	t- call= 0.718 t- tab= 2.571	Insignificant	t-call=8.86 t-tab=2.571	Significant

Source: Banking and Financial Statistics, NRB

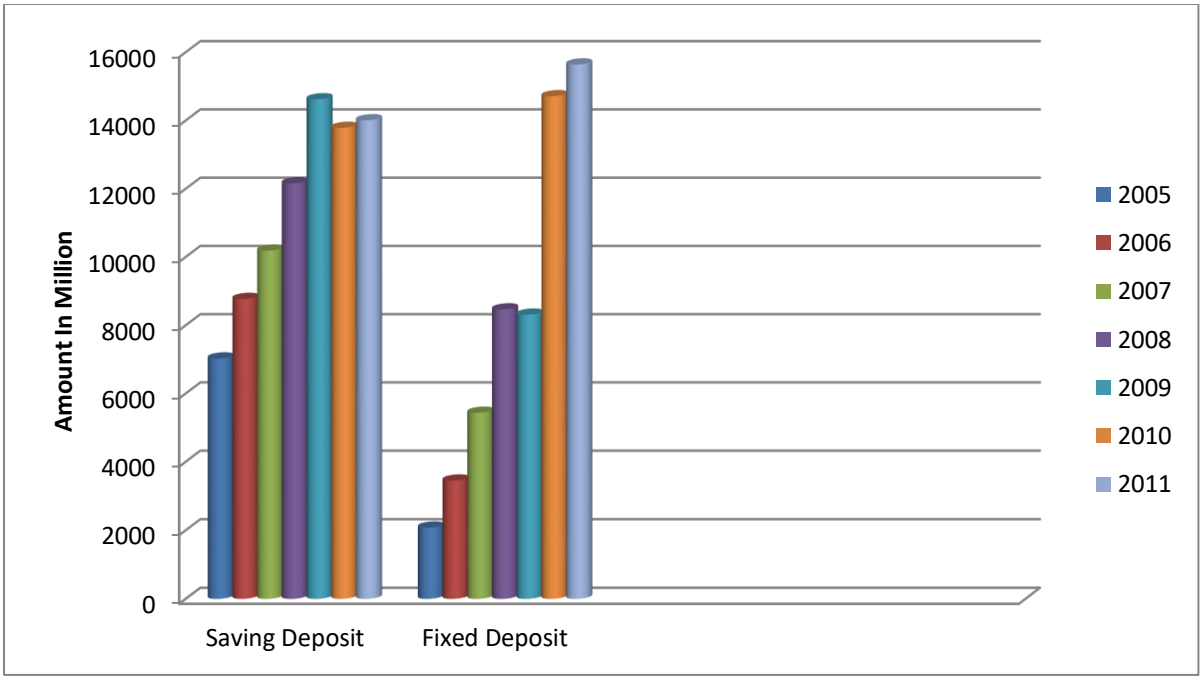
(Calculation of correlation coefficient and coefficient of determination is taken from Annex and saving and fixed deposit interest taken from table 4.5)

The above table 4.6 shows there is increase in deposit amount though there is no increase in interest rate. This happened in saving deposit from 2006 to 2009. There is no change or increase in deposit interest rate but deposit amount is increasing every year. But after 2009 there is one percent growth in interest rate. The correlation between saving deposit interest rate and saving deposit amount is 0.096, which is less than 0.5. This indicates that there is very low degree of relationship between saving deposit interest rate and saving deposit

amount. On the other hand, correlation between fixed deposit interest rate and fixed deposit amount is 0.97. This indicates that there is positive or perfect relationship between fixed deposit interest rate and fixed deposit amount.

Chart 4.4

Deposit Amount of NABIL during Fiscal Years(2005 to 2011)

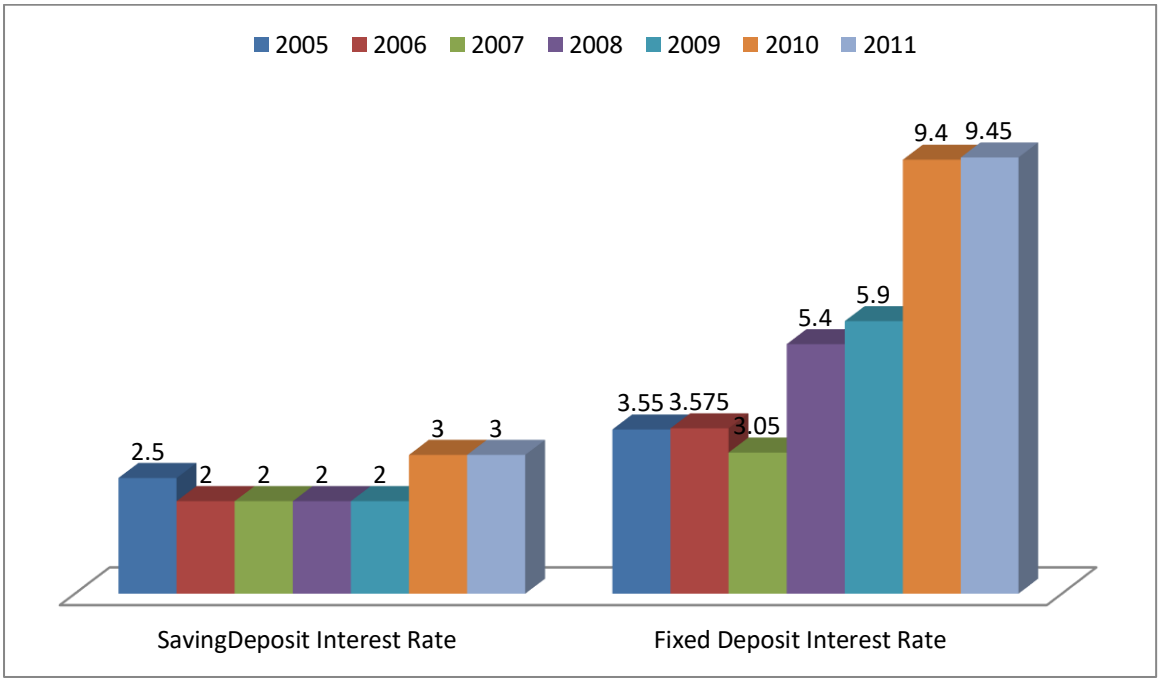


Source: Banking and Financial Statistics, NRB

The above Chart 4.4 shows that people prefer to deposit their money on saving account though banks provide higher interest on fixed deposit account. The deposit collected on saving account by NABIL bank from 2005 to 2009 is higher than the deposit on fixed deposit account. But, after 2009 NABIL banks increased interest rate significantly on fixed deposit account, which result raise in deposit collection.

Chart 4.5

Deposit Rate of NABIL during the different fiscal years



Source: Banking and Financial Statistics, NRB

Table 4.5 shows that the total amount of fixed deposit and saving deposit and the interest offered on such deposit of NABIL during last seven years starting from 2005 to 2011.

To verify the above trend, it is necessary to calculate coefficient and t-statistics. The calculation of coefficient of determination between saving interest rate and saving deposit amount r_{23}= 0.305 which means 30.5% total variation in dependent variables(saving deposit amount) has been explained by independent variables(interest rates) and remaining percentage of 69.5% is the effect of other factors. The t-value for testing the significance of correlation coefficient between variable is t-call=0.718. Since the tabulated t-value at 5% level of significance for two tail at degree of freedom (t-tab=2.571), the correlation coefficient is significant. This means the variable mentioned (interest rate on saving deposit and amount of saving deposit) for NABIL are significantly correlated and alternative hypothesis (H1) is accepted, which means there is

negative relationship between interest rate and saving deposit amount of NABIL.

The coefficient of determination between fixed interest rate and fixed deposit is r45=0.94 which mean 94% of total variable (fixed deposit) is explained by independent variables (fixed deposit rate) and remaining 6% is the effect of other variables. The t-value for testing the significant of correlation coefficient between variables is t-call 8.86 which is greater than the tabulated t-value (t-tab=2.571) at 5% level of significance for the tail at 5 degree of freedom.

4.2.2 Himalayan Bank Limited

Table 4.7
Interest Rate Structure of Himalayan Bank Limited on Deposit (Mid-July 2005 to 2011)

Deposits	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Saving	3.75	2	2	2	2.25	2	5
Fixed							
7 Days							
14 Days	2.30	1.75	1.75	1.75	2.5	3	3
1 Month	3.3	2	2	2.25	3.25	4	4
2 Months							
3 Months	3.75	2.5	2.5	2025	3.75	4.75	6
6 Months	4	3	3	3.25	4.5	10	8.5
1 Years	5.25	3.75	3.75	5	6.5	9.75	9.5
2 Years and above	5.75	3.75	3.75	3.88	7.63	11.25	11
Fixed Deposit Mean	**4.059**	**2.79**	**2.79**	**3.105**	**4.69**	**5.625**	**5.67**
Whole Mean	**4.015**	**2.68**	**2.68**	**2.95**	**4.34**	**6.25**	**6.58**
Standard Deviation	**4.014**						

Source: Banking and Financial Statistics, NRB

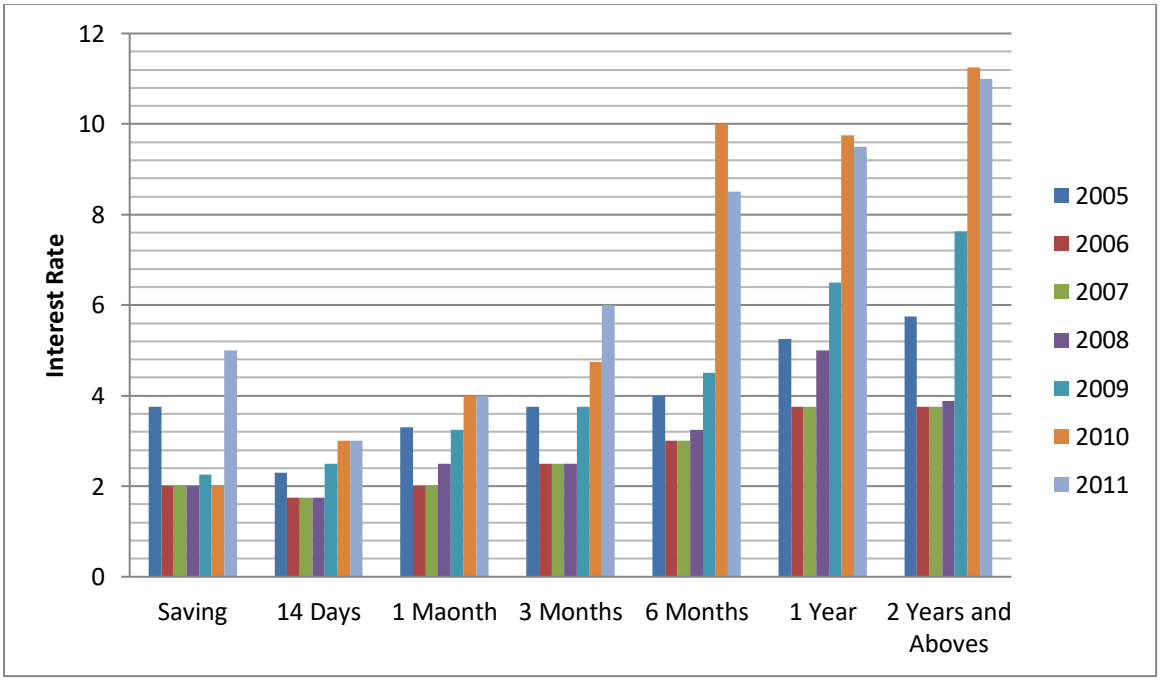
(Calculation of fixed deposit mean, whole mean and standard deviation is shown in Annex 2)

The above table 4.7 shows the interest rate structure on deposit of HBL bank during the last seven fiscal years. The above table clearly shows the changing

nature of interest rate on deposit in Nepal. Saving deposit interest rates of HBL is 3.75 in the year 2005, but it remain constant from the year 2006 to 2010. After 2010 the bank increased to 5 percent from 2 percent. For the fixed deposit bank gives more interest than saving deposit. And interest rate increased as the time of deposit increase. Average fixed deposit interest rate of bank for the year 2005 is 4.059. It remains 2.68 for the year 2006 and 2007. After 2007 it is in increasing trend till now. Fixed deposit interest rate for 14 days fixed saving is 3. 75 percent, it remains 1.75 for the year 2006, 2007, 2008 and started increased in from the year 2005. Similarly for the 1 month fixed deposit, 3.3 for the year 2005 but it remains 2 percent for the year 2006 and 2007 and starts to increase from the year 2008. Same situation happens in other fixed deposit saving interest rate. After 2008 interest rate increased for every kind of fixed deposit amount.

Chart 4.6

Interest Rate on Saving and Fixed Deposit of HBL



(Note: The data are taken from the table 4.7)

The above Chart clearly shows the increasing trend of interest rate of Himalayan Bank Limited. Interest rate for the saving deposit is remain more or

less constant till the year 2010, but after 2010 it also increased to 3 from 2. On the other hand, interest rate for the fixed deposit increased rapidly from the year 2009.

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

Table 4.8

Relationship between Interest Rate on Deposit and Deposit Amount of HBL

(Rs. In Million)

Year (1)	**Saving Deposit Interest Rate(2)**	**Saving Deposit Amount(3)**	**Fixed Deposit Interest Rate(4)**	**Fixed Deposit Amount(5)**
2005	3.75	12852.4	4.059	6364
2006	2	1458.8	2.79	6350.2
2007	2	15784.7	2.79	8201.1
2008	2	17935	3.105	6423.9
2009	2.25	20061	4.69	6377.1
2010	2	16294.7	5.625	11328.6
2011	5	15544.8	5.67	12465.5
Correlation	r_{23}= -0.37		r_{23}= 0.737	
Coefficient of Determination	r_{23}= 0.1369		r_{23}= 0.55	
t-Statistics	t-call= -0.890 t-tab= 2.571	Insignificant	t-call= 2.457 t-tab= 2.571	significant

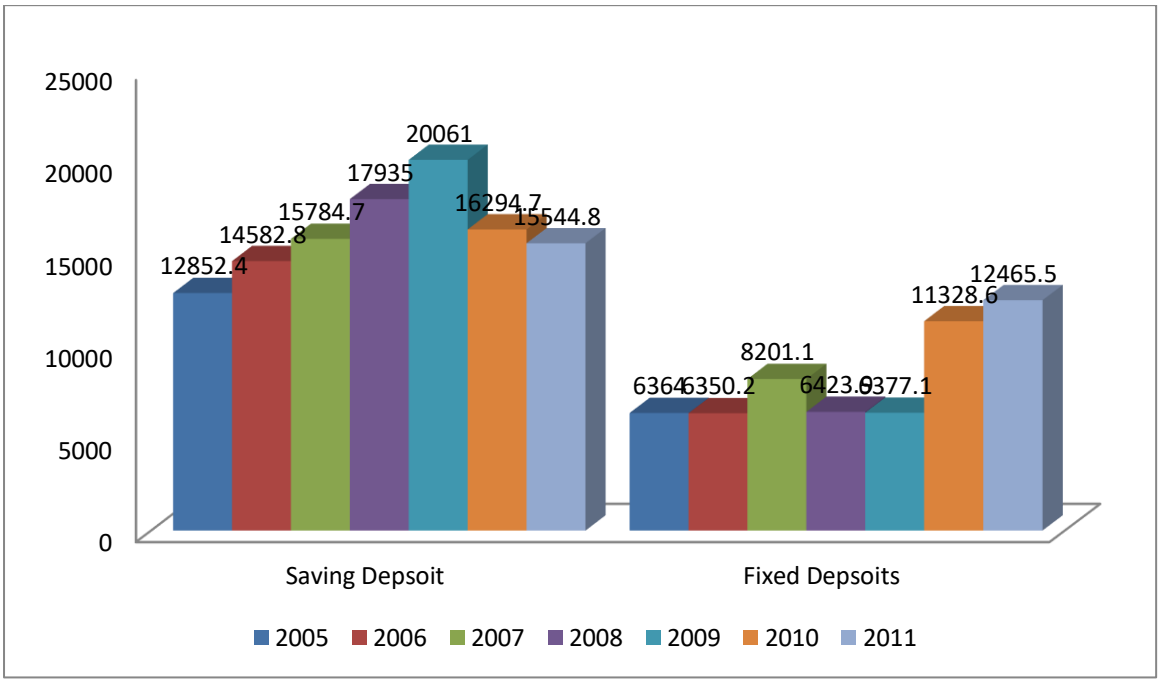
Sources: Banking and Financial Statistics of NRB

Table 4.8 shows that the total amount of fixed deposit and saving deposit and the interest rate offered on such deposit of HBL during last seven fiscal years from 2005 to 2011. The interest rate for saving deposit is 3.75% for the year 2005 but decreased 2% in the year 2006 and remained constant in 2007 and

2008. The saving interest rates remain 2.25% and 2% for the year 2009 and 2010 respectively. But after 2010 it jumped to 5% in 2011. But interest rate for the fixed deposit is high because of its restriction on withdrawal. The average fixed deposit interest rate for the year 2005 is 4.059%, but it decreased to 2.79% for the year 2006 and 2007. After 2007, it continuously increases till the year 2011.

Chart 4.7

Deposit Amount of HBL during Different Fiscal Years

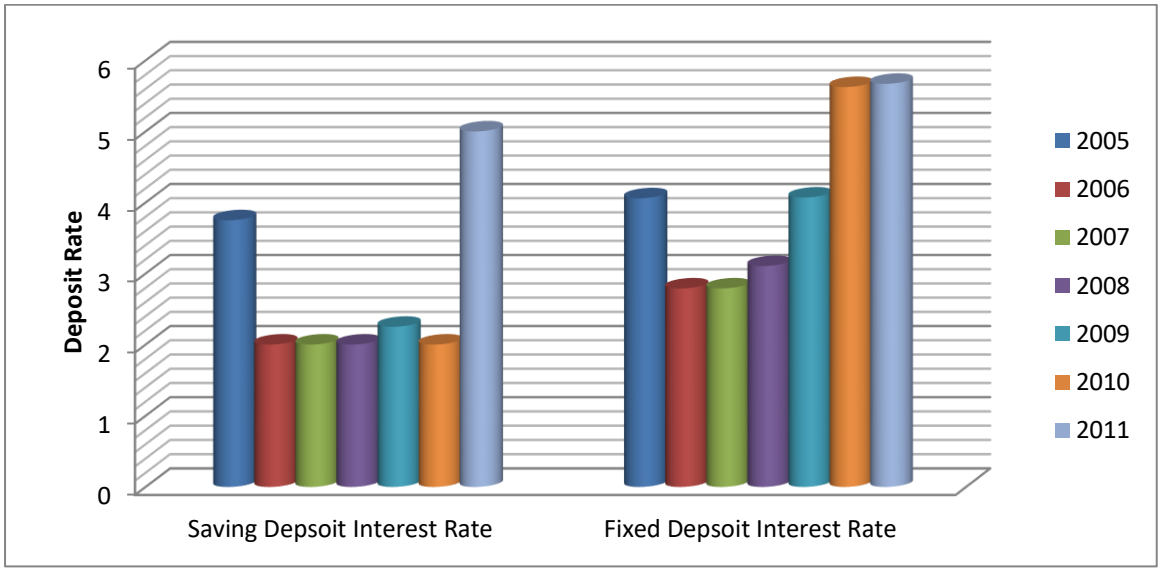


Sources: Banking and Financial Statistics, NRB

The above Chart 4.7 shows the clear picture of deposit structure of HBL. There is increase in saving deposit amount up to the year 2009, though there is no significant increase in saving interest rate. But after 2009 saving deposit amount is in decreasing trend. In case of fixed deposit amount there is no significant ups and down in deposit amount until 2009, except there is slight increase in 2007. Though the interest rates for the fixed deposit startedto increase from 2008, but fixed deposit amount increased significantly only after 2010.

Chart4.8

Deposit Rate of HBL during Different Fiscal years.



Source: Banking and Financial Statistics of NRB

To verify the above trend, it is necessary to calculate correlation of coefficient and t-statistics. The calculation of correlation coefficient between saving deposit interest rate and saving deposit amount r_{23} = -0.37. This negative correlation coefficient indicates they have negative relationship with each other. Decrease in interest rate is followed by an increase in saving deposit amount vice versa. The coefficient of determination between there variables is r_{23}= is 0.139, which means 13.69% of total variation in independent variables(saving deposit amount) has been explained by independent variables(interest rate) and remaining 86.63% is the effect of other factors. The t-value for testing the significance of the correlation coefficient between variable is t-call= -0.890. since the tabulated t-value at 5% level of significance for two tail test at 5 degree of freedom (t-tab=2.571) is higher than the calculated value (t-cal = 0.890) the correlation coefficient is significant. This means the variables mentioned (interest rate on saving deposit and amount of saving deposit) are significantly correlated and null hypothesis(H0) is accepted, Which mean, there is no relationship between interest rate on saving deposit and saving deposit amount.

Similarly, the correlation coefficient for fixed deposit interest rate and fixed deposit amount is r45= 0.737, which is greater than 0.5. The figure indicates these two variables are directly correlated. In other words, change in one variables cause the change in other variables in the same direction. The coefficient of determination between these two variables is r45= 0.55, which means 55% of total variable (fixed deposit is explained by independent variables (fixed deposit rate) and the remaining 45% is the effect of other variables. The t-value for testing the significance of correlation of coefficient between variables is t-call 2.457 which is less than tabulated vale t-tab= 2.571 at 5% level of significance for two tail at 5 degree of freedom. The conclusion can be drawn the correlation coefficient between these two variables is significant. This means null hypothesis (H0) is accepted i.e. there is no relationship between deposit interest rate and deposit amount of HBL.

4.2.3 Everest Bank Limited (EBL)

Table: 4.9

Interest Rate Structure of EBL on Deposit(Mid-July 2005 to 2011)

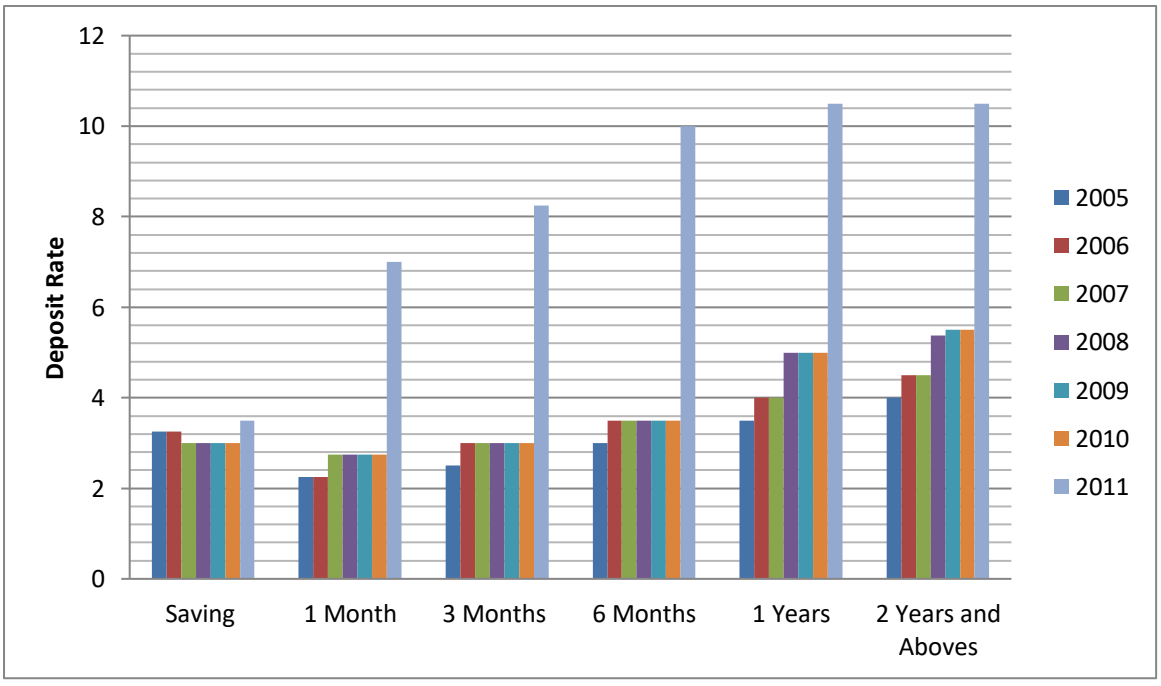
Deposit	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Saving	3.25	3.25	3	3	3	3	3.5
Fixed							
7 Days							
14 Days							
1 Month	2.25	2.25	2.75	2.75	2.75	2.75	7
2 Months							
3 Months	2.5	3	3	3	3	3	8.25
6 Months	3	3.5	3.5	3.5	3.5	3.5	10
1 Years	3.5	4	4	5	5	5	10.5
2 Years and Above	4	4.5	4.5	5.375	5.5	5.5	10.5
Fixed Deposit Mean	**3.15**	**3.55**	**3.55**	**3.925**	**3.95**	**3.95**	**9.2**
Whole Mean	**3.17**	**3.5**	**3.46**	**3.78**	**3.80**	**3.80**	**8.25**
Standard Deviation(S.D)	**1.5796**						

Sources: Banking and Financial Statistics, NRB

The table 4.9 shows the interest rate structure on deposit of EBL during the last seven years. The interest for the saving deposit for the year 2005 and 2006 is 3.25%. After 2006 interest rates increased to 3 and remain constant till the year 2010. In 2011 it reached to the 3.5%, highest of the observed periods. Fixed deposit interest rate for the period of 1 month, 3 months and 6 months is relatively more or less constant form the year 2005 to 2010. But after 2011 bank increased the interest for every kinds of fixed deposit. Interest rate for 1 year deposit is 4%, 4.5%, 4.5%, 5.375%, 5.5% and 5.5% for the year 2005, 2006, 2007, 2008, 2009, and 2010 respectively. After 2010 it increased by 100% than the 2010 and reached to 10.5. Same thing happens in case of 2 years deposit. There is not volatility in the interest rate from 2005 to 2010. But after in 2010 there is huge increase in fixed deposit interest rate.

Chart 4.9

Interest Rate on Saving and Fixed Deposit of EBL



Sources: Interest Rate for Saving and Fixed Deposit are taken from table 4.9

The above Chart 4.9 shows the clear picture of interest rate structure of EBL from 2005 to 2011. There is not dramatic change in interest rate on saving and fixed deposit until 2010. After 2010 there is massive increase in interest rate.

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

Table: 4.10

Relationship between Interest Rate on Deposit and Deposit Amount of EBL

Rs. In Million

Years(1)	Saving Deposit Interest Rate(2)	Saving Deposit Amount(3)	Fixed Deposit Interest Rate(4)	Fixed Deposit Amount(5)
2005	3.25	4806.9	3.15	3444.5
2006	3.25	6929.2	3.55	4298.2
2007	3	9018	3.55	5658.7
2008	3	11883.9	3.925	6596.0
2009	3	14782.3	3.95	7094.7
2010	3	13360	3.95	10440.3
2011	3.5	12766.7	9.2	12199.5
Correlation	r_{23}=0.0747		r45= 0.66	
Coefficient of Determination	r_{23}=0.00558		r45= 0.4356	
t- Statistics	t-call=0.172 t-tab=2.571	Insignificant	t-call=0.6336 t-tab=2.571	Insignificant

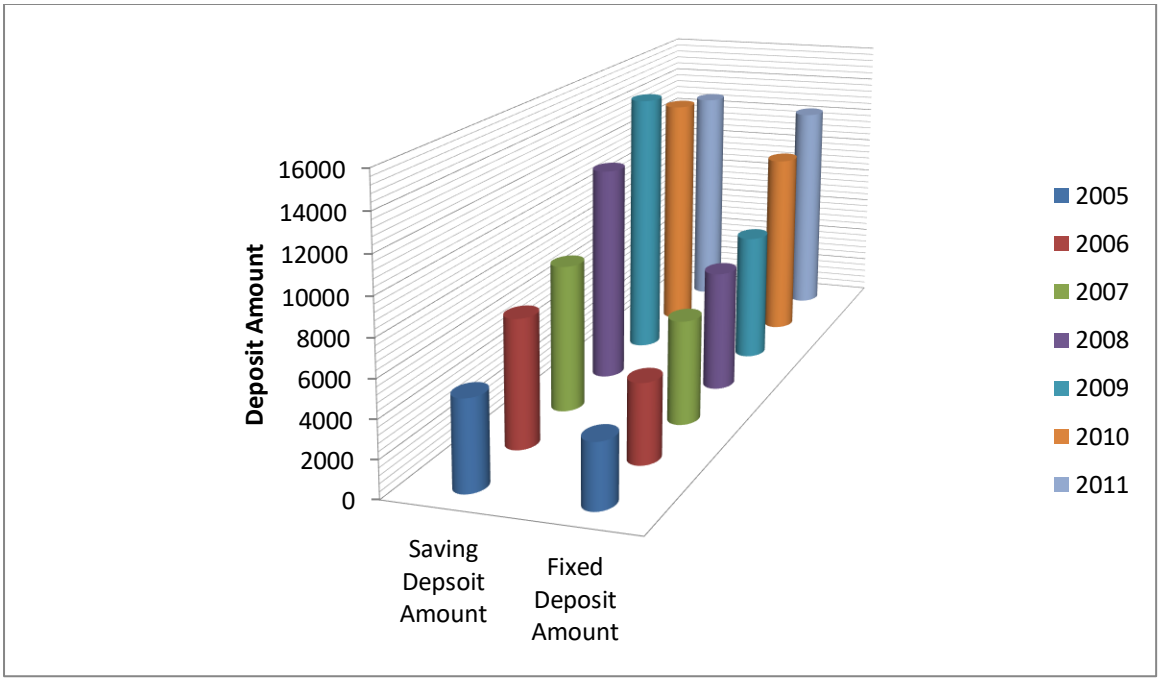
Source: Banking and Financial Statistics, NRB

The above table 4.10 shows interest rate of saving deposit and fixed deposit and its impact on deposit collection of EBL. Though the interest rate of saving deposit is more or less constant to 3%, still there is continuous increase in saving deposit amount significantly. Similarly, the fixed assets interest rate is

not so volatile, but deposit amount is increasing continuously. But after 2010 there is massive increase in interest rate of fixed deposit amount.

Chart 4.10

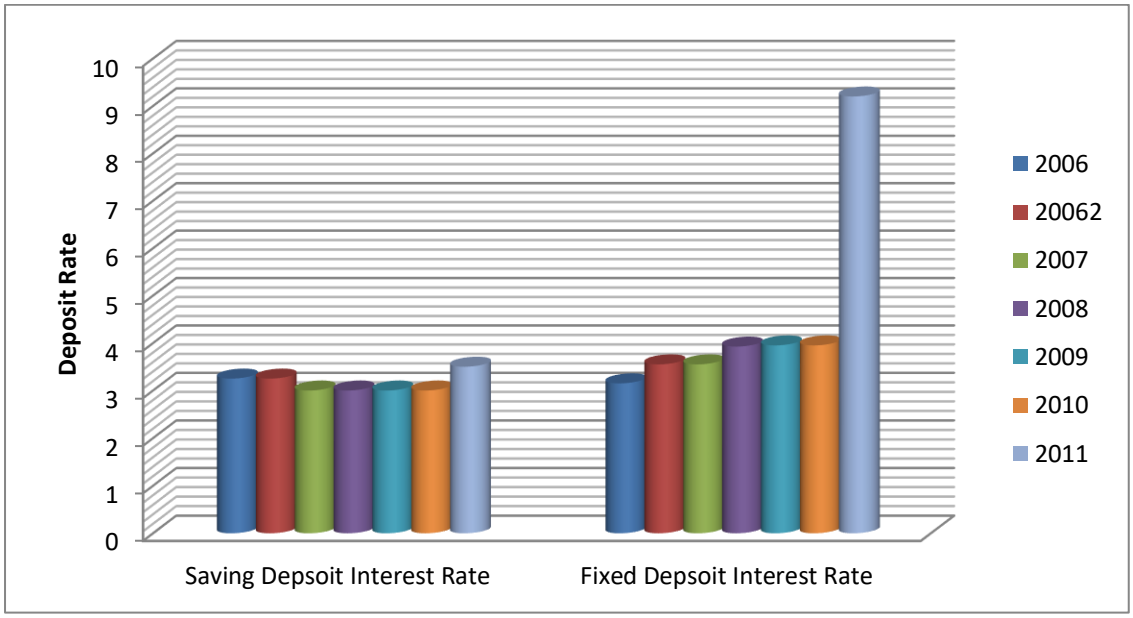
Deposit amount of EBL during different fiscal years



Sources: Banking and Financial Statistics, NRB

The above Chart 4.10 shows the saving and fixed deposit collection of EBL. Though the interest rate of fixed deposit is higher than saving deposit people prefer to deposit their amount on saving deposit because of withdrawal restriction of fixed deposit. The saving deposit is in increasing trend from the year 2005 to 2010. But after 2009 it started decrease. On the other hand, deposit amount of is in increasing trend from the year 2005 to 2011.

Chart 4.11
Deposit Rate of EBL during different Fiscal Years



Sources: Banking and Financial Institutions, NRB

To verify the above trend, it is necessary to calculate the correlation coefficient and t-statistics. The calculation of correlation coefficient between saving deposit interest and saving deposit is amount is $\mathbf{r_{23}}$= 0.0747. This positive correlation coefficient indicates that they have positive relationship with each other. Increase in interest rate is followed by an increase in saving deposit amount. But correlation coefficient between these two variables is less than 0.5 so there is very low positive relationship. The coefficient of determination of these variables is $\mathbf{r_{23}}$= 0.0058. which means .58% of total variation in independent variables (saving deposit amount) has been explained by independent variables(interest rate) and remaining 98.52% is the effect of others factors. The t-value for testing the significance of correlation of coefficient is between variables is t-call 0.172, which is less than tabulated value (t-tab=2.457) at 5% level of significance for tow tail at 5 degree of freedom. The conclusion can be drawn that correlation coefficient between these two variables is significant. This means null hypothesis H0 is accepted i.e. there is no relationship between interest rate and deposit amount.

Similarly, the correlation coefficient for fixed deposit is interest rate and fixed deposit amount is **r45= 0.66** which is greater than 0.5. This figure indicates that these two variables are directly correlated but the magnitude is moderate. In other words, change in one variables cause the change other variables in the same direction. The coefficient of determination between these two variables is **r45=** 0.4356, which mean 43.56 of total variables (fixed deposits) is explained by independent variables (fixed deposit rate) and remaining 56.44 is the effect of others variables. The t-value for the testing the significance of the correlation of between variables is t-call 0.6336, which is less than tabulated value (t-tab= 2.571) at 5% level of significance for two tail at 5 degree of freedom. The conclusion can be drawn that correlation coefficient between these two variables is significant. This means null hypothesis H0 is accepted i.e. there is no relationship between deposit interest rate and deposit amount.

4.2.4: Bank of Kathmandu (BOK)

Table: 4.11

Interest Rate Structure of BOK on Deposit (Mid- July 2005 to 2011)

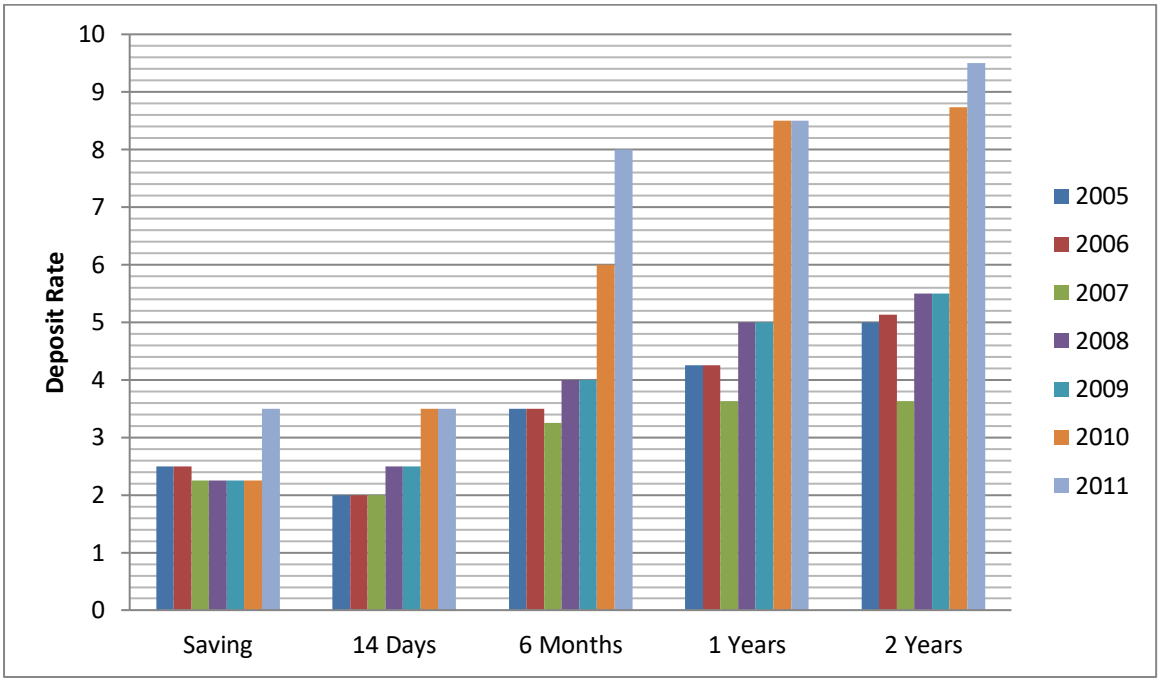
Deposits	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Saving	2.5	2.5	2.25	2.25	2.25	2.25	3.5
Fixed							
7 Days	1.5	1.5	1.5	2	2	3	3
14 Days	2	2	2	2.5	2.5	3.5	3.5
1 Month	2.5	2.5	2.5	3	3	4	6
2 Months							
3Months	3	3	3	3.5	3.5	4.5	7
6 Months	3.5	3.5	3.25	4	4	6	8
1 Years	4.25	4.25	3.63	5	5	8.5	8.5
2 Years and Above	5	5.13	3.63	5.5	5.5	8.83	9.3
Fixed Deposit Mean	3.10	3.13	2.79	3.65	3.65	5.48	6.5
Whole Mean	3.032	3.048	2.72	3.47	3.47	5.10	6.125
Standard deviation	1.173						

Sources: Banking and Financial Statistics, NRB

The table 4.11 shows the interest rate structure on deposit of BOK during the last seven fiscal years. For this study 2005 is taken as initial year and 2011 as the final year. The table show the deposit interest rate of BOK applied during the period of 2005 to 2011. The fixed deposit mean as well as the whole mean show the increasing tendency of interest rate. There is continuous growth in interest rate since 2005 to 2011. The saving interest rate for the year 2005 and 2006 is 2.25%. After 2006 it remain 2.25% for the year 2007, 2008, 2009, 2010. It increased to 3.5% by the year 2011. The interest rate for 7 days fixed deposit is 1.5, 1.5, 1.5, 2, 2, respectively for the year 2005, 2006, 2007, 2008 and 2009. But it increased to 3% for the year 2010 and 2011. Similarly, the interest of fixed deposit of 14 days, 1 month, 3 months, 6 months, 1 year and 2 years are in increasing trend. The interest rate of 14 days fixed deposit is 2% for the year 2005, 2006, 2007. It increased to 2.25% in 2008 and 2009. It again increased to 3.5% for year 2010 and 2011. The interest rate of 1 month fixed deposit is 2.5% for the year 2005 to 2007, it increased to 3% for the year 2008 to 2009. It again increased to 4% in 2010 and 6% in 2011. The interest rate of the 3 months, 6 months, 1 year and 2 years fixed deposit is more or less constant till the year 2009. But it increased rapidly in the year 2010 and 2011.

Chart 4.12

Interest Rate on Saving and Fixed Deposit of BOK



Sources: Banking and Financial Statistics, NRB

The above Chart 4.12 shows the increasing tendency of interest rate of BOK. The interest rate of saving deposit is not so volatile as compare to fixed deposit interest rate. There is not much increase or decrease in interest rate of saving deposit till the year 2010. After 2010 there is increase in interest rate. But interest rate for the fixed deposit started increasing after 2008 in all kind of fixed deposit.

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

Table: 4.12

Relationship between Interest Rate on Deposit and Deposit Amount of BOK

Rs. In Million

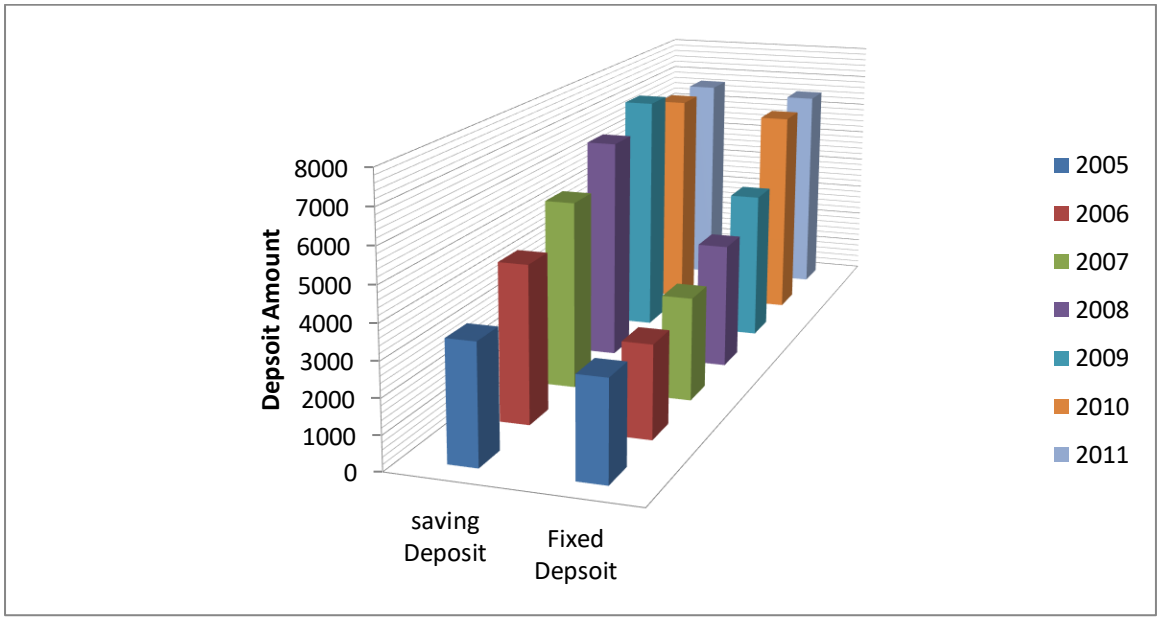
Years(1)	**Saving Deposit Interest Rate(2)**	**Saving Deposit Amount(3)**	**Fixed Deposit Interest(4)**	**Fixed Deposit Amount (5)**
2005	2.5	3447.5	3.10	2878.9
2006	2.5	4582.0	3.13	2708.9
2007	2.25	5526.8	2.79	3037.2
2008	2.25	6595.2	3.65	3703.1
2009	2.25	7260.2	3.65	4474.6
2010	2.25	6723.2	5.48	6383.6
2011	3.5	6701.1	6.5	6513.4
Correlation	r_{23}=0.279		r45=0.973	
Coefficient of Determination	r_{23}=0.0779		r45=0.946	
t-statistics	t-call=0.645 t-tab=2.571	Insignificant	t-call=13.18 t-tab=2.571	Significant

Source: Banking and Financial Statistics, NRB

The above table 4.12 shows that the total amount of fixed deposit and saving deposit and the interest rate offered on such deposit of BOK during last seven fiscal years starting from 2005 to 2011. There is no increase in interest rate of saving deposit during 2005 to 2010, but deposit amount of BOK is increasing continuously till the period 2010. On the other hand average interest rate of fixed deposit and fixed deposit amount is increasing continuously.

Chart 4.13

Deposit Amount of EBL during different Fiscal Years

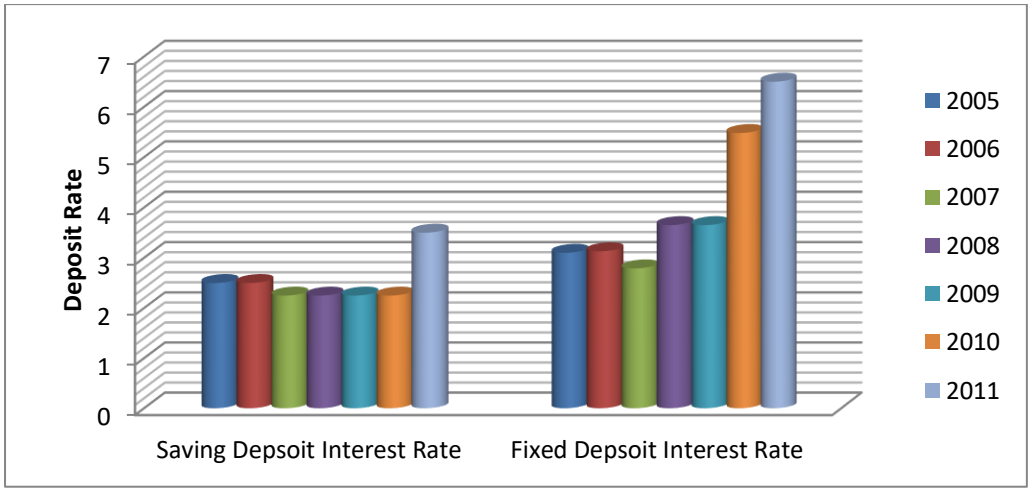


Sources: Banking and Financial Statistics, NRB

The above Chart 4.13 shows the saving and fixed deposit amount collected by the EBL. Both saving and fixed deposit of BOK are in increasing trend. The above Chart indicates People prefer to save their money on saving deposit than fixed deposit because one cannot withdrawal money for specific period on fixed deposit.

Chart 4.14

Deposit Rate of BOK during different Fiscal Years



Sources: Banking and Financial Statistics, NRB

The above table 4.12 shows the interest rate saving and fixed deposit and its relation with deposit amount collected by the BOK. The interest rate for the saving deposit is 25% for the year 2005 and 2006, but saving deposit increase in the same period by RS. 3447.5 to RS. 4582.0. Interest rate for the year 2007, 2008, 2009, and 2010 is 2.25 which is 0.25% lower than 2005 and 2006. In spite of decrease in interest there is continuous growth in interest rate. Similarly, interest rate for the fixed deposit is more or less constant till the year 2007 but it increased after 2007. Fixed deposit also increased with the increase in fixed deposit interest rate.

To verify the above trend it is necessary to calculate the correlation coefficient and t-statistics. The calculation of correlation coefficient between saving deposit interest rate and saving deposit amount is $\mathbf{r_{23}=0.279}$ which is less than 0.5. The figure indicates these two variables are directly correlated but magnitude of correlation is very low. In other words, change in one variable cause the change in other variables in the same direction but to very low extent. The coefficient of determination is between these two variables is$\mathbf{r_{23}=0.0779}$ which means 7.79% of total variation in dependent variables (saving deposit amount) has been explained by independent variables(interest rate) and remaining 92.21% is the effect of other factors. The t-value for testing the significance of correlation coefficient between two variables is t-call 0.645. Since the tabulated t-value at 5% level of significance for two tail at 5 degree of freedom (t-tab=2.571) is higher than the calculated t-value (t-call=0.645) the correlation coefficient is significant. This means the variable mentioned (interest rate on saving deposit and amount of saving deposit) for BOK are significantly correlated and null hypothesis (Ho) is accepted, which means there is no relationship between interest rate on saving deposit and saving deposit amount of BOK.

Similarly, the correlation coefficient for fixed deposit interest rate is **r45=0.973**which is greater than 0.5. The figure indicates that these two variables are directly correlated. In other words, change in one variable cause the change in other variable in the same direction. The coefficient of determination between these two variables is **r45=0.946**, which, mean 94.6% of total variation in dependent variables (fixed deposit amount) has been explained by independent variables (fixed interest rate) and remaining 5.4% is the effect of other factors. The t-value for testing the significance of the correlation coefficient between two variables is t-call is 13.18. Since the tabulated t-value at 5% level of significance for tow tail at 5 degree of freedom (t-tab= 2.571) is lower than the calculated t-value (t-call= 13.18), the correlation coefficient is insignificant. This means variable mentioned (interest rate on fixed deposit and amount of fixed deposit) for BOK is insignificantly correlated and alternative hypothesis (H1) is accepted. Which mean there is relationship between interest rate on fixed deposit and fixed deposit amount.

4.2.5: Rastriya Banijya Bank (RBB)

Table 4.13

Interest Rate Structure of RBB (as on 2005 to 2011 Mind-July)

Deposits	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Saving	2	2	2	2	2	2.5	3.5
Fixed							
14 Days							
1 Month							
2 Months							
3 Months	2.25	2.25	2.25	2.25	2.25	5.5	5.5
6 Months	2.88	2.5	2.5	2.5	2.25	6	6
1 Year	3.63	3.25	3.25	3.25	3	7	8
2 Years and Above	3.88	3.5	3.5	3.5	3.25	8	9.25
Fixed Deposit Mean	3.16	2.875	2.875	2.875	2.75	6.625	7.1875
Whole Mean	2.928	2.7	2.7	2.7	2.6	5.8	6.45
Standard Deviation (S.D)	1.549						

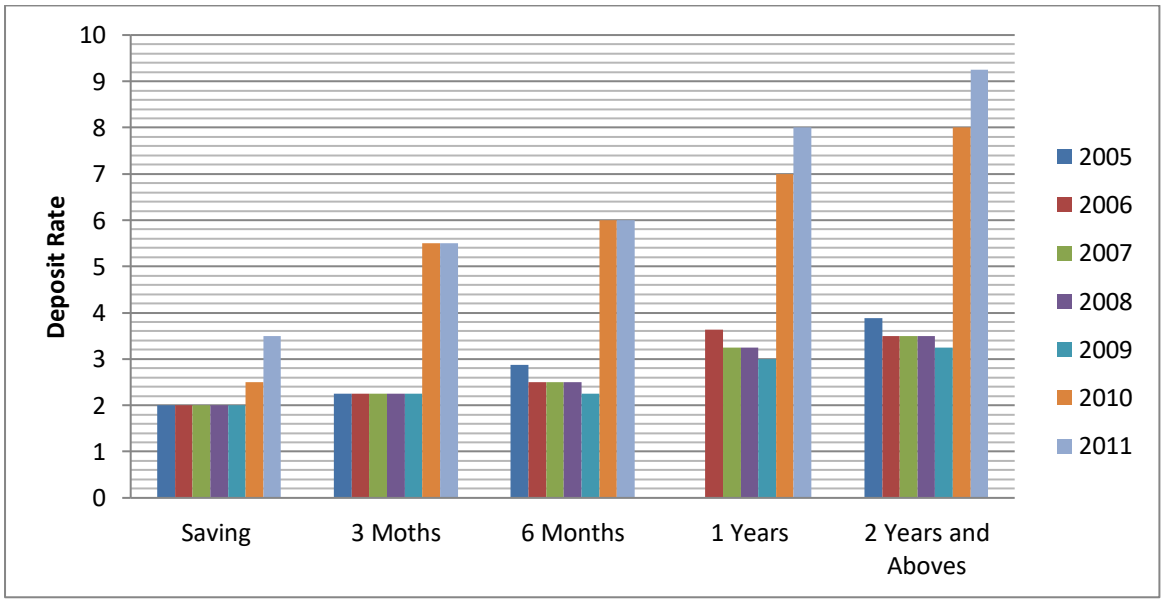
Sources: Banking and Financial Statistics, NRB

(Note: Calculation of fixed deposit mean, whole mean and standard deviation are shown in Annex 5)

The above table 4.13 shows interest rate structure on deposit of RBB during the last seven years. For his Study 2005 is taken as initial year and 2011 as final year. The interest rate on saving deposit of RBB is 2% for year to 2005 to 2009. But after 2009 it increased to 2.5 and 3.5 for the year 2010 and 2011 respectively. Similarly, the interest rates for the fixed deposit remain more or less constant from the 2005 to 2008. After 2008, it started to increase. Interest rates on 3 months fixed deposit remain constant 2.25 from the year 2005 to 2009. It reached to 5.5 for the year 2010 and 2011. Similarly, the interest rate on 6 moths deposit is 2.88% in 2005. It remains 2.5% from 2006 to 2009. After 2009 it reached to 6% for the year 2010 and 2011. Interest rate on 1 year deposit is 3.63% in 2005, but it decreased and remained constant to 2.25% from the year 2006 to 2009. After 2009, it increased to 7% in 2010 and 8% in 2011. The interest rate on 2 years deposit is 3.88 in the year 2005. It decreased to 3.5% for the year 2006, 2007, and 2008. It further decreased to 3.25% in 2009. After 2009 it increased to 8% in 2010 and 9.25% in 2011.

Chart 4.15

Interest Rate on Saving and Fixed Deposit of RBB



Sources: Banking and Financial Statistics, NRB

The above Chart present the interest rate applied by RBB from 2005 to 2011. There is not massive change in interest rate of fixed as well as saving deposit from the year 2005 to 2009. But after2009, we can see significant increase in the interest rate of both kind of deposit.

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

Table: 4.14

Relationship between Interest Rate on Deposit and Deposit Amount of RBB

Rs. In Million

Years(1)	**Saving Deposit Interest Rate(2)**	**Saving Deposit Amount(3)**	**Fixed Deposit Interest(4)**	**Fixed Deposit Amount (5)**
2005	2	26848.5	3.16	9001.5
2006	2	29949.9	2.875	8103.8
2007	2	32909.94	2.875	6997.5
2008	2	40213	2.875	4479.8
2009	2	46102.8	2.75	2307.8
2010	2.5	42626.9	6.625	6539.2
2011	3.5	37560.9	7.1875	10965.6
Correlation	r_{23}=0.1115		r45=0.50	
Coefficient of Determination	r_{23}=0.0125		r45=0.25	
t-statistics	t-call=0.2569 t-tab=2.571	*Insignificant*	t-call=1.29 t-tab=2.571	*Insignificant*

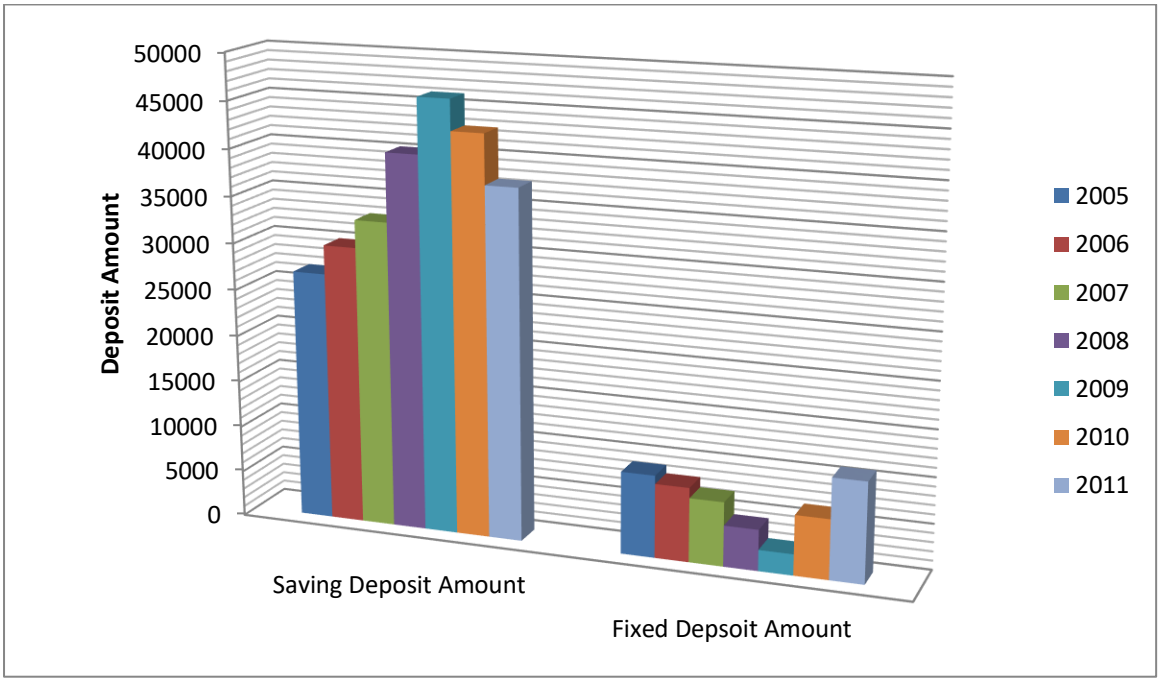
Source: Banking and Financial Statistics, NRB

The table 4.13 shows that the total amount of fixed deposit and saving deposit and interest rate offered on such deposit of RBB during the last seven fiscal years starting from 2005 to 2011. The interest rate on saving deposit is 2% from the year 2005 to 2009. Though the interest remains constant from 2005 to 2011, saving deposit amount is continuously growing on the same period. The

interest on saving increased to 2.5% and 3.5% in 2010 and 2011 respectively. On the other hand, fixed deposit amount decreased as the interest rate on fixed deposit decreased. The interest rate for the year 2005 is 3.16%. After 2005, it decreased to 2.875 for the year 2006, 2007, and 2008. In these three years fixed deposit amount also decreased. As the interest increase in the year 2010 and 2011, deposit amount also increased.

Chart 4.16

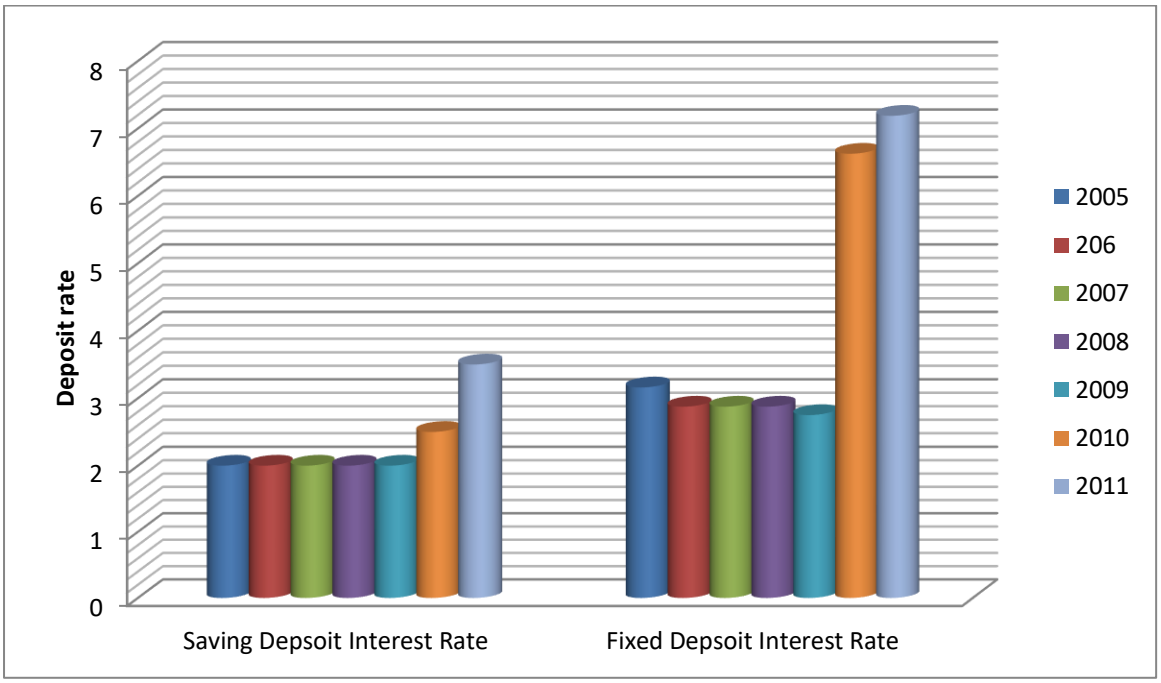
Deposit Amount of RBB during different Fiscal Years



Sources: Banking and Financial Statistics, NRB

Chart 4.17

Deposit Rate of RBB during different Fiscal years



Sources: Banking and Financial Statistics, NRB

To verify the above trend it is necessary to calculate the correlation coefficient, coefficient of determination and t-statistics. The calculation of correlation coefficient between saving deposit interest rate and saving deposit amount is$\mathbf{r_{23}=0.1115,}$ which is less than 0.5. This shows that there is positive relationship between saving deposit and saving interest rate but the magnitude of correlation is very low. In other word, change in one variable cause the change in other variable in the same direction but to very low extent. The coefficient of determination of between these two variables is $\mathbf{r_{23}=0.0125,}$ which means 1.25% of total variation in dependent variables(saving deposit amount) has been explained by independent variables(interest rate) and remaining 98.75% is the effect of other factors. The t-value for testing the significance of the correlation coefficient between variable is **t-call=0.2569.** Since the tabulated t-value at 5% level of significance for two tail at 5 degree of freedom is **t-tab=2.571,** is higher than then the calculated t-value, the

correlation coefficient is significant. This means the variable mentioned (interest rate on saving deposit and amount of saving deposit) for RBB are significantly correlated and null hypothesis H0 is accepted, which means there is no relationship between interest rate on saving deposit and saving deposit amount of RBB.

Similarly, correlation coefficient for fixed deposit interest rate and fixed deposit amount is **r45=0.50,** which is equal to 0.5. The figure indicates these two variables are directly correlated but the magnitude of the correlation is very low. In other words, change in one variable cause the change in other variable in the same direction but to average level of extent. The coefficient of determination **r45=0.25,** which mean 25% of total variable (fixed deposit) is explained by independent variables (fixed deposit rate) and remaining 75% is the effect of the other variables. The t-value for testing the significance of the correlation coefficient between variables is **t-call=1.29,** which is less than tabulated value **t-tab=2.571,** at 5% level of significance for two tail at 5 degree of freedom. The conclusion can be drawn that correlation coefficient between these two variable is significant. This means null hypothesis H0 is accepted, i. e. in other words there is no relationship between deposit interest rate and deposit amount.

4.3 Analysis of Fluctuation in Lending Interest Rate and its Relation with Lending Amount

In this section, the relationship between lending interest rate and lending amount is presented and analyzed. Generally, when there is higher interest rate (especially lending or credit rate) in the economy, people normally borrow lessor amount than the period when interest rate is low. Theoretically, there is inverse relationship between lending interest rate and lending amount i.e. when there is low lending rate there should be higher amount of borrowing vice versa. Higher amount of borrowing indicates higher investment in the country

or higher transaction in the trade. This is necessary for the growth of the economy. So this study tires to explore the relationship between lending rate and lending amount in the Nepalese economy.

4.3.1 NABIL Bank Limited

NABIL Bank one of the leading commercial bank of Nepal, grams credit on different sectors like export credit, import LC, deprived sector, education sector etc. The credit rate on different sectors differs during the different fiscal years.

Table: 4.15

Lending Rate of NABIL on different sectors during last Seven Fiscal Years

(Rs. In Million)

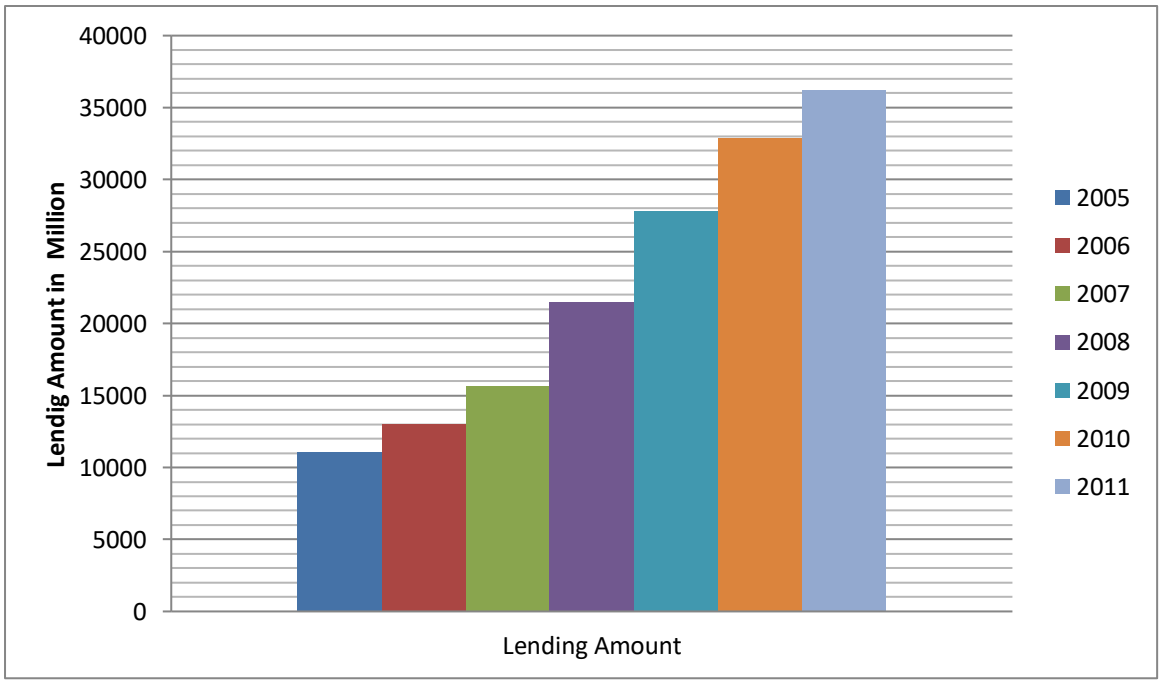
Sectors/Years	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
overdraft							
Export Credit	7.5	10	8.75	8.75	11	12.5	14.5
Import L/C	9.75	9.75	8.75	8.75	11	12.5	14.5
Against FDR	7	7	7	7	10.5	13	
Against HMG Bond	7.75	7.25	7.25	7.25	9	15	13
Against BG/CG	9	9	7.5	7.5	10.5	15	
Against other Guarantee	10	10	8.5	8.5	8.5	14	16.5
Priority sector Loan	11.5	11.5	10.25	10.25	10.25	10.25	
Deprived Loan	7.5	7.5	6.75	7	8	10	12
Term Loan	12	12	10.5	10.5	11.5	14.5	16.5
WC Loan	11	11	9.75	9.75	11	13.5	15.75
Hire Purchase Loan	9.75	9.5	9.25	9.75	9.75	9.75	
Others	10	10	9.25	9.5	11.25	15.5	17
Average Lending Rate(1)	**9.395833**	**9.541667**	**8.625**	**8.708333**	**10.1875**	**12.95833**	**14.96875**
Loan Amount(2)	**11078.0**	**13021.3**	**15657.1**	**21514.6**	**27816.6**	**32902.8**	**36187.1**
Correlation Coefficient(r_{12})	**0.845**						
Coefficient of Determination(r_{12})	**0.72**						
t-statistics t-call=3.61	**t-tab= 2.571 significant**						
S.D.=	**2.21**						

Sources: Banking and Financial Statistics, NRB

The above table 4.14 shows lending rate of NABIL bank form the year 2005 to 2011 on different sectors. The lending interest rate of NBAIL is more or less constant until the year 2005 to 2011. There are no much significant ups and downs in the interest rate up to the year 208. But after 2008, it started to increase and continue the increasing trend up to 2011. The average lending rate also shows the consistency of interest rate until 2008. The average interest rate for the year 2005, 2006, 2007, and 2008 is 9.39%, 9.54%, 8.62, and 8.70% respectively. But after 2008, it starts to increase. The average lending interest rate for the year 2009, 2010, 2011 are 10.18%, 12.95%, 14.96% respectively. The lending amount of NABIL is in increasing trend from the 2005 to 2011. The lending rate for the year 2005, 2006, 2007, and 2008 is 11078, 13021.3, 15657.1 and 21514.6 respectively. Though the interest rate for the year 2009, 2010 and 2011 increase rapidly, there is no decline in lending amount of NABIL bank. The lending amount of NABIL for the year 2009, 2010 and 2011 is 27816.6, 32902.8 and 36187.1 respectively.

Chart 4.18

Lending Amount of NABIL during different Fiscal Years

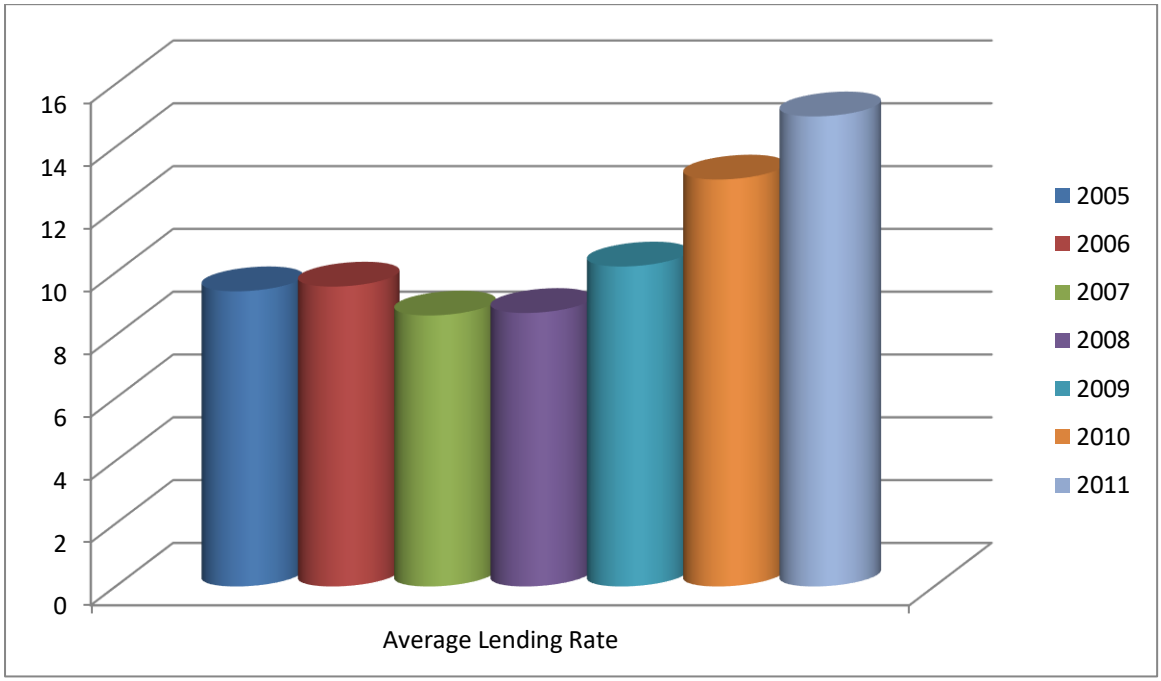


Sources: Banking and Financial Statistics, NRB

The Chart 4.18 shows the increasing tendency of loan amount of NABIL bank. There is continuous increment in the amount of loan since 2005 to 2011.

Chart 4.19

Average Lending Rates of NABIL bank during different Fiscal Years



Sources: Banking and Financial Statistics, NRB

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

The correlation coefficient between lending rate and lending amount is **0.845**which is greater than 0.5. This shows that there is positive relationship between lending rate and lending amount. The lending rate and lending amount is positively correlated. Where there is increase in lending rate there is also increase in lending amount. This situation doesn't match with the actual theory. Normally, lending amount increase, only if there is decrease in lending rate. The coefficient of determination of lending rate and lending amount is **0.72.** When total lending amount is taken as dependent variable and lending rate as explained by independent variables, that 72% of total variation in dependent variable is explained by lending rate and remaining 28% is due to the effect of

other variable in the economy. The test of significance of correlation coefficient between lending rate and lending amount is also verifying the fact. The calculated value of t-statistics is 3.6, which is greater than the tabulated t-value at 5% level of significance for two tail at 5 degree of freedom (t-tab=2.571). In this condition, H1 is acceptable. It means there is relationship between two variables. In other words, the relationship is significant.

4.3.2: Himalayan Bank Limited

Himalayan Bank Limited (HBL) one of the leading commercial bank of Nepal, grants credit on different sectors like export credit, import LC, priority sectors, working capital loan, etc. The credit rate on different sector differs during different fiscal years.

Table 4.15: shows the lending interest rate, average lending rate, correlation coefficient, coefficient of determination, t-statistics and standard deviation of HBL during last seven fiscal years.

Table 4.16

Lending Rate of HBL on different sectors during last Seven Fiscal Years

(Rs. In Millions)

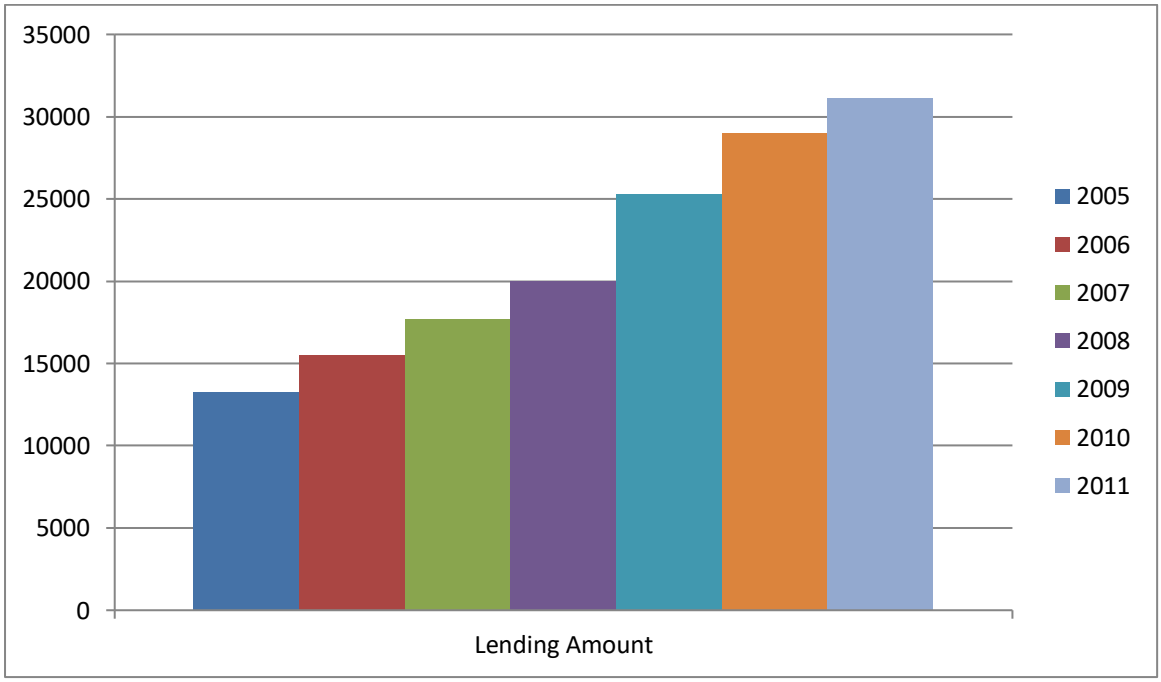
Sectors/Years	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
overdraft	13.25	10.5	9	9	9.75	14.75	15.5
Export Credit	9.5	8.5	7.38	8.5	9.62	13.25	15.75
Import L/C	12.25	9.58	7.75	8.25	9.37	13.5	15.75
Against FDR							
Against HMG Bond	8	5	5.5	6.5	8.75	12.25	13.5
Against BG/CG	10.5	8.75	7.25	7.5	9	13.5	
Against other Guarantee							
Priority sector Loan	13	11.63	10	8	10		
Deprived Loan	8.5	6.38	6.38	6.88	7.38	9.5	12
Term Loan	13	10.63	9.25	9.5	11	14	15.75
WC Loan							
Hire Purchase Loan	13	10.25	8.5	8.5	10.75	14.75	15.25
Others	15.75	9.75	9	7.5	9.87	14.5	
Average Lending Rate(1)	**11.675**	**9.097**	**8.001**	**8.013**	**9.549**	**12**	**14.78571**
Lending Amount(2)	**13245**	**15515.7**	**17672.0**	**19985.2**	**25292.1**	**28976**	**31118.0**
Correlation Coefficient (r_{12})	**0.55**						
Coefficient of Determination(r_{12})	**0.30**						
t-statistics(t-call=1.46)	**t-tab=2.571 insignificant**						
Standard Deviation (S.D)	**2.26**						

Source: Banking and Financial Statistics, NRB

The above table 4.15 gives the clear picture of lending rate applied by HBL since 2005 to 2011. The lending rate for the year 2005 is higher than the lending rate for the 2006, 2007, 2008 and 2009 in almost all sectors. There is decline in lending rate after 2005 till the 2009. But after 2009, there is massive increase in lending rate. Average lending rate of interest also shows the same result. There is continuous decline in lending rate of HBL till 2009, after 2009 there is increase in lending rate. On the other hand, lending amount of HBL is in increasing trend. The lending rate for the year 2005, 2006, 2007, 2008 and 2009 is 13245, 15515.7, 17672, 19985 and 25292 respectively. This shows continuous growth in lending rate as there is continuous decline in lending rate. But, to our surprise, there is continuous growth in lending rate from 2010 to 2011, when there is increase in lending rate.

Chart 4.20

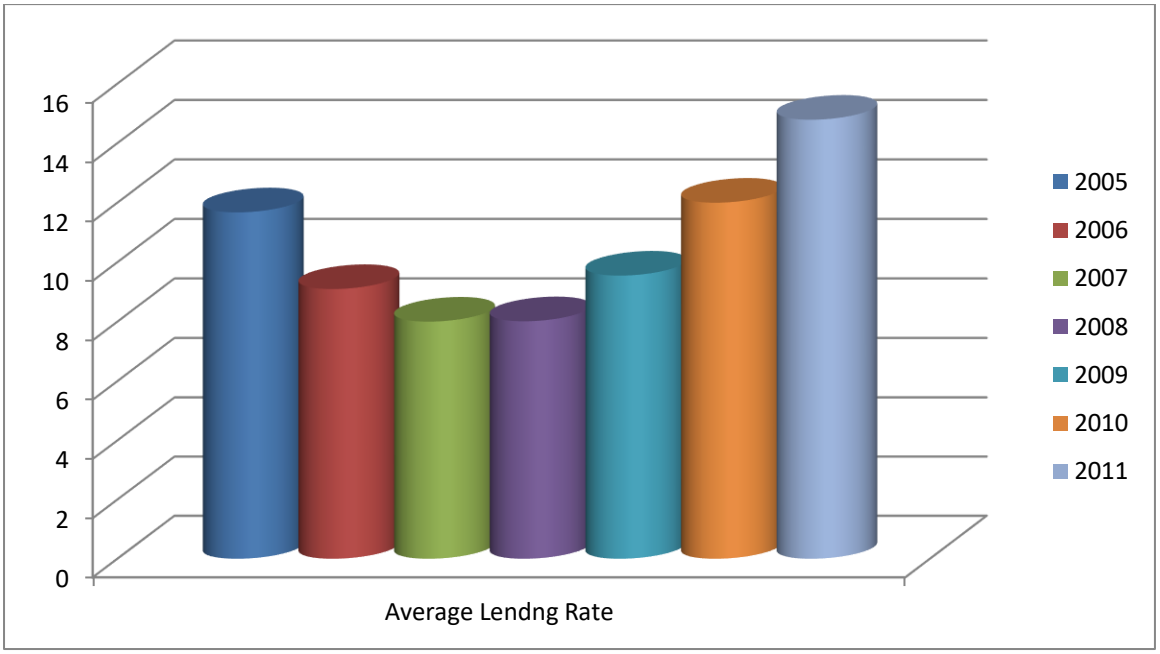
Lending Amount of HBL during different Fiscal Years



Sources: Banking and Financial Statistics, NRB

The above Chart shows that there is continuous growth in the lending amount since 2005 to 2011.

Chart 4.21
Average Lending Rates of HBL bank during different Fiscal Years



Sources: Banking and Financial Statistics, NRB

The above Chart 4.18 shows the tendency of lending interest rate of HBL during the period of 2005 to 2011. After 2005, there is decreasing tendency of lending interest rate till the period of 2008. After 2008, there is increasing tendency of lending interest rate till the end of study period, 2011.

Correlation coefficient, coefficient of determination and t-statistics of HBL bank

The correlation coefficient between lending rate and lending amount is **0.55** which is greater than 0.5. This shows that there is moderate positive relationship between lending rate and lending amount. The lending rate and lending amount is positively correlated. Where there is increase in lending rate there is also increase in lending amount. This situation doesn't match with the actual theory. Normally, lending amount increase, only if there is decrease in lending rate. The coefficient of determination of lending rate and lending amount is **0.30.** When total lending amount is taken as dependent variable and lending rate as explained by independent variables, that 30% of total variation

in dependent variable is explained by lending rate and remaining 70% is due to the effect of other variable in the economy. The test of significance of correlation coefficient between lending rate and lending amount is also verifying the fact. The calculated value of t-statistics is 1.46 which is lower than the tabulated t-value at 5% level of significance for two tail at 5 degree of freedom (t-tab= 2.571). In this condition, H0 is acceptable. It means there is no correlation between two variables. In other words, there is no significant relationship between lending rate and lending amount.

4.3.3: Everest Bank Limited (EBL)

Everest Bank Limited (EBL) one of the leading commercial bank of Nepal, grants credit on different sectors like export credit, import LC, priority sectors, working capital loan, etc. The credit rate on different sector differs during different fiscal years.

Table 4.16 shows the lending interest rate, average lending rate, correlation coefficient, coefficient of determination, t-statistics and standard deviation of EBL during last seven fiscal years.

Table: 4.17

Lending Rate of EBL on different sectors during last Seven Fiscal Years

(Rs. In Millions)

Sectors/Years	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
overdraft	10.25	9.5	9.5	9.75	9.75	9.75	14.5
Export Credit	8	7.5	7.5	8.75	8.75	8.75	14
Import L/C	8.75	8.38	8.38	8.5	8.5	8.5	14
Against FDR							
Against HMG Bond	6	4.42	5.5	7.5	7.5	7.5	13
Against BG/CG	8	8	8	8	8	8	
Against other Guarantee							
Industrial Loan	10.25	9.5	9.5	9.5	9.5	9.75	
Commercial Loan	10	9.5	9.5	9.5	9.5	9.75	
Priority Sector Loan							

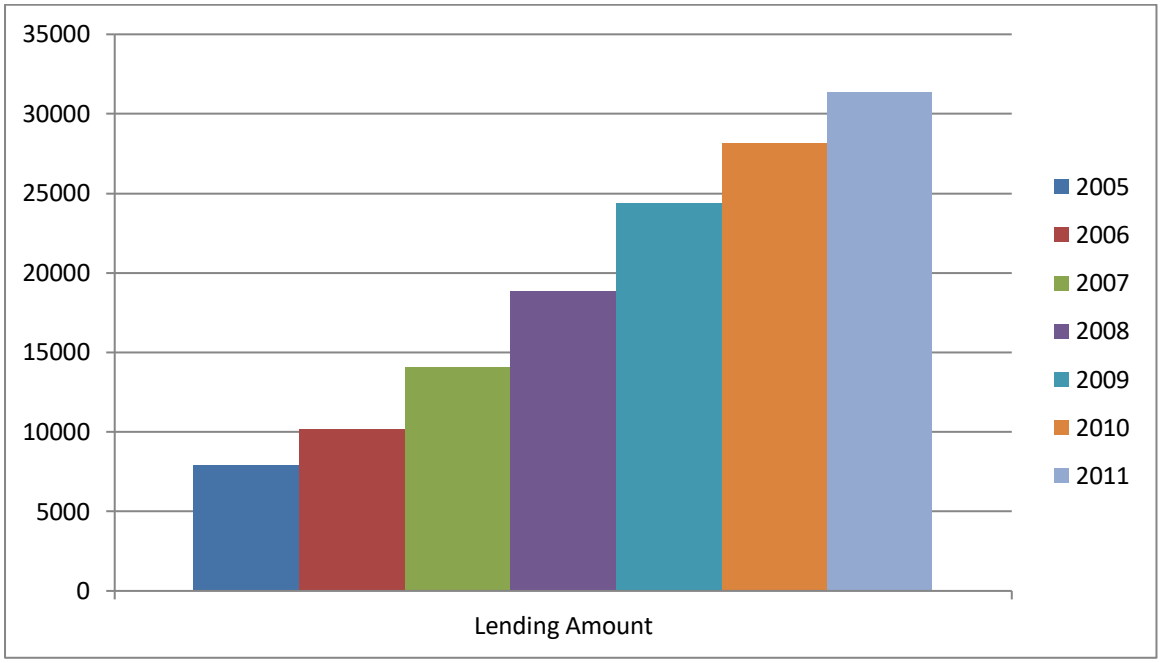
Deprived Loan	11.5	7.25	7.25	7.5	7.7	7.5	11.5
Term Loan	11	9.5	9.5	9.75	9.75	9.75	14.75
working Capital Loan	9	9.5	9.5	9.75	9.75	9.75	14
Hire Purchase	11.25	6.5	9.5	9.75	9.75	9.75	15.25
Others	9.75	7.75	7.75	8	7.5	7.5	
Average Loan Rate(1)	**9.479167**	**8.108333**	**8.448333**	**8.854167**	**8.829167**	**8.854167**	**13.875**
Lending Amount(2)	**7914.4**	**10124.2**	**14059.2**	**18814.3**	**24366.2**	**28129.7**	**31332.1**
Correlation Coefficient (r_{12})	**0.5796**						
Coefficient of Determination(r_{12})	**0.336**						
t-statistics(t-call= 1.60)	**t-tab = 2.571 insignificant**						
Standard Deviation (S.D)	**1.48**						

Sources: Banking and Financial Statistics, NRB

The above table 4.16 presents the lending interest rate of EBL form the year 2005 to 2011. The lending rate for the year 2005 is greater than the lending rate of 2006, 2007, 2008 and 2009 in almost all sectors. After 2005, the lending rate of EBL remain more or less constant till the period of 2009.But after the year 2009, the lending rate is in increasing trend. The lending rate for the year 2010 and 2011 increase and reach to its highest point. On the other hand, lending amount of EBL increases continuously from the year 2005 to 2011. The lending amount of EBL for the year 2005 is Rs. 7914.4 Million. After 2005, the lending amount increases as the lending rate remain more or less constant till the period of 2009. But to our surprise, lending amount also in increasing trend when the lending rate in increasing trend, i.e. lending amount increase in 2010 and 2011 when there is sharp rise in lending interest rate.

Chart 4.22

Lending Amount of EBL during different Fiscal Years.

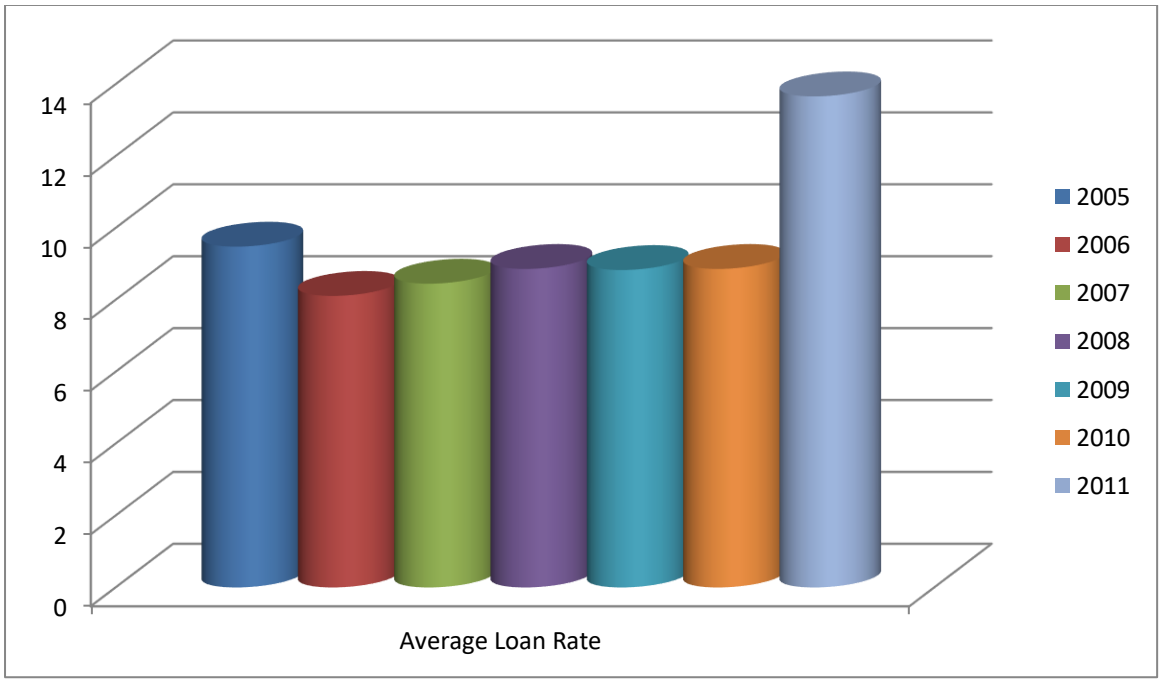


Sources: Banking and Financial Statistics, NRB

The above Chart 4.18 shows the continuous growth of lending amount of EBL.

Chart 4.23

Average Lending Rates of EBL bank during different Fiscal Years



Sources: Banking and Financial Statistics, NRB

The above Chart 4.19 show the trend of lending rate of EBL. After 2005, there is decline in interest rate. It remains more or less constant from the 2006 to 20010. After 2010, there is massive in interest rate.

Correlation coefficient, coefficient of determination and t-statistics of EBL bank

The correlation coefficient between lending rate and lending amount is **0.5796** which is greater than 0.5. This shows that there is moderate positive relationship between lending rate and lending amount. The lending rate and lending amount is positively correlated. Where there is increase in lending rate there is also increase in lending amount. Thissituation doesn't match with the actual theory. Normally, lending amount increase, only if there is decrease in lending rate. The coefficient of determination of lending rate and lending amount is **0.336.** When total lending amount is taken as dependent variable and lending rate as explained by independent variables, that 33.60% of total variation in dependent variable is explained by lending rate and remaining 66.40% is due to the effect of other variable in the economy. The test of significance of correlation coefficient between lending rate and lending amount is also verifying the fact. The calculated value of t-statistics is 1.60 which is lower than the tabulated t-value at 5% level of significance for two tail at 5 degree of freedom (t-tab= 2.571). In this condition, H0 is acceptable. It means there is no correlation between two variables. In other words, there is no significant relationship between lending rate and lending amount.

4.3.4: Bank of Kathmandu (BOK)

Bank of Kathmandu (BOK) one of the leading commercial bank of Nepal, grants credit on different sectors like export credit, import LC, priority sectors, working capital loan, etc. The credit rate on different sector differs during different fiscal years.

Table 4.17 shows the lending interest rate, average lending rate, correlation coefficient, coefficient of determination, t-statistics and standard deviation of BOK during last seven fiscal years.

Table: 4.18

Lending Rate of BOK on different sectors during last Seven Fiscal Years

(Rs. In Millions)

Sectors/Years	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
overdraft	11.75	11.75	11.75	11.75	11.75	14.5	15
Export Credit	7.25	7.75	7.75	7.75	11.5	13	13
Import L/C	10.25	10.25	10.25	10.25	10.75	12.5	
Against FDR	9.25	7.5	7.5	7.5	9.25	13.5	14
Against HMG Bond	7.25	7.25	7.25	7.25	9.5	12.5	12.5
Against BG/CG	9.25	9.25	9.25	9.25	9.75	12.5	12.5
Against other Guarantee	7.5	7.5	7.5	7.5			
Industrial Loan	11.75	11.75	11.75	11.75			
Commercial Loan	12.25	12.25	12.25	12.25			
Priority Sector Loan							
Deprived Loan	8.75	8.75	8.75	8.75	8.25	13	13.5
Term Loan	11.75	11.75	11.75	11.75	12	14	15.5
working Capital Loan	11.75	11.75	11.75	11.75	11.75	14	14.5
Hire Purchase	9.5	9.25	9.25	9.25	10.5	13.25	15.25
Others	8.75	9.25	9.4	9.25	10.75	11	15
Average Loan Rate(1)	**9.785714**	**9.714286**	**9.725**	**9.714286**	**10.52273**	**13.06818**	**14.075**
Loan and	**6166.9**	**7525.2**	**9663.**	**12692.**	**14894.**	**16847.**	**16590.**

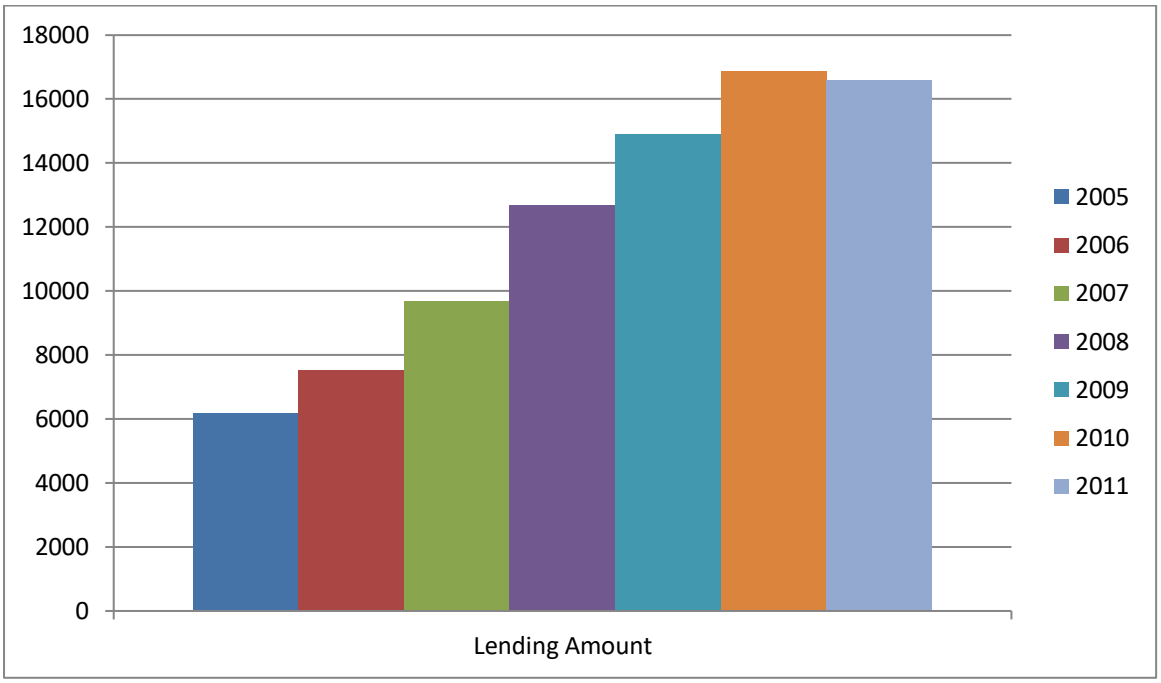
Advance(2)			**6**	**9**	**7**	**1**	**3**
Correlation Coefficient (r_{12})	**0.7866**						
Coefficient of Determination(r_{12})	**0.6188**						
t- statistics t-call=2.84	**t-tab= 2.571**			**significant**			
Standard Deviation (S.D.)				**2.907**			

Sources: Banking and Financial Statistics, NRB

The above table 4.17 shows the lending rate of BOK from the year 2005 to 2011. The lending rates of BOK remain more or less constant from the year 2005 to 2008. There is not so much ups and down in the lending rate form the year 2005 to 2008. After 2008, there is increase in lending rate up to 2011. The average lending rate for the year 2005, 2006, 2007 and 2008 is 9.786%, 9.715%, 9.725% and 9.715% respectively. But after 2008, the lending rate increase sharply. The lending rate for the year 2009, 2010 and 2011 is 10.523%, 13.069% and 14.075 respectively. On the other hand, lending amount of BOK is in increasing trend irrespective to the lending rate. It is increasing trend whether there is increase or decrease in lending interest rate. The lending rate for the year 2005, 2006 2007 and 2008 is Rs. 6166.9, 7525.2, 6993.6 and 12692.9 respectively. After 2008, there is increase in lending interest rate till 2011. But there is also increase in lending amount i.e. the lending amount for the year 2009, 2010 and 2011 is 14894.7, 16847.1 and 16590.3 respectively.

Chart: 4.24

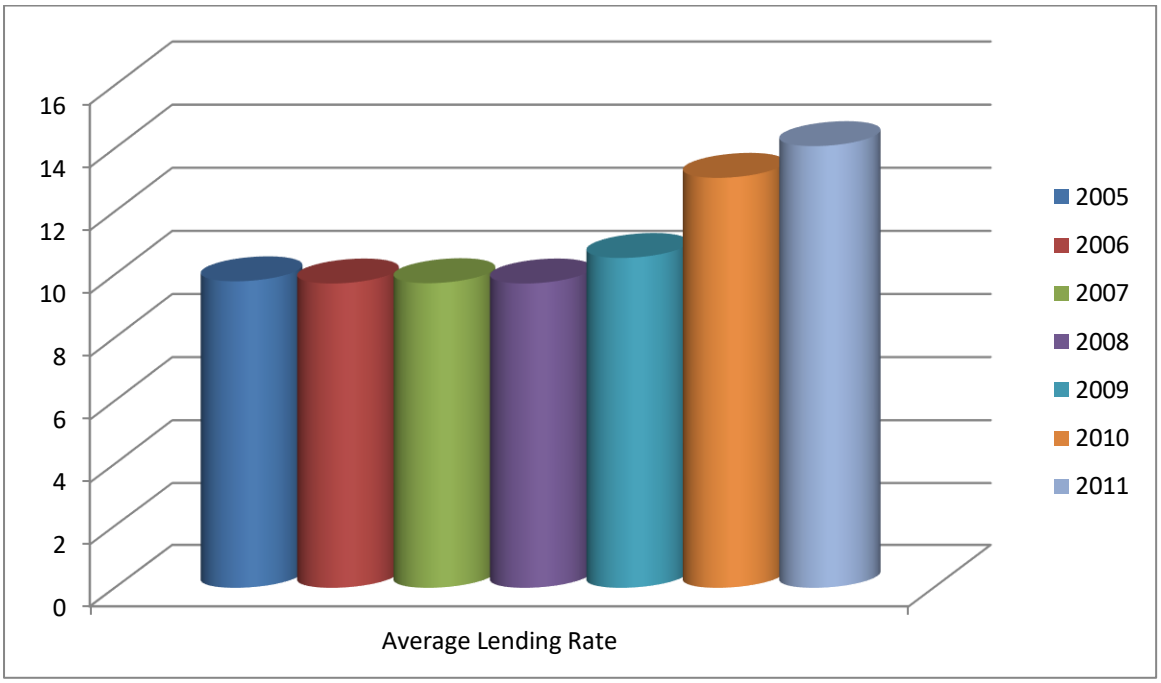
Lending Amount of BOK during different Fiscal Years



Sources: Banking and Financial Statistics

The above Chart 4.20 shows the lending amount tendency of BOK. There is increase in lending amount from the year 2005 to 2010. But after 2010, there is slight decrease in lending amount.

Chart 4.25
Average Lending Rates of BOK bank during differentFiscal Years



Sources: Banking and Financial Statistics, NRB

Correlation coefficient, coefficient of determination and t-statistics of BOK bank

The correlation coefficient between lending rate and lending amount is **0.7866**which is greater than 0.5. This shows that there is positive relationship between lending rate and lending amount. The lending rate and lending amount is positively correlated. Where there is increase in lending rate there is also increase in lending amount. This situation doesn't match with the actual theory. Normally, lending amount increase, only if there is decrease in lending rate. The coefficient of determination of lending rate and lending amount is **0.7866.** When total lending amount is taken as dependent variable and lending rate as explained by independent variables, that 78.66% of total variation in dependent variable is explained by lending rate and remaining 21.34% is due to the effect of other variable in the economy. The test of significance of correlation coefficient between lending rate and lending amount is also verifying the fact. The calculated value of t-statistics 2.84, which is greater than the tabulated t-

value at 5% level of significance for two tail at 5 degree of freedom (t-tab=2.571). In this condition, H1 is acceptable. It means there is relationship between two variables. In other words, the relationship is significant.

4.3.5: Rastriya Banijya Bank (RBB)

Rastriya Banijya Bank (RBB) one of the leading commercial bank of Nepal, grants credit on different sectors like export credit, import LC, priority sectors, working capital loan, etc. The credit rate on different sector differs during different fiscal years.

Table 4.16 shows the lending interest rate, average lending rate, correlation coefficient, coefficient of determination, t-statistics and standard deviation of RBB during last seven fiscal years.

Table: 4.19

Lending Rate of RBB on different sectors during last Seven Fiscal Years

(Rs. In Millions)

Sectors/Years	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
overdraft	11	11	11	11	11	12.5	13.75
Export Credit	8	8	8	8	8	9.5	10.5
Import L/C	8.5	8.5	8	8	8	9.5	11.5
Against FDR							
Against HMG Bond	7	7	5	7	7.5	11	12
Against BG/CG	8.5	5.8	8.5	7	9	11	12
Against other Guarantee							
Industrial Loan	11.5						13.5
Commercial Loan							13.5
Priority Sector Loan	13	11.5	13	11.5	12.5	11.5	11.5
Deprived Loan	8.5	8.5	8.5	8.5	9	10	11

Term Loan	11	11	11	11	11	13	
working Capital Loan	11						
Hire Purchase	11	11	7	9	10.5	12.5	14.75
Others	8	8	8.25	9.5	10.5		
Average Loan Rate(1)	**9.75**	**7.525**	**7.354167**	**7.541667**	**8.083333**	**11.16667**	**12.4**
Loan Amount(2)	**28614.0**	**26863.8**	**25214.8**	**27353.6**	**31464.1**	**35616.6**	**35535.9**
Correlation Coefficient (r_{12})	**0.88**						
Coefficient of Determination(r_{12})	**0.7744**						
t-statistics t-call=4.144	**t-tab=2.571 significant**						
Standard Deviation (S.D)	**1.879**						

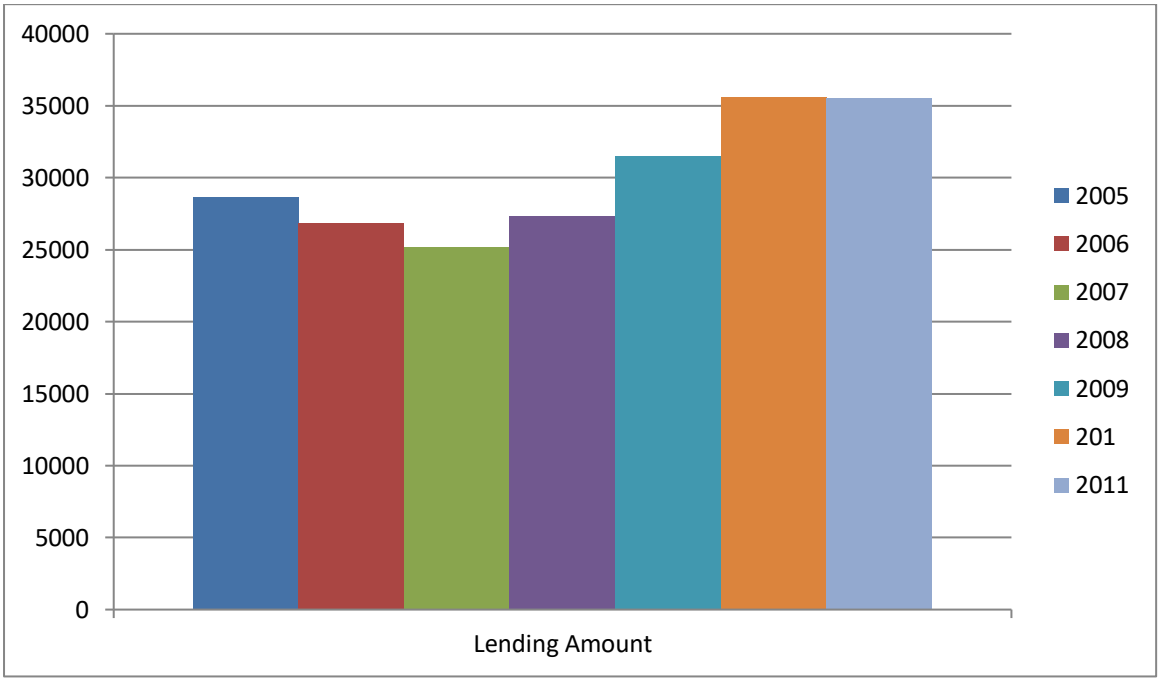
Sources: Banking and Financial Statistics, NRB

The above table chart 4.18 shows the lending interest rate of RBB from the year 2005 to 2011. This indicates the changing nature of interest rate in Nepal, according to the changing situation. The interest rate for the year 2005 is higher than the interest rate for the year 2006, 2007, 2008 and 2009. The average interest rate for the year 2005, 2006, 2007, 2008 and 2009 is 9.75%, 7.525%, 7.355%, 7.542% and 8.084% respectively. After 2009, there is significant increase in lending interest rate for the year 2010 and 2011. The lending interest rate for the year 2010 and 2011 is 11.167% and 12.4% respectively. The lending amount of RBB is Rs. 28614.0 Million in 2005. But the lending amount of 2006 and 2007 is Rs. 26863.8 and Rs. 25214.8 respectively as there is decrease in lending interest rate. But after 2007, the lending amount of RBB

is in increasing trend. The lending amount for the year 2008, 2009, 2010 and 2011 is Rs 27353.6, Rs 31464.1, Rs 35616.6 and Rs 35535.9 respectively.

Chart 4.26

Lending Amount of RBB during different Fiscal Years

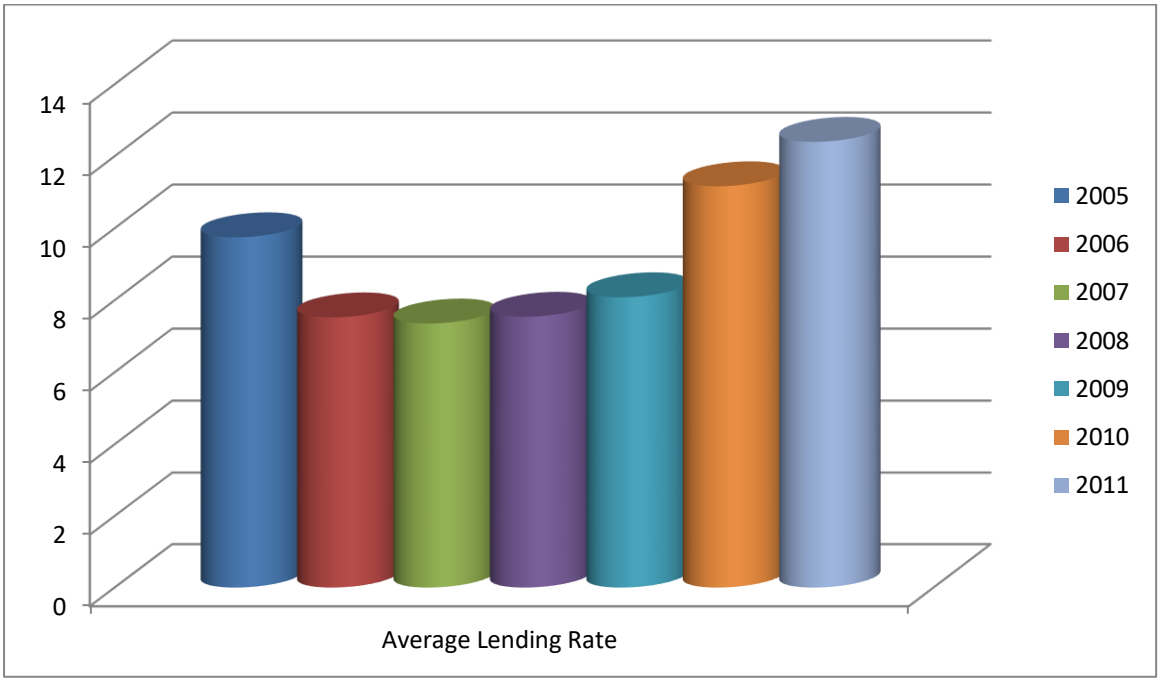


Sources: Banking and Financial Statistics

The above Chart 4.21 shows trend of lending amount of RBB form 2005 to 2011. There is decrease in lending amount of RBB from 2005 to 2007. After 2007, the tendency of lending amount of RBB is in increasing tendency.

Chart 4.27

Average Lending Rates of RBB bank during different Fiscal Years



Sources: Banking and Financial Statistics, NRB

The average interest rate for the year 2005 is higher than the interest rate of 2006, 2007, 2008 and 2009 but lower than 2010 and 2011. After 2005, the lending interest remains more or less constant till the period of 2009. After 2009, there is massive increase in the interest rate for the year 2010 and 2011.

Correlation coefficient, coefficient of determination and t-statistics of RBB bank

The correlation coefficient between lending rate and lending amount is **0.88** which is greater than 0.5. This shows that there is positive relationship between lending rate and lending amount. The lending rate and lending amount is positively correlated. Where there is increase in lending rate there is also increase in lending amount. This situation doesn't match with the actual theory. Normally, lending amount increase, only if there is decrease in lending rate. The coefficient of determination of lending rate and lending amount is **0.7744.** When total lending amount is taken as dependent variable and lending rate as explained by independent variables, that 77.44% of total variation in dependent variable is explained by lending rate and remaining 22.66% is due to the effect of other variable in the economy. The test of significance of correlation

coefficient between lending rate and lending amount is also verifying the fact. The calculated value of t-statistics 4.144, which is greater than the tabulated t-value at 5% level of significance for two tail at 5 degree of freedom (t-tab=2.571). In this condition, H1 is acceptable. It means there is relationship between two variables. In other words, the relationship is significant.

4.4Major Findings

On the basis of entire presentation and analysis of relevant data of sample banks using various analytical tools, the major findings are as follows.

- The number of banks and financial institutions in Nepal are in increasing trend.
- The average deposit collection of Nepalese banks and financial institutions is in increasing trends. There is continuous growth in the average deposit collection on all kind of financial institutions.
- The commercial banks are the dominants in Nepal as compare to development banks, financial companies etc. They occupy the 85% of total deposit and 76% of total loan and advances of Nepalese financial sectors and rest of by other financial institutions.
- Interest rate on both deposit and lending are found to in more or less constant from the 2005 to 2008. After 2008, the lending and deposit rate is in increasing trend.
- In terms of deposit collection among these five selected banks RBB is most successful deposit collector ranking first position. Other four banks NABIL, HBL, EBL and BOK rank the second, third, fourth and fifth respectively.
- The correlation between saving deposit amount and saving interest rate of four banks have positive relationship, but degree of magnitude is very low. And correlation of one bank is negative. The value of correlation coefficient between saving deposit rate and saving deposit amount is of sample banks under study is found 0.305, -0.37, 0.0747, 0.279, and 0.1115 for NABIL, HBL, EBL, BOK and RBB respectively. These value shows that there is low degree of positive relationship except HBL which have negative

relationship. That means if one variable increases, other variables also increase and vice versa.

From the analysis of coefficient of determination for deposit amount is 0.094, 0.1369, 0.00558, 0.00779, and 0.0125 for NABIL, HBL, EBL, BOK and RBB respectively.

The t-statistics between saving deposit amount and saving deposit rate is 0.02159, -0.890, 0.712, 0.645, and 0.2569 for NABIL, HBL, EBL, BOK and RBB respectively.

- Analysis of fixed deposit amount and fixed deposit interest rate show positive relationship. The value of correlation coefficient is 0.094, 0.737, 0.66, 0.973 and 0.50 for NABIL, HBL, EBL, BOK and RBB respectively. These value shows that there is positive relationship between two variables. That means if one variables increase other variables also increase and vice versa.

  The coefficient of determination of the sample banks are 0.94, 0.55, 0.4356, 0.946 and 0.25 for NABIL, HBL, EBL, BOK and RBB respectively.

  The t-statistics value of fixed deposit amount and fixed deposit rate is 7.66, 2.457, 0.6336, 13.18 and 1.29 for NABIL, HBL, EBL, BOK and RBB respectively.

- The analysis of lending interest rate and lending amount shows that there is positive relationship between lending rate and lending amount. The value of correlation coefficient between lending rate and lending amount is 0.845, 0.55, 0.5796, 0.7860 and 0.88 for NABIL, HBL, EBL, BOK and RBB respectively. It means if one variable increase other variables also increase. This shows that there is increase in deposit amount as there is increase in deposit rate.

  From the analysis coefficient of determination of lending rate and lending amount is 0.72, 0.30, 0.336, 0.6188 and 0.7744 respectively.

  The t-statistics of lending rate and lending amount is 3.61, 1.46, 1.60, 2.84 and 4.144 for NABIL, HBL, EBL, BOK and RBB respectively.

CHAPTER V
SUMMERY, CONCLUSION AND RECOMMENDATION

In this chapter summery, conclusion and recommendation are made after analyzing and interpreting the necessary data regarding structure of interest and its impact on deposit and lending of selected commercial banks. Finally, constrictive suggestion and recommendation which can be of immense help to improve interest rate and its impact on deposited lending of commercial bank, has been presented. In this way, an attempt has been made to summarize the whole study in this chapter categorizing in three subsections, namely summery, conclusion and recommendation.

5.1 Summary

Banking sector play an important role in the economic development of the country. Commercial banks are of the value aspect of this sector, which deals in the process of channelizing the available resource in the needed sectors. It is the intermediary between the deficits and surplus of financial resources. There were only two commercial and two development banks in Nepal in 190. But after the introduction of economic liberalization policy, particularly financial liberalization, it provided the inputs in the establishment of a new bank and non-bank financial institutions. Consequently, by the end of mid-January there are 227 bank and non-bank financial institutions licensed by the NRB are in operation. Out of them 30 are “A” class commercial banks, 87 “B” class development banks, 79 “C” class financial institutions, 21 micro-finance development banks, 15 service and cooperative limited, and 45 NGO’s (financial intermediaries). Financial institutions are act as an intermediary between the individual who lend and borrow. These institutions accept deposit and in turn lend it to people who are in need of financial resources. These institutions make the flow of fund easier. So we cannot deny the role a bank

can play on developing the economy. It pools the fund scattered in the economy and mobilize them to productive sectors.

This thesis: “A Study on Interest Rate of commercial Banks and its Impact on Deposit Mobilization” deals with mainly following issues.

- To Identify and analyze the interest rate on deposit and lending of Nepalese commercial banks.
- To study the relationship interest rate on deposit and lending amount of commercial banks.

Though there are various sectors in the economy that affect the volume of deposit and lending. Interest rate is one of the major factor that affect the deposit and lending amount. The first chapter includes brief introduction of interest rate and Nepalese economy, statement of problem, objectives of study and organization of the study.

The second chapter consists of conceptual framework and review of previous literatures. It deals with the mending and definition of interest, function of interest, theories of interest, determining of interest rate, overview of interest rate policy and functional development, deposit, important of deposits, types of deposits and review of previous thesis and books.

The third chapter is about research methodology. Research methodology is the procedure by which research go about their work of describing, explaining and predicting phenomenon. This chapter deals with the various tools that have been used to conduct this research work.

The fourth chapter is the most important chapter of all. This chapter is about presentation and analysis of data of all the selected commercial banks. This chapter also includes the major finding of this research study.

5.2 Conclusion

From the presentation and analysis of data using different analytical tools, the major conclusion can be tabulated as follows:

The number of banks and financial institutions is in increasing trends. Though the number of banks and financial institutions is in increasing, commercial banks are the successful to dominate other financial institutions in terms of deposit collection, loan and advances and total assets. Commercial banks are the leader of all Nepalese financial sectors.

The deposit collection of commercial banks is in increasing trend. The deposit collection of selected banks for this study is also in increasing trend. The correlation coefficient of saving deposit rate and saving deposit amount shows the positive relationship in four banks and negative in one bank. The correlation coefficient of NABIL, EBL, BOK and RBB is positive but degree of magnitude is very low. This means there is increase in deposit amount with the increase in deposit rate and vice versa. But correlation coefficient of HBL is negative. This means the deposit amount of HBL increase or decrease irresponsive to its interest rate.

The correlation coefficient of fixed deposit amount and fixed deposit rate of all five selected banks is positive. This means when there is increase in fixed deposit interest rate there is increase in deposit amount and vice versa. These two variables move in same direction.

The correlation coefficient of lending rate and lending amount is positive of all five selected banks. This means lending amount increase when there is increases in lending rate and vice versa. This is against the theory.

5.3 Recommendation

Based on the above conclusion following suggestion can be recommended to concerned party.

- The financial institutions are suggested to quote higher interest rate on deposit because it helps to generate more capital from depositors who are holding money because of lower interest rate.
- Banks and financial institutions are suggested to quote higher interest rate than the inflation rate of money.
- Commercial banks are suggested to charge higher interest on unproductive sectors and lower interest rate on productive sectors.
- Commercial banks are suggested to diversify their investment on different sectors.
- Banking is a totally a customer oriented organization, so strategies and policies should be made keeping the convenience and satisfaction of customers as the higher priority.
- In order to encourage small deposits, bank must create congenial environment for such deposit. The amount needed to open bank account and minimum balance to be maintained should be very low.
- Now the world has become a small place for business. Bank should provide the easiest and the fastest way for the customer to make banking transactions. Various facilities such as internet banking, ATM, SMS's banking etc should be widely used.
- Commercial banks should emphasize on the repayment on loan and provide incentive to borrowers to encourage paying loan. Good payment loan is the strength of commercial banks.

BIBLIOGRAPHY

BOOKS

Bajaracharya B.C. (2059). *Business Statistics and Mathematics*.M.K Publisher and Distributors.

Brigham, Eugene F and Weston. T. Fred (1996). *Managerial Finance*. University of California, Los Angeles.

Deweel. K. K. (2001) *Modern Economic Theory*. New Delhi, India: S.C. Hand Company Limited

Fry Maxwell T (1974). *Resources Mobilization and Finance Development* in Nepal. Kathmandu Nepal: Tribhuban University CEDA and Nepal Rastra Bank Publication

Howard K Wolf and Pram Raj Pant (2007). *Social Science Research and ThesisWriting*. Kathmandu, Nepal: Buddha Academic Publisher and Distribution Private limited.

Joshi Shyam (2056). *Micro and Macro Economic Analysis*.Kathmandu: TalajuPustakBitarak.

Keynes (1936). *The Ganeral Theory of Employment and Money*. New York: Machanism and Co.

Panta, R. (1965). *Interest Rate Policy of Nepal.* Ottawa: Canada.

Peter. S. Rose (1997). *Money and Capital Market. Chicago*: Irwin McGraw, Hill Publishing Co. Ltd.

Peter. S. Rose (2003). *Money and Capital Market*. Chicago: Irwin McGraw, HillPublishing Co. Ltd.

Stapit, A. B. (2006). *Statistical Methods*. Kathmandu, Nepal: Buddha Academic Publisher and Distribution Private Limited.

DISSERTATION

Bhandari Safal Raj (2010).*Structure* Change in Interest Rate and its Effect *Deposit and Lending*, an unpolished thesis submitted to Shanker Dev Campus.

Bhattarai, Navaraj (2010). *Relation of Interest Rate with Lending and inflation InNepal*, an unpolished thesis submitted to Shanker Dev Campus.

Nepal, Dip Bahadur (2010). *A Study on Deposit and Investment Pattern of the Commercial Banks*, an unpolished thesis submitted to Shanker Dev Campus.

Shing, Niraj (2010). *Interest Rate Structure and its Impact upon Deposit, Lendingand Inflation*, an unpolished thesis submitted to Shanker Dev Campus.

Shrestha, Pramila (2010). *Interst Rate Assessment of Commercial Banks and itsImpact on Deposit and Lending,*an unpolished thesis submitted to Shanker Dev Campus

JOURNALS, REPORTS AND ARTICLES

Nepal Rastra Bank, July 2009. *NEPALESE FINANCIAL SYSTEM GROWTH ANDCHALLENGES.*

NRB Working Paper, November 2009. *Interest Rate Pass-Through In Nepal.*

Nepal Rastra Bank, Mid-January 2011. *Banking and Financial Statistics.*

WEBSITES

www.bok.com.np

www.everestbankltd.com

www.google.com.np

www.himalayanbank.com

www.nabilbank.com

www.nrb.org.np

www.wikipedia.com

ANNEX-1

Calculation of Average Interest Rate on Deposit of NABIL

Interest rate structure of NABIL on deposit (Mid-July 2005 to 2011)

Deposit	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Saving	2.5	2	2	2	2	3	3
Fixed							
7 Days							
15 Days							
1 Month	3	3	2	3.5	3.5	7.5	7.5
2 Months							
3 Months	3.25	3.25	2.75	6.75	4.5	8.5	8.5
6 Month	3.5	3.5	3	5	5.5	9.5	9.5
1 Year	4	4	3.5	5	7.5	10	10.25
2 Years and above	4	4.125	4	6.75	8.5	11.5	11.5
Fixed Deposit Mean	**3.55**	**3.575**	**3.05**	**5.4**	**5.9**	**9.4**	**9.45**
Whole Mean	**3.375**	**3.3125**	**2.875**	**4.8333**	**5.25**	**8.333**	**8.375**
Standard Deviation (σ)	**2.082**						

Source: Banking and Financial Statistic, NRB

$$\text{Whole Mean} = \frac{2.5+3.5+3.25+3.5+4+4}{6}$$

= 3.375 % and so on 3.312.5%, 1.875%, 4.8333%, 5.25%, 8.333%, 8.975%

$$\text{Mean } (\overline{X}) = \frac{\Sigma x}{n} = \frac{\Sigma\ 3.375+3.3125+2.875+4.8333+5.25+8.333+8.375}{7}$$

= 5.1934

Fixed Deposit Mean = $\frac{\Sigma\ 3.00+3.\ 25+3.5+3.5+4.00+4.00}{5}$

= 3.55% and so on

Calculation of Standard Deviation for NABIL

Year	Average Interest (x)	$(X-\overline{X})$	$(X-\overline{X})^2$
2005	3.375	-1.819	3.308
2006	3.3125	-1.8815	3.540
2007	2.875	-1.312	5.377
2008	4.833	-0.361	0.130
2009	2.25	0.056	0.00313
2010	8.333	3.139	9.857
2011	8.375	3.181	10.11
	$\Sigma x = 36.3$		$\Sigma x(X-\overline{X})^2 = 30.349$

Standard Deviation (S.D) = $\sqrt{\frac{1}{n}\Sigma(X-\overline{X})^2}$

$= \sqrt{\frac{30.349}{7}} = 2.082$

Calculation of Correlation Coefficient, Coefficient of Determination and Statistics

Relationship between Interest Rate on Deposit and Deposit Amount of NABIL

Let saving deposit interest rate be x and saving deposit amount be x_1.

Year	Saving Deposit Rate	Interest	Saving
2005		2.5	
2006		2	
2007		2	
2008		2	
2009		2	
2010		3	
2011		3	

Year	x	x_1	$X-\overline{X}$	$X_1-\overline{X_1}$	$(X-\overline{X})(X_1-\overline{X_1})$	$(X-\overline{X})^2$	$(X_1-\overline{X_1})^2$
2005	2.5	7026.4	0.14	-4480	-627	0.0196	2007040
2006	2	8770.8	-0.36	-1737	985.32	0.1296	7491169
2007	2	10187.4	-0.36	-1320	475	0.1296	1739761
2008	2	12160.4	-0.36	653	-235	0.1296	4726409
2009	2	14620.4	-0.36	3113.4	-1120.82	0.1296	9693259
2010	2	13783.6	0.64	2276.6	1457	0.4096	5182907
2011	2	14005.3	0.64	2498	1598	0.4096	6241505
	$\Sigma x=16.5$	$\Sigma x_1=80554$			$\Sigma(X-\overline{X})(X_1-\overline{X_1})=2539$	$\Sigma(X-\overline{X})^2=1.3572$	$\Sigma(X_1-\overline{X_1})^2=50845407$

$$\text{Mean}(\overline{X}) = \frac{\Sigma x}{n} = \frac{16.5}{7} = 2.63$$

$$\text{Mean}(\overline{X_1}) = \frac{\Sigma x_1}{n} = \frac{80554}{7} = 1157$$

Now, fixed deposit interest rate be y on and Fixed deposit amount be y_1

Year	y	y_1	$Y-\overline{Y}$	$Y_1-\overline{Y_1}$	$(Y-\overline{Y})(Y_1-\overline{Y_1})$	$(Y-\overline{Y})^2$	$(Y_1-\overline{Y_1})^2$
2005	3.55	2078.6	-2.13	-6220.4	13249.5	4.54	38693376
2006	2.77	3450.2	-2.91	-4848.4	14110	8.47	23510861
2007	3.05	5435.4	-2.63	-2863.6	7531.3	6.92	8200204
2008	5.4	8464.1	-2.28	165	-46	0.0784	27258.01
2009	5.9	8310.7	0.22	11.7	2.58	0.0484	136.89
2010	9.4	14711.1	3.72	64.12	23853	13.84	41115026
2011	9.65	15641.3	3.97	7342.3	29148	15.76	53909369
	$\Sigma y=39.72$	$\Sigma y_1=58091$			$\Sigma(Y-\overline{Y})(Y_1-\overline{Y_1})=87848.38$	$\Sigma((Y-\overline{Y})^2=49.66$	$\Sigma(Y_1-\overline{Y_1})^2=165456231$

$$\text{Mean}(\overline{Y}) = \frac{\Sigma y}{n} = \frac{39.72}{7} = 0.56$$

$$\text{Mean}(\overline{Y_1}) = \frac{\Sigma y_1}{n} = \frac{58091}{7} = 8299$$

Saving deposit rate and saving deposit amount

Variance of X $(\sigma x)^2 = \frac{X- \overline{X}}{n} = \frac{1.3572}{7} = 0.194$

Variance of X_1 $(\sigma x_1)^2 = \frac{X_1- \overline{X_1}}{n} = \frac{50845407}{7} = 7263629.6$

Standard deviation of X $(\sigma x) = \sqrt{\sigma x^2} = \sqrt{0.94} = 0.440$

Standard deviation of X_1 $(\sigma x_1) = \sqrt{\sigma x_1^2} = \sqrt{7263629.6} = 2695.12$

Covariance of x, x_1(Cov. x, x_1) $= \frac{\Sigma(X- \overline{X}) (X_1- \overline{X_1})}{n} = \frac{2532}{7} = 361.72$

Correlation Coefficient $(Px,x_1) = \frac{(Cov.\ x,x_1)}{\sigma x \times \sigma x_1} = \frac{361.72}{0.44 \times 2695.12} = 0.305$

Coefficient of determination $(rx, x_1)^2 = (0.305)^2 = 0.094$

Fixed deposit rate and fixed deposit amount variance of y $(\sigma y^2) = \frac{(Y- \overline{Y}^2)}{n}$

$= \frac{49.66}{7} = 7.95$

Variance of y_1 $(\sigma y_1)^2 = \frac{(Y- \overline{Y}^2)}{n}$

$= \frac{165456.231}{7} = 23636604.43$

Standard deviation of y $(\sigma y) = \sqrt{\sigma y^2} = \sqrt{7.095} = 2.67$

Standard deviation of y_1 $(\sigma y^1) = \sqrt{\sigma y_1^2} = \sqrt{23636604} = 48549.77$

Covariance y,y_1 (Cov y, y_1) $= \frac{\Sigma (y- \overline{y}) (y_1- \overline{y_1})}{n} = \frac{87848.38}{7} = 12549.77$

Correlation Coefficient $(Py,y_1) = \frac{Cov\ y.y_1}{\sigma y.\sigma y_1} = \frac{12549.77}{267 \times 4861.75} = 01.97$

Coefficient of determination $(ry,y_1)^2 = (0.97)^2 = 0.94$

t-test for significance for correlation coefficient (t) = $\frac{r\times\sqrt{n-2}}{\sqrt{1-r^2}}$

For saving deposit interest rate and amount = $\frac{0.305\times\sqrt{1-2}}{\sqrt{1-0.094}}$ = 0.718

For fixed deposit interest rate and amount = $\frac{0.97\times\sqrt{7-2}}{\sqrt{1-0.94}}$ = 8.86

ANNEX-2

Lending Rate of NABIL on different sectors during last Seven Fiscal Years

(Rs. In Million)

Sectors/Years	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
overdraft							
Export Credit	7.5	10	8.75	8.75	11	12.5	14.5
Import L/C	9.75	9.75	8.75	8.75	11	12.5	14.5
Against FDR	7	7	7	7	10.5	13	
Against HMG Bond	7.75	7.25	7.25	7.25	9	15	13
Against BG/CG	9	9	7.5	7.5	10.5	15	
Against other Guarantee	10	10	8.5	8.5	8.5	14	16.5
Priority sector Loan	11.5	11.5	10.25	10.25	10.25	10.25	
Deprived Loan	7.5	7.5	6.75	7	8	10	12
Term Loan	12	12	10.5	10.5	11.5	14.5	16.5
WC Loan	11	11	9.75	9.75	11	13.5	15.75
Hire Purchase Loan	9.75	9.5	9.25	9.75	9.75	9.75	
Others	10	10	9.25	9.5	11.25	15.5	17
Average Lending Rate(1)	**9.395 833**	**9.541 667**	**8.625**	**8.708 333**	**10.18 75**	**12.95 833**	**14.96 875**
Loan Amount(2)	**11078 .0**	**13021 .3**	**1565 7.1**	**21514 .6**	**2781 6.6**	**32902 .8**	**36187 .1**
Correlation Coefficient(r12)	**0.845**						
Coefficient of Determination(r12)	**0.72**						
t-statistics t-call=3.61	**t-tab= 2.571**						
S.D.=	**2.21**						

Sources: Banking and Financial Statistics, NRB

Calculation of correlation coefficient, coefficient of determination and t-statistics

Now, Average lending rate be x and Average lending amount be x_1

Year	x	x_1	$x-\bar{x}$	$x_1-\bar{x_1}$	$(x-\bar{x})(x_1-\bar{x_1})$	$(x-\bar{x})^2$	$(x_1-\bar{x_1})^2$
2005	9.40	1178.0	-0.81	-10104.6	81847.8	0.6561	102102739
2006	9.55	13021.3	-0.66	-8161.29	5386.451	0.4356	66606654
2007	8.63	15657.1	-1.58	-5525.49	8730.274	2.4964	30531040
2008	8.71	21514.6	-1.5	-5525.49	8730.274	2.25	110230.64
2009	10.19	27816.6	-0.02	6634.01	-132.68	0.0004	44010089

2010	12.96	32902.8	2.75	11720.21	32230.58	7.5625	137363322
2011	14.97	36187.1	4.76	15005.11	71424.32	22.6576	225153326
	Σx = 71.41	Σx_1 = 148278.1			$\Sigma(x-\bar{x})(x_1-\bar{x_1})$ = 125325.6	$\Sigma(x-\bar{x})^2$ 36. 0586	605877401

Mean ($\bar{X}$) = $\frac{\Sigma x}{n}$ = $\frac{71.41}{7}$ = 10.21

Mean ($\bar{X_1}$) = $\frac{\Sigma x_1}{n}$ = $\frac{148278.1}{7}$ = 21182.59

Variance of X $(\sigma X)^2$ = $\frac{36.0586}{7}$ = 5.16

Variance of X_1 $(\sigma X)^2$ = $\frac{605877401}{7}$ = 865353914.43

Standard deviation of X (σX) = $\sqrt{5.16}$ = 2.28

Standard deviation of X_1 (σX_1) = $\sqrt{86553914.43}$ = 9303.44

Covariance of (X, X_1) = $\frac{125325.6}{7}$ = 17903.60

Correlation Coefficient = $\frac{17903.66}{2.28\times9303.44}$ = 0.845

Coefficient of determination $(rX_1X_1)^2$ = $(0.645)^2$ = 0.72

t-statistics = $\frac{0.845\times\sqrt{7.2}}{1.072}$ = 3.61

Note: In this dissertation calculation are made by using both calculator (formula) and excel worksheet. So, for few cases, every calculation is not shown here.