

# **Interest Rate structure of Joint Venture Banks in Nepal and its impact on Deposit and Lending**

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## **RECOMMENDATION**

This is to certify that the thesis

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**Nirmala pandey**

Entitled:

### **INTEREST RATE STRUCTURE OF JOINT VENTURE BANKS IN NEPAL AND IT'S IMPACT ON DEPOSIT AND LENDING**

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

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Date:August 2011

# VIVA-VOCE SHEET

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

By

**Nirmala pandey**

Entitled:

**INTEREST RATE STRUCTURE OF JOINT VENTURE BANKS IN NEPAL  
AND IT'S IMPACT ON DEPOSIT AND LENDING**

**and found the thesis to be the original work of the student and written according  
to the prescribed format of Faculty of Management Shanker dev campus. We  
recommend the thesis to be accepted as partial fulfillment of the  
requirement for Degree of Master of Business Studies (M.B.S.)**

Viva-Voce Committee

**Chairman (Research Committee):** .....

**Member (Thesis Supervisor):** .....

**Member (External Expert):** .....

Date:August 2011

## **DECLARATION**

I hereby declare that this thesis entitled “**Interest Rate Structure of Joint Venture Banks in Nepal and Its Impact on Deposit And Lending**” submitted to the Research Department of Shanker dev campus, Faculty of Management, Tribhuban University, is my original work done in the form of partial fulfillment of the requirement for the Masters of Business Studies (MBS), under the supervision of **ASSO. Prof. Ruchila pandey**, of Shanker Dev Campus, Putalisadak.

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This research study “Interest Rate Structure of Joint Venture Banks in Nepal and It’s Impact on Deposit and Landing” has been carried out in partial fulfillment of the master’s degree of business studies (MBS). This research would not have been completed by my sole effort. Many individuals and institution have contributed in different ways to bring this research in this shape.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Nepal is a poor country. Its economy is mostly based on agriculture. Though dependence on agriculture is decreasing day by day, approximately 80% of the total population is still hanging on agriculture. Thus a major source of income of the people as well as the country is agriculture. But the position of the agriculture of the country is very bad. Due to the lack of sufficient capital, fertilizer, irrigation, higher technology, professionalism in agriculture, supportive government policy and stable government, entire country is losing its revenue from agriculture day by day. People are unable to handle their livelihood from this profession and they are changing their profession toward trade and industry.

The economic development of Nepal is still in its initial stage. For the economic growth and development, government initiated various economic policies such as an industrial policy, foreign investment policy, privatization policy and trade and transit policy

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

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

The incorporation of Nepal Bank Limited (NBL) in 1937 was the turning point of modern financial system of Nepal, Nepal Bank Limited remain the only financial institution in Nepal until Nepal Rastra Bank was established in 1956 under the Nepal Rastra Bank Act 1955. Later a number of financial institutions came into existence. Under the economic liberalization program a number of joint venture have also such established

### 1.2 Brief Introduction about interest rate

Interest is a payment for the use of money. When savers deposit their saving in bank, it pays a certain amount of interest on saving amount because of this money is used by the Bank to lend of other customers. The interest rate is the price charged from the borrower for the use of money. This price is unique because it is a price of credit but unlike other prices in the economy the rate of interest is really a ratio of two quantities: the total required fee a borrower must

pay a lender to obtain the use of credit for a stipulated period divided by the amount of credit actually made available to the borrower (Rose Peter, 1997).

Interest rate is one vital tool for shaping economy. It plays important rate in borrowing and lending. Generally the rate of interest is really a ratio of interest of two qualities the money cost of borrowing divided by the amount of money actually borrowed, usually borrowing money measured in rupee per year per rupee borrowed is the interest rate (Samuelson and Nordhus, 1999). Interest is rent paid for the use of money. In other words people must pay for opportunity to borrow money financial institutions as financial intermediaries collect money from savers in the form of deposit and provide that for business sector in the form of loan.

An appropriate interest rate structure affects the deposit and lending of any financial institutions, which in term affects the economic upliftment of the whole country. The impact of interest rate is both the saving and investment in the economy. Interest rate price signals to borrowers, lenders, savers and investors, higher rate generally brings for the greatest volume of savings and stimulates the lending of fund lower rate of interest on the other hand tends to dampen the flow of savings and reduce lending activity. Higher interest tends to reduce the volume of borrowing and capital investment and lower interest rate stimulate borrowing and investment spending (Rose Peter, 1997). As a financial intermediary commercial banks and finance companies as well as government should taken concern about interest rate so that idle saving can be utilized for investment in productive sectors of the economy, employment, income, as well as whole economy may rose.

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

### 1.2.1 Interest Rate Structure in Nepal

**Table 1.2**

**Structure of Interest Rates (Per annum)**

	Mid-July			
	2007	2008	2009	2010
Nepal Rasta Bank Bank Rate	5.5	6.15	6.25	6.25
Refinance Rates	2-3.5	2-3.5	1.5-3.5	1.5-3.5
Government Securities				
Treasury Bills (91 days)	3.94	3.25	2.77	5.13

National saving Certificate	6.5-13	6.5-8.5	6-8.5	6-7.5
Development Bonds	3-8	3-8	3-6.75	5-8
Interbank Rate	4.71	2.13	3.03	3.61
Commercial Banks				
Deposit Rates				
Saving deposits	1.75-5	2-5	2-5	2-6.50
Time Deposits				
1 month	1.75-3.5	1.5-3.5	1.5-.5	1.5-3.75
3 months	1.5-4	1.5-4	1.5-4	1.5-6.75
6 months	2.5-4.5	1.75-4.5	1.75-4.5	1.75-6.75
1 year	2.25-5	2.25-5	2.25-5	2.5-6
2years and above	2.5-6.05	2.5-6.4	2.5-5.5	2.75-6.75
Lending Rates:				
Industry	8.25-13.5	8-13.5	8-13.5	7-13
Agriculture	10-13.5	9.5-13	9.5-13	9.5-12
Export Bills	4-12	5-11.5	5-11.5	5-11.5
Commercial Loans	8-14	8-14	8-14	8-13.5
Overdrafts	5-14.5	6.5-13.5	6-14.5	6.5-13.5
Cash Reserve Ratio (CRR)				
With NRB	5	5	5	5
Cash in Vault	-	-	-	-

Sources: Macro economics indicators of Nepal, NRB, Research Department, Statistics Division, January 2010.

According to the structure of interest rate in table 1 deposit rates are increasing during the period 2007 to 2010 mid July. This may be due to the increase in the interest rate on government securities i.e. treasury bills. According to table the interest rate of T-bills however has been decreased from 3.94% to 3.25% in period of 2007 to 2008 and again decreased from 3.25% to 2.77% in period of 2008-2009. There is significant increment 2.77% to 5.13% in period 2009-2010. As per principle, interest rate T-bills are the bases of all interest rate may leads to decline in interest of others and vice-versa. The interest rate of national saving certificate has been decreased from 6.5%-13% to 6%-7%. Similarly the interest rate of development bond is increased from 3.80%-8% to 5%-8% over four year periods.

The interbank interest rate was 4.71% on 2007 mid July but it decrease to 2.13% when it came during the mid July of 2008. Again some increased up to 3.6% at end of mid July 2010. It seems that Nepalese commercial banks have excise fluctuation and liquidity. The most of commercial bank classified their deposits into two sections saving deposit and time deposit. Saving deposit the interest rates ranges from 1.75%-5% in the year 2007 but this rate increased to ranges 2%-6.5% when it came to the year of 2010.

In the same way, the interest rate on time deposit also shows the changing trend. In Nepalese economy, time deposits are classified in five categories: 1 month, 3 months, 6 months, 1 year, 2 year and above. In one month time deposits, interest rate, the table shows the decreasing in interest, the maximum interest rate ranges was 1.75 to 3.5% in 2007 where as this table has been increased to 1.5% to 3.75% in 2010. For 3 months time deposit rates, the maximum interest rate was 1.5% to 4% in 2007. Whereas, this rate reached to the range of 1.5 to 6.75% in

2010. Similarly the 6 months time deposit ranges also increased up to 1.75 to 6.75% till 2010. In case of 1 year the constant in 2007, 2008, 2009 and increased up to maximum range of 2.5% to 6% in 2010. At last 2 years and above interest rate has been increased from 2.5% to 6.05% to 2.75% to 6.75%.

For lending the table shows that average interest rate has fell during the 4 years period. But in case of lending there was wide range in maximum and minimum range. The range or spread of maximum rate and minimum rate was low in case of deposit. The lending rate is categorized in five parts: Industry, agriculture, export bills, commercial loans and overdrafts. Among the entire highest rate was for overdrafts. It shows the average of industrial sector lending rate was 10.875%, 10.75%, 10.75% and 10% respectively on past four years. It shows that past four years that interest rate of industry was around 10% on average. Similarly, for agriculture sector the average interest rate was 11.75%, 11.25%, 11.25% and 10.75% respectively on past four years. This shows that agriculture lending rate was cheaper when it reaches to 2010. For export bills that average rate was 8%, 8.25%, 8.25% and 8.25% respectively for four years. For commercial loans the average lending rate was 11%, 11%, 11% and 10.71% respectively and finally for overdraft it was 98.75%, 10%, 10.25% and 10% respectively in past four years.

### **1.3. Brief Introduction of Joint Venture Bank**

Joint Venture Bank (JVB) is financial intermediaries, financial deficit units with money deposited with them by surplus units. One of the pre-requisites for expediting the process of economic development is the existence of a sound and healthy financial system, with high level of operating efficiency. The operating efficiency is tested by their ability to mobilize savings and its deployment for productive purposes. After the onset of economic liberalization process, there has been visible expansion in the financial system of Nepal. In this process, Nepalese economy has witnessed several changes in the financial systems as a result of which several JVBs evolved in the last decade.

Joint Venture Banks were established to invite investment and modern technologies to provide financial services to the target market in the kingdom of Nepal government policy of economic liberalization has opened its doors to private foreign investments in conjunction with Nepalese investors. Therefore to meet the objectives of the JVBs, they are concentrating in their thrust areas viz. Corporate Banking, Retail and Private Banking, Investment Banking, Credit cards and Technology and at the same time they must maintain their asset quality by keeping intact the lending standards.

The role and importance of joint venture banking system is extremely enhanced in the prevailing Nepalese economy due to the indispensable functions played by them as a result of which, they have managed to perform in a significant way by gaining their position as the leading banks.

The management of these JVBs is mainly held by foreign banks due to which they enjoy some of the competitive advantageous factors like electronic banking services, scientific credit evaluation, world wide fund transfer systems, credit cards, tele-banking automatic teller machines and fully computerized

banking networks with highly skilled personnel, advanced management skills and international chain of branches.

Hence they have been able to perform satisfactory through service excellence and customer satisfaction, there by earning a stable and consistent return to their shareholders. The main objective of joint venture bank is to mobilize ideal resources for productive use after collecting them from different sources. Its role in economic development is so immense it brings about greater mobility of resources to meet the emerging necessity of the economy. The essence of joint venture bank is the financial intermediate between the ultimate savers and borrowers. There are altogether four joint venture bank named as:

- a. NABIL Bank Ltd.
- b. Himalayan bank Ltd.
- c. Standard Chartered Bank Ltd.

In Nepal, to encourage joint venture in banking sector three major reforms were carried out in 1980 A.D. The reforms include allowing the foreign at control an interest to operate as joint venture, lifting at control on interest rate and introduction at the auctioning at government securities. The government policy of allowing foreign JVB to operate in Nepal is basically forgot to encourage local traditionally run commercial banks to enhance their banking capacity through competition, efficiency, modernization mechanization, computerization and promote customer services.

Joint venture banks are registered in Nepal under the Company Act 2021 BS and operated under the Commercial Bank Act 2031. They have joint venture between Nepalese investors and their parent banks. They domestic pertain of investment has been shared by financial and non financial institutions as well as private investors.

#### **1.4 Identification of the Problem**

Interest rate is an essential tool in the field of finance and economics. Generally other remain the same increase in interest rate promotes saving while decrease its it encourages investment.. In such situations how could be possible to develop country's economy in international markets. The interest rate plays important role for the banking development. The favorable investment climate makes appropriate interest rate. They are facing the problems on refund of investment like government owned bank more but in another parts joint venture and private bank were making good profit in competition each other. They are generating the new ideas and provide g the various facilities to accuracy the bank customer. The interest is a price of money.

The interest rate is different in depositor and lender. That differences margin in the gain of bank. The interest rate charged and offered of a financial institution and commercial banks was regulated by central bank until before few years, but now these institutions are free to fix their interest rate. Commercial banks can play vital role by adopting effective interest rate policy on deposits ad lending for encourage investment in every sector of economy. But it is true that

commercial banks established with proper motives and interest rate may affect its profits too. An appropriate interest rate can divert investment in proper field. In short interest an deposit must be able to increase the amount of deposit must be able to increase the amount of deposit by encouraging people to save their income. On the other hand the lending rate of interest must be attractive to the borrowers. So that they will be able to enjoy benefits by utilizing borrowed fun. This is possible only when the fund seeking people will be able to<sup>3</sup> earn more than what they pay as interest on borrowing funds. But whether our country is able to attain such situations or not it is a matter of concern for us.

Thus the process of study attempts at answering the following questions.

- i. What are the interest rate structures of commercial Joint Venture Banks in Nepal?
- ii. What are the relationship of interest rate with deposit amount and lending amount of commercial Joint Venture Banks?
- iii. Is the interest rate on deposit of Joint Venture Banks attractive to the depositors?
- iv. Has the lending rate of Joint Venture Banks seen able to attract the borrowers for investments?
- v. Is the interest rate spread of Joint Venture Banks satisfactory?

### **1.5 Objectives of the Study**

The main objective of the study is to know the overall influence of interest rate on deposit and lending of Joint Venture Banks as well as to identify whether the interest rate spread is satisfactory. In the same way this study also aims to identify whether the theories that are taught in university courses are applicable or not in Nepalese financial sector. The specific objectives related to this study are as given below.

- i. To present and analyze the interest rate structure of various commercial Joint Venture Banks at different time period.
- ii. To examine and analyze the influence (i.e. relationship) of interest rate on deposit amount and lending amount of commercial Joint Venture Banks.
- iii. To examine and analyze the position of interest rate and loan and advance ratio of commercial Joint Venture Banks.
- iv. To assess the depositors well as borrowers views on interest spread based on the appropriate outcomes of use and recommendation will be suggested

### **1.6 Significance of the Study**

Interest is simply the price on borrowed fund. Higher interest generally brings lending investment. Lower interest rates on the other hand discourage the saving and encourage the investment. Higher the inflation, higher shall be the interest rate. But in real world the theory may or may not come true in context of a developing country like Nepal because most of the theories of financial markets and institutions are determined and developed by the study conducted by developed countries.

It is the responsibility crucial task of top level management to fix interest rate. Even though people have more souring an even need more money for investments are not familiar with the interest rate structure of banks. In this study major functions of commercial Joint Venture Banks would be analyzed by using various mechanisms. Since this study deal the part of the managerial function, hence it is hoped to some extent this study will help the policy makers to formulate strong policy regarding interest rate charged on deposits and lending in Nepalese context. This study will be also useful to various parties such as researcher, students, teachers, financial institutions, investors, business organization, and general individual to get some useful information about interest rate deposit and lending.

### **1.7 Limitation of the Study**

. This study will be limited by the following factors.

- This study includes only four commercial joint venture banks .
- This study is based on the data of seven years period and hence the conclusion drawn confines only to this period.
- The reliability of this study depends upon the information provided by concerned joint venture banks and published data.
- Most of the data used in study are of secondary type.
- There are many factors that affect the deposit amount and lending amount of commercial joint venture banks. However this study is focused on the interest rate.

### **1.8 Plan of the Study**

This study is divided in to five chapters.

The first chapter presents a brief introduction of the study. It includes background, interest rate of joint venture banks, interest rate structure profile of sample banks, and statement of problem, objective, significance, research hypothesis and limitation of study.

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



Research design, population and sample sources of data and collection procedure, data processing and presentation and tools and method of analysis have been outlined in the third chapter.

Chapter four presents analysis and interpretation of data of related topic based on annual reports of sample banks. In this chapter collected and processed data are presented, analyzed and interpreted with using analytical tools with presenting charts and figures.

Last chapter, summaries the whole study, conclusion and put forwards the recommendation.

## **CHAPTER TWO**

### **REVIEW OF LITERATURE**

#### **2.1 Meaning of Interest**

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

Interest is the amount paid to the creditor in return to a debt borrowed by a debtor for a fixed period of time. As the reward of other factors of production this interest is also a reward paid to the capitalist for the use of capital. The system of borrowing loan and of paying the interest is very old. The economics of different times had hated the system of interest. Even then the poor people were compelled to take loans and pay interest due to various resources. Those days the loans were taken mostly by the businessman and the industrialists and these loans are used for the purpose of production.

The amount of loan is received from the fund of capital. Various economists have defined interest differently. According to Prof. Wick sell, "Interest is the payment made by the borrower of capital by virtue of its productivity as remain for his capitalist's abstinences". According to Prof. Meyers, "Interest is the price paid for the use of loan able funds." According to Prof. Carver, "Interest is the income which goes to the owner of capital." According to Prof. Lord J.M, Keynes, "Interest is the way, there are different, definitional of interest. Even then the same, Conclusion may be drawn from all these definitions and the conclusion is that the interest is the amount of return paid for the use of capital.

#### **2.2 Interest Rate Levels**

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

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

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

- It helps guarantee that current saving will flow into investment to promote economic growth.

- It relates the available supply of credit, generally providing loan able funds to those investment projects with the highest expected returns.
- It brings balance the supply of money with the public's demand for money. It is also an important tool of government policy through its influence government meridians control over the volume of saving and investment.

If the economy is growth too slowly and unemployment is rising. The government can use this tool to lower interest rates in order to stimulate borrowing and investment and accelerate the production and development on the other hand, an economy experiencing rapid inflation has traditionally called for a government policy of higher interest rates to slow both borrowing and spending.

## **2.4 Theories of Interest**

Various interest rate theories have been propounded by various economists, which describe how interest rate is determined in various situations. There are numerous interest rates in financial market such type of differences often carry a variety of interest rates. In this section, we focus upon those basic forces that influence the level of different interest rates.

To uncover these basic rate determination forces, however, we assume in this chapter that there is one fundamental interest rate in the economy known as the pure or real rate of interest, which is the component of all interest rates. The closed approximation to this pure rate in the real world in the market yield on the government bonds minus inflation. The rate at interest and Treasury bond is called risk free rate of interest, which consist of real rate of interest plus premium for inflation. It is a rate of return presenting no risk of financial loss to be investor and representing the opportunity cost of holding idle cash because the investor can always invest in no risk bonds and earn this minimum rate of return. Once pure rate in interest is determined, all other interest rates may be determined from it by examining the expected future inflation and special characteristics of the securities of the securities issued by individual borrowers. For example only the government can borrow at risk free interstate, other borrowers pay higher rates due to the greater risk of loss attached to their securities. Difference in liquidity marketability and maturities are other important factors causing interest rate to differ from the pure or risk free some well known theories interest rates are as follows.

### **2.4.1 The Classical Theory of Interest Rates**

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

### **2.4.2 The equilibrium rate of interest in the classical theory of interest**

According to the classical economist the interest rates in the financial markets were determined by the interplay of the supply specifically; the equilibrium rate of interest is determined at the point where the quantity of savings supplied to the market is exactly equal to the quantity of funds demanded for investment. To support this in figure no 2.3 this occurs at point E where the equilibrium rate of interest is IE and the equilibrium quantity of capital fund traded in the financial market is QE.

### **2.4.3 The Liquidity Preference Theory of Interest Rate**

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

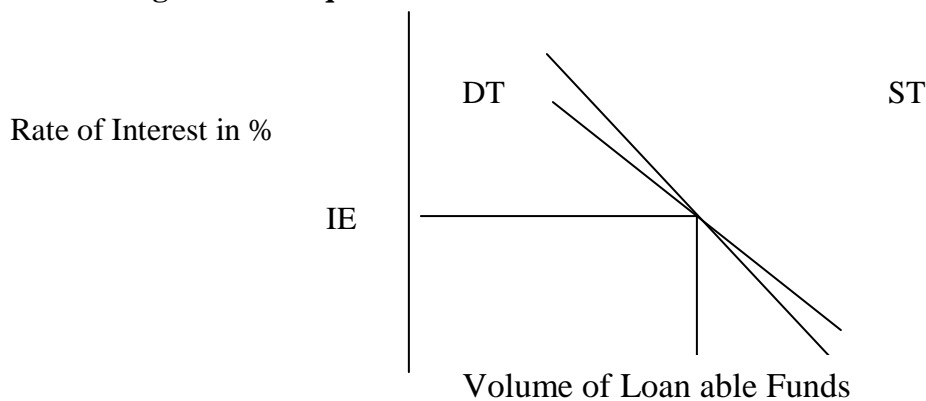
#### 2.4.4 The Loan able Fund Theory of Interest Rate

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

#### 2.4.5 The Equilibrium Rate of Interest in the Loan able Fund Theory

The two forces of supply and demand for loan able funds determine not only the volume of lending and borrowing going on in the economy but also the rate of interest. The interest rate tends toward the equilibrium point at which the supply of loan and able funds. The point of equilibrium is shown in the following figure where it is the equilibrium rate of interest and QE is volume of loan able funds (credit).

**Fig. 2.1 The equilibrium rate of interest in loan able funds theory**



In the given figure, DT stands as a total demand of loanable fund and the ST refers supply of loanable fund, if the interest rate is temporarily above equilibrium, the quantity of loanable funds supplied by domestic savers and foreign lenders, by the banking system and from the disordering of money exceeds the total demand for loanable funds, and the rate of interest will be bid down on the other hand, if the interest rate is temporarily below equilibrium loanable funds demand will exceed the supply. Borrowers will bid up the interest rate until it settles at equilibrium once again.

#### 2.4.6 Rational Expectancy Theory of Interest

The rational expectancy theory assumes that equilibrium interest rate depends upon the changes in investor's expectation regarding future security price and return. Investor's decision towards the borrowing and lending funds come from the availability of new information. When new information appears about investment, saving or the money supply, investors begin immediately to translate

that new information into decision to borrow and lend funds. So rapid is the process of the market digesting new information that security prices and interest rates presumably impound the new data from virtually the moment they appear. In absence of new information, the next period's interest rate. In other words the knowledge of past interest rate will not be a reliable foresaid of future interest rate. In a perfectly efficient market, it is impossible to win excess returns continuously by trading on publicly available information.

## **2.5 Changes in Interest and Its Influence upon Volume of an Asset**

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

The investing funds in financial asset can be viewed from two different perspectives, the borrowing and lending of money or the buying and sell of securities. The equilibrium rate of interest from the lending of funds can be determined by the interaction of the supply of loan able funds and the demand for loan able funds. Demanders of loan able funds (borrowers) supply securities to the financial market place, and suppliers of loan able funds (lenders) demand securities as an investment. Therefore the equilibrium rate of return or yield on security and the equilibrium price of that security are detraind at one and the same instant and are simply different aspects of the same phenomenon, the borrowing and lending of loan able funds.

The inverse relationship between interest rates and security prices can be seen quite clearly when we allow the supply and demand curves to change. For example suppose that in the fact of continuing inflation, consumers and business firms accelerate their borrowing, increasing the demand for loan able curves slides up word and to the right with the supply of loan able funds unchanged. This increasing demand for loan able funds also mean that the supply curve. Both a new loan able equilibrium rice for securities and higher equilibrium interest rate for loan able funds results.

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

## **2.6 Factors Affecting Interest Rates**

In the preceding section, we examined the factors that cause the interest rate or yield on new security to be different from the interest rate yield on another.

There factors included the maturity period of term of a loan and expected inflation. In this section, our focus is upon to learn why not one but, in fact, thousands of different interest rates exist in the economy.

### **a) Marketability**

Marketability is the capability of being sold quickly at low transaction cost. Marketability risk deals with the degree of difficulty in being able to convert a financial claim into cash at its most react transaction price of very close to it. Savers who purchase poorly marketability investments expect, to be compensated

for the lack of marketability. This represents an additional interest spread and is referred to as the marketability or liquidity risk premium.

Marketability is positively related to this size and population of the institution issuing the securities to the number of similar securities outstanding. Not surprisingly, stock and bonds issued in large blocks by the large cooperation's and government units tend to find acceptance more readily in the market with a large number of similar securities available, but sell transactions are more frequent and consistent market price can be established.

#### **b) Default Risk**

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

#### **c) Prepayment Risk**

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

#### **d) Servicing Cost**

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

#### **e) Exchange Rate Risk**

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

in the foreign currency that has risen in value related to the domestic. This potential change in currency values must be reflected in computing the cost of borrowing.

#### **f) Call Privileges**

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

#### **g) Taxability**

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

## **2.7 Deposit**

### **2.7.1 Concept of Deposit**

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



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

### **2.7.2 Types of Deposit**

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

#### **Current Deposit**

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

#### **Saving Deposit**

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

#### **Fixed Deposit**

Under the commercial bank act 20312 (1974) "fixed account means an account of amounts deposited in a bank for certain period of time." The customer opening such an account deposits their money in the account for a fixed period. Usually, only the person or institution who wants to gain more interest opens such a type of account. A high interest rate is paid to this deposit as compared to a saving deposit. The bank and the customer can both benefit from his deposit. The bank invests this money in the productive sector and gains profit and the customer too can be made his financial transaction stronger by getting more interest from this deposit. The principal amount with interest must be returned to the customer after expiry of fixed time. The bank generally gives loans up to 90% of the deposit against the security of the deposit for this bank's charge. Some higher interest than the interest allowed on the deposit.

### **2.7.3 Importance of Deposit**

Deposit arises from saving. An individual's income equals consumption plus saving. He/she deposits the saved part of income in the bank and gets interest

from it. Banks in turn lend this money and earn profit by charging high interest rates. The borrowers from banks, invests this fund in productive sectors yielding more return than the interest on borrowed fund. This investment leads to create new employment opportunity in the economy. Ultimately due to new employment the purchasing power of the economy increase and finally G.D.P and growth of the economy occurs. It means that the economy also lags behind due to lack of resource. The deposit of banks is the accumulate capital which can directly be invested. There is a great need of such deposit in the development countries. Deposit includes the idle money of the public, bank being the inter mediator to accept this sort of money and help to canalize this in productive sectors. So the importance of banks and financial intermediaries is larger in present context.

## **2.8 Lending (Credit)**

### **2.8.1 Concept of Lending (Credit)**

The word credit means trusting. In the credit transactions the lender (or banks) must have confidence in the borrower that she/he will be able to repay the money. In credit transactions, the creditor's turns over to the debtors to repay an equivalent amount usually money in future plus as added sum called interest. In other word the commercial bank earns profit by lending the amount in terms. Loan or credit and in return it gets interest. Banks loans are classified as; a) loans and advance b) overdrafts c) cash credit d) discounting of bills and so on. But beside this, the other forms of credit are Bills Exchange Cheques, Drafts, Promissory Note, Letter of Credit (LC), Travelers Cheque, Treasury Bills (T-Bills), Book Credit etc.

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

### **2.8.2 Factors affecting the Volume of Lending**

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

### **1) Credit (Lending) Rate**

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

### **2) Rate of Return**

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

### **3) Investment Opportunity**

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

### **4) Pace of Financial Development**

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

### **5) Basic Infrastructure**

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

### **6) Political Situation**

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

In addition to aforementioned point, other factors like trade conditions currently conditions are also the factors affecting the volume of credit.

## **2.9 Inflation**

### **2.9.1 Concept of Inflation**

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

During inflation, the cost of living increases rapidly, so inflation severely hurts the people who depend on the income from fixed income securities like

bonds and preferred stock. Similarly as purchasing power of money falls as well as the debtors gain and the creditors loses.

### **2.9.2 Inflation and Interest Rates**

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

#### **The National Real Interest Rates**

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

#### **The Fisher Effect**

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

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

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

Nominal interest rate = expected real rate + inflation premium rate

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

### **2.10 Interest Rate Spread**

Interest spread is the difference between weighted average rate of interest on lending on interest earning assets and weighted average rate of interest on interest paying liabilities. According to Nepal Rastra bank the interest spread should not exceed 8% currently. It can be calculated as follows.

Interest rate spread = interest income / earning assets - interest expenses / interest paying liabilities

## 2.11 Review of Articles

Some important studies and their findings are presented

**Shree Krishna Shrestha** (1979) upon the title of “*Interest Rate and its impact upon Resource Mobilization and Utilization*” is also seems to be relevant to review here. Since his study is too old, interest rate at that time was purely the central bank’s phenomenon. In this study, it has concluded that the frequent change in interest rates was disliked by customers except changing the interest rates as directed by NRB. Shrestha suggested the commercial banks to quote stable rates as far as possible. He also recommended that the method of calculating interest should be used in such a way that the previous customers and depositors who are already involved in banking transaction should not be affected adversely. He also suggested charging high interest rate on loan to luxurious goods as in unproductive sectors and a lower rate on productive and small scale industries.

**Mr. Jhabindra pokharel**, (2004) “*Determinants of interest Rate in Nepalese financial Markets*” In this study he give some ideas about the interest rate in Nepalese markets. Though, this thesis tried to identify the factors that shape the interest rate in Nepalese markets, it also tried to explore the relationship between the interest rate deposits, credit rates and inflation. Among different objectives that match to study are:

- To show the relationship between the liquidity position and interest rate on deposit and lending.
- To identify the effect of inflation on interest rate charged and offered by various Nepalese financial institution.
- To identify the different methods used by Nepalese financial institution to calculate interest on lending.

During the study, Mr. Pokharel found similar result as discovered by the Mrs. Bhatta.

According to Mr. pokharel the major findings of the study are:

The correlation coefficient between interest rate on deposit and amount of deposit collected of all sample organizations were highly negative. It means that, deposit amount of all sample banks are found to increase even if the interest rate of deposit, the attracting factors for deposit, is decreasing. This is against the theory.

According to theory, there must be positive relationship. Similarly in case of lending rate and lending amount, Mr. pokharel found the result as suggested by the theory. It means, the correlation coefficient between amount loaned and interest rate on lending of 10 sample banks is found to be highly negative. In other words, negative coefficient of other organizations means that more amounts is demanded at lower interest, which means that when demand increases, price (interest rate on lending) also increases.

Similarly considering about the relationship between interest rate on deposit and on lending for all sample banks, disseminator found it to be highly positive correlated. In this own words, it is "Variation in one rate also brings variation in another rate in same direction." Therefore it is concluded both interest rate are determining factor of each other.

**Shrestha, (2008)**, in her study "*Analysis of the interest rate Structure of the Joint Venture Banks of Nepal*", her studies mainly secondary data. The research finding of this thesis summarized as follows:

- All JVBs has used high percentage of total debt in raising the assets. The higher ratio constitutes that the outsiders claim in total assets of the banks is higher than owners claim.

- The NI approach implies that proportion of higher leverage consequently increase the value of the firm. This approach is well acquainted with this study as the value of the banks has increased in accordance to the increasing portion of leverage. The  $K_0$  of five banks is positive even though the rate of return is in decreasing trend except Nabil Bank.

- The private sector banks have been successful in increasing their deposit and credit portfolio remarkably over the study period. The figures also show that most of these banks have been cautious about loans and advances. The operating profits of all the private sector commercial banks have gone up, so has the provision for loan loss. In short, the banking sector in Nepal is somehow doing well even though it has to face a number of hurdles during the past few years.

**Madhu Ram Neupane,(2008)**, carried out a study entitled "*Interest Rate Structure and Its Influence on Deposit and Lending of Joint Venture Banks in Nepal*", He has shown the influence of interest rate on deposit and lending in Nepalese Joint Venture Banks. The conclusion drawn by Mr.Neupane is:

- The interest rate of all sample banks are found to be in decreasing trends

- Analysis of sample banks shows that interest rates on lending are far higher than deposit rates.

- Analysis of samples banks concludes that interest rate on deposit is to be found so low which does not attract the depositor.

- Lending interest rate of sample banks have decreased every year which provide better opportunities for the borrower's investor.

- Sample Banks under study show weak on mobilization of collected deposit

## **2.12 Review of Previous Thesis**

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

**Narendra Bahadur Rajbhandari (1978)** was conducted in his thesis on "*The Interest Rate Structure of Commercial Banks in Nepal*" in. The objective of his study was to show the relation of interest rate with saving and fixed deposits with

loan and advances and with interest earning (i.e. interest received on loan minus interest paid on deposit).

His analysis concludes that the time deposits are previously correlated with the interest rates. There is significant correlation between the saving deposits and the rate of interest. Fixed, deposit is more sensitive to the interest rate revision done by NRB. The correlation between the growth of fixed deposits and the interest rate particularly from 1974 to 1977 is most significant. The net interest earning is depended upon interest coverage. The total interest received and the total interest paid significantly correlated in the case of both the banks i.e. Nepal Bank Limited and Rastra Banizya Bank. He is in view that NRB can well monitor the credit flow and profit of the commercial banks in Nepal by manipulating the demand for the supply of money.

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

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

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

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

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

- I. Rates of commercial banks have been fluctuating deposits and lending rates were increases immediately after liberalization of the interest rate on August 31, 1989 but however, started to decline which have helped in increasing the credit flow.
- II. Interest rate structure has direct influence on profitability of commercial banks. Decreasing lending rate helps to increase the profitability through increasing the credit.
- III. Deposits are more interest rate conscious and positively co-related.
- IV. Loans and advances of commercial banks have been found to be continuously increasing with the decline in interest rates.
- V. Effective interest rate structure helps in proper utilization of resources as measures by loan to deposit ratio.
- VI. Most of the banks are having similar interest rate structure which lessens the importance of liberalization of interest rate.

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

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

**Shanti Bhatta** in (2004) in the topic, *"Interest Rate and its Effect on Deposit and Lending"*. In this thesis the disseminator tries to portrait the relation of interest rate with deposit and lending amount. Her findings made by Chhetri are seems to be different. According to Mr. Chhetri's finding, all the relation matches the theory. But other matters are same as Mr. Chhetri's. The conclusions drawn by Mrs. Bhatta are as follows.



- I. Deposit rates of all sample banks under study are in decreasing trend, meaning that every year deposit rates of all sample banks under study have decreased.
- II. Lending rates of all sample banks under study are also in decreasing trend, means that every year lending rates of sample banks under study have decreased.
- III. Analysis shows that interest rate on lending are far higher than deposit rates of sample banks. The correlation coefficient between these two variables, (deposit rate and lending rates) of sample banks comes highly positive.
- IV. The simple correlation coefficient between deposit rate and deposit amount of sample banks are highly negative. But out of them, correlation coefficient analysis of one sample banks is found to be negative.
- V. The correlation analysis between lending rate and lending amount of all sample banks under study comes highly negative. This relation between two variable of sample banks matches with the theory which says with the increase in lending rate, lending amount decreases and vice versa.

**Shanshi Raj Neupane (2006)**, on the topic "*Interest Rate and Its Relation with Deposit, Lending and Inflation in Nepal*", His main objectives at the thesis were as follows:

- i. To explore the relation of interest rate with deposit amount (existence of substitutes effect) in Nepalese market.
- ii. To identity the sensitively of interest rate to the investment (borrowing).
- iii. To find out the relationship of interest rate with inflation in Nepalese markets.

According to the researcher the interest rate on both deposit and lending of all sample banks are found to be in decreasing trend. Theoretically there is positive relationship between saving amount and saving interest rate but here negative relationship has found. It states that there is no substitution effect in Nepalese financial market. Analysis of fixed deposit amount and fixed interest rate shows negative relationship except RBB and NBL. Theoretically there is negative relationship between lending interest rate and lending amount. In this study for the 5 sample banks, it is found that all sample banks except NBL have negative correlation between these two variables. The relationship between interest rate an lending and inflation rate is found to be moderately positive. He

also concluded that the spread between deposit interest rate and lending interest rate is in decreasing trend.

### **2.13 Research Gap**

We have had a plenty of research work done on the topic “Interest Rate structure of Joint Venture Banks in Nepal and its impact on Deposit and Lending(with references to NABIL,HBL and SCBL)”, where these banks were crucial as it determine its strength and weakness on the aspect of interest policies with NRB directives. Here this study focused on analyzing the secondary data relating to interest rate structure of Joint venture banks. However the previous study on their selection of the samples, .i.e. selection of banks-they have done random sampling without any base to this selection.

Hence in this study overall joint venture banks are taken in a definable way which makes sense. The selection of the banks here is made on the basis of joint venture banks. Beside this study on the interest rate structure on NABIL, SCBL and HBL has covered the latest data which cover the information from 2004 to 2010 which makes it the last version on this study with these banks.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Design**

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

#### **3.2 Population and Sample**

Presently thirty one commercial banks (including government owned, public and joint venture) are under operations in Nepal. Due to the time and resource constraints, it is not possible to study all of them. The population for the study comprises 31 commercial banks out of them all six joint venture banks are taken as sample to draw the conclusion about population since population of joint venture banks are not large.

#### **3.3 Sources of data and collection Procedure**

The research is based secondary as well as primary data. Secondary data are collected mainly from sources like annual report, published bulletins, newspaper, journals internet and other sources. Besides this in some cases primary data are also used. They are collected through questionnaire.

#### **3.4 Data Processing and Presentation**

The information obtained from different sources will be in has been process and convert it into required form. For presentation different figures and tables are used. Similarly graphical presentation is also made. For the reference the photo copies of raw data are attached in the last portion of thesis. So far as the computation is concerned, it has been done with the help of scientific calculator and computer software program.

#### **3.5 Tools for Data Analysis and Presentation**

The analysis of data is done according to pattern of data available and felt necessity has used. Statistical tools and some financial tools are used to meet the objectives of the study.

##### **3.5.1 Financial Tools**

Financial tools are used to examine the strength and weakness of ? Financial tools like interest rate spread and rations have been used. Ratio is the mathematically relationship between two accounting figures. Ratio analysis has been used to compare a firm's financial performance and status to that of other firm's or to it overtime. The qualitative judgment regarding financial performance

of firm can be done with the help of ratio analysis. Therefore only those ratios have been covered in this study as required by the study.

**Loan and Advance of Total Deposit Ratio:**

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

Loan and advance to total deposit ratio = Loan and advance/ Total deposits

**Interest Rate Spread**

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

Interest rate spread = interest rate on lending - interest rate on deposit

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

**3.5.2 Statistical Tools**

**Arithmetic Mean ( $\bar{X}$ )**

Arithmetic mean is a given set of observation in their sum divided by the number of observation. In such case all items are equally important. It depicts the characteristic of the whole group. It is an envoy of the entire mass homogeneous data. Generally the average value lies somewhere in between the extremes i.e. the largest and the smallest items. It is calculated as follows.

$$\text{Arithmetic Mean } (\bar{X}) = \frac{x_1 + x_2 + x_3 + \dots + x_n}{N}$$

Or

$$\bar{X} = \frac{\sum X}{N}$$

$\sum X$  = Sum of the sizes of items

N = Number of items

**Standard Deviation ( $\sigma$ )**

Karl Pearson first introduced the concept of standard deviation in 1983. Standard deviation is the positive square root of the arithmetic average of the square of all deviation measured from the arithmetic overage of the series. The

standard deviation measures the absolute dispersion of a distribution. The greater the amount of dispersion the greater will be the magnitude of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series. Standard deviation is denoted by a Greek letter 'σ' (sigma) and is calculated as follows.

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

Where

n= Number of items in the series

$\bar{X}$ = Mean

X= Variable

### **Coefficient of Correlation (r)**

The correlation analysis is the technique used to measure the closeness of the relationship between the variables. It helps in determining the degree of relationship between two or more variables. It describes not only the magnitude of correlation but also its direction. The coefficient of correlation is a number which indicates to what extent two variables are related with each other and to what extent variations in one leads to the variation in the other. Correlation may be positive or negative which lies between  $\pm 1$ . Simple correlation between interest rate on deposit and deposit amount interest rate on lending and credit or lending amount and is computed in this thesis. The correlation between interest rate on deposit and deposit amount is positive. Interest rate on lending and leading amount is negative when inflation increases, interest rate also increases in same direction and vice versa. For our study following reference is used.

- Correlation may be positive or negative and it always lies between -1 to +1.
- Where  $r = +1$ , there is perfect positive correlation.
- Where  $r = -1$ , there is perfect negative correlation.
- When  $r = 0$ , there is no correlation
- Where  $r$  lies between 0.7 to 0.999 (or -0.7 to -0.999) there is high degree of positive (or negative) correlation.
- When ' $r$ ' lies between 0.5 to 0.699, there is a moderate degree of correlation.
- When  $r$  is less than 0.5, there is low degree of correlation.

The correlation coefficient can be calculated as:

Correlation of coefficient ' $r$ '

$$\text{Alternatively } r = \frac{\text{cov}(x_1, x_2)}{\sqrt{\text{var}x_1 \text{var}x_2}} = \frac{n \sum x_1 x_2 - (\sum x_1)(\sum x_2)}{\sqrt{n \sum x_1^2 - (\sum x_1)^2} \sqrt{n \sum x_2^2 - (\sum x_2)^2}}$$

Where,

$$\text{Covariance } (x_1, x_2) = 1/n \sum (x_1 - \bar{x}_1)(x_2 - \bar{x}_2)$$

$x_1$  and  $x_2$  = two variables, correlation between them are calculated.  
 $n$  = total number of observations

### **Coefficient of determination ( $R^2$ )**

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

$$\text{Coefficient of determination } (r^2_{12}) = (r_{12})^2$$

### **T-test for significance of correlation coefficient**

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

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

Where,

$(n-2)$  = degree of freedom

$n$  = sample

$t$  = t-distribution

The  $(1-\alpha)$  % confidence limits for estimating population correlation coefficient ( $\rho$ ) are given by

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

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

### **Hypothesis test**

It is as assumption that is made about the population parameter and then it's validity is tested.

### **First Hypothesis**

Null hypothesis,  $H_0: \rho=0$  i.e. population correlation coefficient is zero. In other words the variables (deposit interest rate and deposit amounts) are uncorrelated in Nepalese financial market.

Alternative hypothesis:  $H_1: \rho \neq 0$  i.e. population correlation coefficient is not equal to zero. In other words, the variables (deposit interest rate and deposit amount) are correlated.

### **Second Hypothesis**

Null hypothesis  $H_0: \rho=0$  i.e. population correlation coefficient is zero. In other words the variables (credit interest and credit or loan amounts) are not correlated in Nepalese commercial Joint Venture Banks.

Alternative hypothesis  $H_1: \rho \neq 0$  i.e. population correlation coefficient is not equal to zero. In the words, credit interest rate and credit or loan amounts are correlated.

### **Third Hypothesis**

Null hypothesis  $H_0: \rho=0$  i.e. population correlation coefficient is zero. In other words the variable (there does not exist any correlation between interest rate on deposit and interest rate on lending).

Alternative hypothesis  $H_1: \rho \neq 0$  i.e. population correlation coefficient is not equal to zero. In the words, there exist correlation between interest rate on deposit and interest rate on lending.

## CHAPTER FOUR

### PRESENTATION AND ANALYSIS OF DATA

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

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

#### 4.1 Analysis of Deposit and Interest Rate

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

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

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

Table 4.1  
Interest Rate Structure on Deposit of NABIL in (%)

<b>Deposit</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Saving</b>	4.75	3	2.27	2.5	3	2	2
<b>Fixed</b>							
7days	-	-	-	-	-	-	-
14 days	2.75	2	2	2.75	2.5	2.5	1.75
1 month	3.5	2.75	2.75	2.25	3	3	2



2 months	-	-	-	-	-	-	-
3 months	4.5	3.25	3.25	2.75	3.25	3.25	2.75
6 months	5	3.75	3.75	3	3.5	3.5	3
1 year	6	4.5	4.25	3.5	4	4	3.5
2 yrs / above	6	-	4.75	4	4	4.25	4.25
Whole mean	4.64	3.2	3.35	2.82	3.32	3.21	2.75
Fixed deposit mean	4.62	3.25	3.45	2.87	3.37	3.41	2.88
Std. Deviation from whole mean	0.6251%						

Source: Banking and Financial Statistics: 43-49, NRB

Table 4.1, Shows the deposit interest rate of NABIL on different time period. For this study 2004 is taken as initial year and 2010 as a final year. Data shows the decreasing tendency of interest rate. The interest rate on savings deposit in the beginning year was 4.75% and decreased to 2% in 2010. The bank quotes the interest rate of fixed deposit in different short term period like 2 months, 3 months, 6 months, 1 year and above 2 years for the graph purpose in this study the average as 2 months to 1 year is taken to make the figure clearer. For other period also the fixed deposit rate was in decreasing trend. Similarly if average of fixed deposit of different period is taken, then the result is almost similar with "Whole average". It means the average interest rate for fixed deposit only was 4.62%, 3.25%, 3.45%, 2.87%, 3.31%, 3.41% and 2.88% respectively for the year 2004, 2005, 2006, 2007, 2008, 2009 and 2010. The average figures also show the decreasing tendency in interest rate except in the year 2006 and 2008. At that period the interest rate is slightly higher than in the previous year, but finally fell to the 2.75 in the year 2010. The deviation is measured by standard deviation which is 0.6251% of each interest rate.

### **Correlation coefficient, coefficient of determination and t-statistic**

#### **Coefficient of Correlation**

The Coefficient of correlation is an important measure to describe how well one variable is explained by another. It measures the degree of relationship between the two casually related variables. Karl Pearson's coefficient of correlation between two variables X and Y is usually denoted by 'r' which is the numerical measure of linear association between the variables.

Where,

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \sqrt{n \sum y^2 - (\sum y)^2}}$$

n = No. of observation of X and Y.

$\sum x$  = Sum of the observations in series X.

$\sum y$  = Sum of the observations in Series Y.

$\sum x^2$  = Sum of square observations in series X.

$\sum y^2$  = Sum of square observations in series Y.

$\sum xy$  = Sum of product of the observations in series X and Y.

### **The Coefficient of Variation**

For comparing the variability of two distributions, we compute the coefficient of variation. A distribution with smaller C.V. is said to be more homogenous or uniform or less variable than other and the series with greater C.V. is said to be more heterogeneous or more variable than others. The coefficient of variation is a relative measure which is useful in comparing the amount of variation in data group with different means :

Mathematically,

$$C.V. = \frac{S.D.}{\bar{X}} \times 100$$

$$S.D. = \sqrt{\frac{1}{n} \sum (X - \bar{X})^2}$$

Where,

S.D. = Standard Deviation

$\bar{X}$  = Mean

C.V. = Coefficient of variation

### **Coefficient of Determination**

The coefficient of determination is the primary way we can measure the extent, or strength of the association that exists between two variables X and Y, It is worked out by squaring the coefficient of correlation.

Where,

$$R = r^2$$

r = Coefficient of correlation

R = Coefficient of determination

In the above statistical tools are used to find out the relationship between variables. How much supported in depended variable to depended variable.

**Table 4.2**  
**Relationship between Interest rate and deposit amount of NABIL**

Year(1)	Saving Deposit Interest Rate (2)(%)	Saving Deposit Amount (3)(million)	Fixed Deposit Interest Rate (4)(%)	Fixed Deposit Amount (million) (5)		
2004	4.75	4917.1	4.62	3719.2		
2005	3	4889.0	3.25	2446.8		
2006	2.75	5237.4	3.45	2552.6		
2007	2.5	5994.1	2.87	2310.6		
2008	3	7026.4	3.37	2078.6		
2009	2	8770.8	3.41	3450.2		
2010	2	10187.4	2.875	5435.2		
<b>Correlation</b>	$r_{23} = 0.6856$		$r_{45} = 0.0122$			
<b>Coeff. Of Det.</b>	$r^2_{23} = 0.4700$		$r^2_{45} = 0.00015$			
<b>t-statistic</b>	t- cal = 2.105	t-tab = 2.571	Insignificant	t- cal = 0.027	t-tab = 2.571	Insignificant

Source: Banking and Financial Statistics: 43-49, NRB

**Figure 4.1**  
**Deposit Amount of NABIL during different FY**

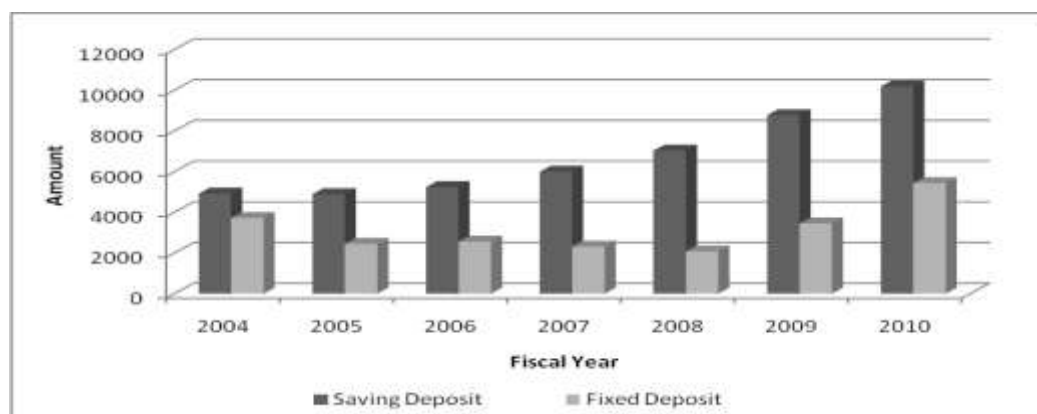
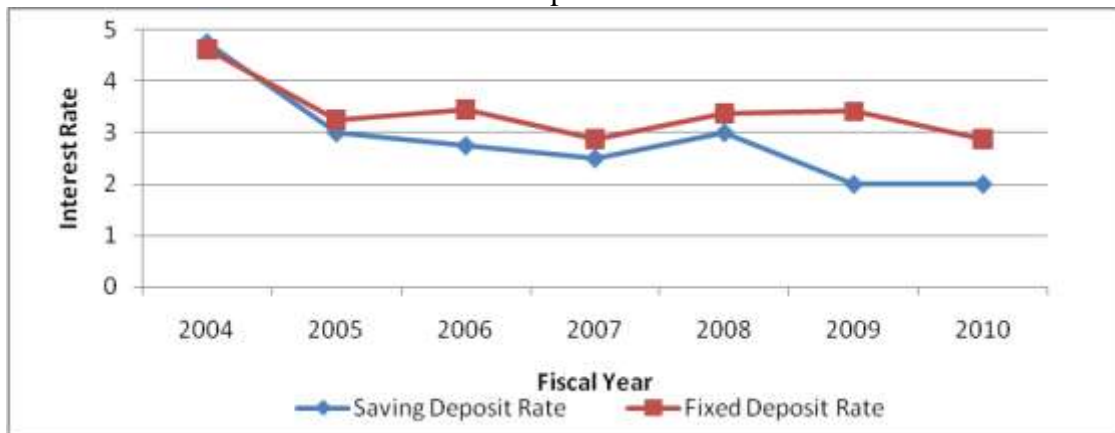


Figure 4.2

### Interest Rate of NABIL on Saving and Fixed Deposit



The table 4.2 shows the total amount of fixed deposit and saving deposit and the interest rates offered on such deposits by NABIL on seven years starting from FY 2004 to FY 2010. The table portrays that both the interest rate has decreased by greater magnitude. Saving deposit amount has been in increasing order. It means that they move in opposite direction i.e. decrease in interest rate increases the amount of deposit and vice versa. This relationship can also be shown in figure 4.1 and 4.2.

According to table no 4.2, the interest rate on saving deposit has been decreased from 4.75 to 2 during 7 FYs. The declining tendency is small. In the same period the deposit amount was Rs. 4917.1 million but this amount increases to Rs. 10187.4 million.

Similarly for fixed deposit the table 4.2 shows that the total amount of fixed and interest rate on fixed deposit offered by Nabil on seven consequent FYs standard from 2004 to FY 2010. The table reveals that average fixed interest rate has been decreased from FY 2004 to 2005 and increased in FY 2006 and again decreased in FY 2007 and increased to FY 2009 and again it decrease in FY 2010. The table shows that in the FY 2004, there is no effect on fixed deposit amount by the declination of interest rate but after the FY 2004 decrease in interest rate also decrease of fixed deposit amount and vice versa. In this regards, the substitution effect holds true in the case of fixed deposit. To verify the above trend, it is necessary to calculate the correlation and t-statistics. If correlation coefficient is calculated for saving deposit and amount, then it is  $r_{23} = -0.6856$ . the high negative correlation coefficient indicates that they have inverse relationship among each other. Decrease in interest rate is followed by increase in saving deposit amount and vice versa. The coefficient is determination between these two variables  $r_{23}^2 =$

0.4700 which means that total variation in dependent variable ( saving deposit amount ) has been explained by independent variable interest rate to the extent 47% and remaining is the effect of other factors. The t-value for testing the significance of the correlation coefficient between variables is 2.105 ( $t_{\text{cal}} = 2.105$ ). Since the tabulated t-value at 5 level of significance is 2.571. As a result null hypothesis is accepted i.e.  $t_{\text{tab}} = 2.571$  is more than calculated value of correlation coefficient is insignificant. As a result null hypothesis is accepted i.e. there is insignificant relation between two variables or the variables are not correlated.

In the same manner, the correlation coefficient between interest rate on fixed deposit and variables are moderately correlated. When interest rate on fixed deposit decreases (increases) the deposit amount also decreases (increases). This is exactly the matter what the theory (substitution effects) says. The coefficient of determination between these two variables is 0.47 which means total variation in dependent variables (deposit units) is explained by the independent variable (deposit rate) and remaining is due to the effect of other factors. Similarly test of significance of correlation coefficient between deposit rate and deposit amount gives the value of  $t = 0.0272$ . Since the tabulated t-value at 5 level of significance for 5 degree of freedom i.e.  $t_{\text{tab}} = 2.571$  is greater than calculated value the correlation coefficient is insignificant. Here so  $H_0$  is accepted i.e. there is insignificant relation between two variables or the variables are not correlated.

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

The general interest rate structure for HBL for saving deposit and fixed deposit during past seven fiscal year is as follows.

**Table 4.3**  
**Interest Rate Structure on deposits of HBL(%)**

<b>Deposit</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Saving</b>	4.25	4	3.75	3.75	2.75	2	2
<b>Fixed</b>							
7days	-	-	-	-	-	-	-
14 days	2.5	2.3	2.3	2.3	1.75	1.75	1.75
1 month	3.5	3.3	3.3	3.3	2	2	2
2 months	-	-	-	-	-	-	-
3 months	4.25	4	3.75	3.75	2.5	2.5	2.5
6 months	4.5	4.25	4	4	3	3	3
1 year	5.75	5.5	5.25	5.25	3.75	3.75	3.75
2 yrs / above	6.25	6	5.75	5.75	3.75	3.75	3.75
Whole mean	4.43	4.19	4.01	4.01	2.79	2.68	2.68
Fixed deposit mean	4.46	4.23	4.04	4.06	2.79	2.79	2.79
Std. Deviation	0.7581%						

Source: Banking and Financial Statistics: 43-49, NRB

From table 4.3 it is clear that the interest rate on deposit of HBL is also in decreasing trend. But during last fiscal year the declining rate shows the unique features. During the first period out the seven FYs, the declining rate of average interest rate is fast, around one percentage point every year. The whole average interest rate is 4.43 in 2004 but it was 4.19, 4.01, 4.01, 2.79, 2.68 and 2.68 in 2005, 2006, 2007, 2008, 2009 and 2010 respectively. It means that decline speed of deposit interest rate of HBL slowed down after FY 2003 because by only decimal each year up to 2009 but it remain same in FY 2010, i.e. 2.68. The deviation is measured by standard deviation which is 0.7851% of each year interest rate.

#### **Correlation coefficient, coefficient of determination and t- statistics of HBL**

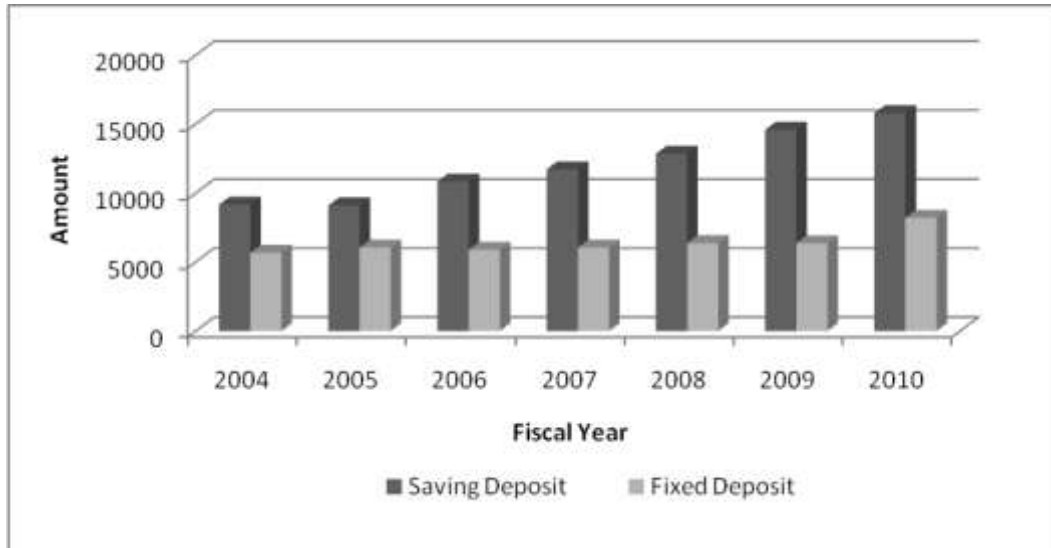
**Table 4.4**  
**Relationship between Interest Rate and Deposit Amount of HBL**

<b>Year(1)</b>	<b>Saving Deposit Interest Rate (2)(%)</b>	<b>Saving Deposit Amount (3)(million)</b>	<b>Fixed Deposit Interest Rate (4)(%)</b>	<b>Fixed Deposit Amount (5)(million)</b>		
<b>2004</b>	4.25	9164.1	4.46	5668.1		
<b>2005</b>	4	9102.8	4.23	6044.9		
<b>2006</b>	3.75	10840.8	4.06	5880.7		
<b>2007</b>	3.75	11719.7	4.06	6043.7		
<b>2008</b>	2.75	12852.4	2.79	6364.3		
<b>2009</b>	2	14582.8	2.79	6350.2		
<b>2010</b>	2	15784.7	2.79	8201.1		
<b>Correlation</b>	$r_{23} = -0.9628$		$r_{45} = -0.6796$			
<b>Coeff. of Det.</b>	$r^2_{23} = 0.9269$		$r^2_{45} = 0.4619$			
<b>t-statistic</b>	t- cal =7.964	t-tab = 2.571	Insignificant	t- cal = 2.071	t-tab = 2.571	Insignificant

Source: Banking and Financial Statistics: 43-49, NRB

The table 4.4 shows the amount of saving deposit and its interest rate as well as amount of deposit and its interest rate for seven FYs. The table indicates that, in one hand deposit rates are declining where as in other hand deposit amount is increasing in every fiscal year covered by the study. This situation can be revealed in figure 4.3 in following ways.

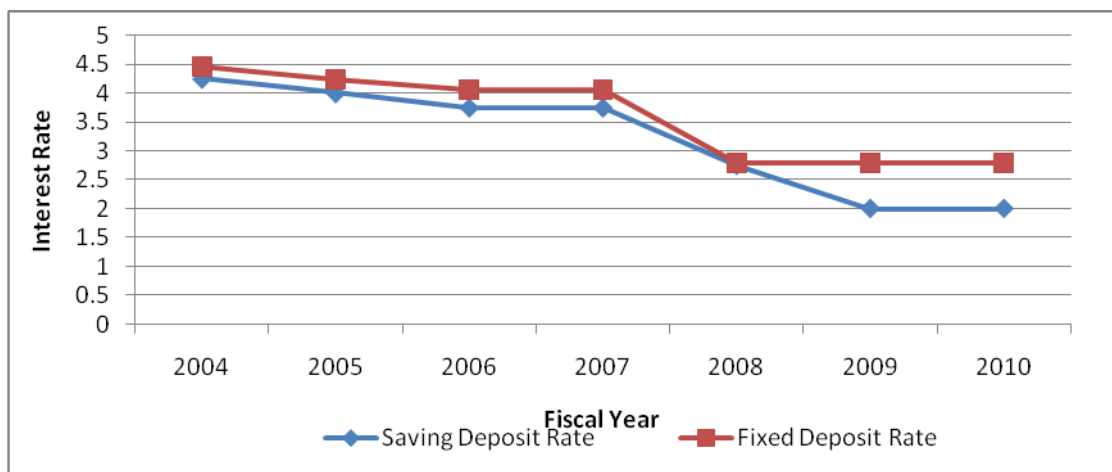
**Figure 4.3**  
**Deposit amount of HBL during different FYs**



The figure 4.3 shows saving deposit amount is continuously rising each year but fixed amount is seems to grow each year with some fluctuation. It means that there is rise and fall for fixed deposit amount. Similarly the interest's rate of fixed deposit and saving deposit can also is shown on figure 4.4.

**Figure 4.4**

**Interest rates of HBL on saving and Fix Deposit**



To quantify the exact relationship between interest rate and deposit amount, it is necessary to calculate the correlation coefficient. The correlation coefficient of saving deposit amount and its interest rate  $r_{23}$  is 0.9628. It means that those two variables have very high negative relationship. Though the two variables don't have direct relationship but correlation coefficient tells that increase in one variable result the decrease in one variable result the decrease in other variables. The case is similar to fixed deposit also. The correlation coefficient for fixed



deposit rate and amount  $r_{45}$  is -0.67963 which is also very high negative correlation. Therefore for both saving and fixed deposit, the case against the substitution effect. The coefficient of determination of correlation of saving deposit  $r^2_{23}$  is 0.9269 which indicates that the relation between deposit and interest rate is tied up to level of 92.69 percent and remaining other percentage by other factors. In same manner for fixed deposit the value of coefficient of determination  $r^2_{45}$  is 0.4619.

The value of t-statistics for saving deposit and saving interest is found to be 7.964 (t-cal = 7.964). The tabulated value for this condition 5% level of significance with 5 degree of freedom is 2.571. It means that in this case t-calculation is greater than t-tabulated. So alternative hypothesis is accepted, which means that there is highly significant correlation between saving deposit and interest rate. Similarly for fixed deposit, the calculated value for t is 2.072 (t-cal = 2.072). This value is also smaller than t-tabulated. So in this case also the magnitude of correlation coefficient is insignificant.

#### **4.1.4 Standard Chartered Bank Limited (SCBL)**

As similar to previous part, it is better to present the general interest rate structure before entering to the main analysis. The interest rate structure for SCBL on saving and fixed deposits for part seven Years are as presented on table 4.7.

Table 4.5

## Interest Rate Structure on Deposit of SCBL (%)

Deposits	2004	2005	2006	2007	2008	2009	2010
Saving	3	2.5	2.5	2	1.75	2	2
<b>Fixed</b>							
7 days	-	-	-	-	-	-	-
14 days	2.5	2.5	2	1	1	1	1
1 month	3	3	2.5	2	1.5	1.5	1.5
2month	-	-	-	2	1.5	1.5	1.5
3 month	3.5	3	2.5	1.5	1.5	1.5	1.5
6 month	4.5	3.5	3	2.5	1.75	1.75	1.75
1 year	5.5	4.5	3.5	2.25	2.25	2.25	2.25
2 yrs/above	5.25	4.25	4.25	2.5	2.5	2.5	2.5
Whole mean	3.89	2.75	2.89	1.97	1.72	1.75	1.75
Fixed deposit mean	4.04	2.79	2.96	1.96	1.71	1.71	1.71
Std. Deviation	0.8240%						

Source: Banking and Financial Statistics 37-49. NRB

The above table shows that the average interest rate on all deposits of SCBL within seven years time period is in decreasing trend. The rate was 3.89 in the FY 2004 and 1.75 in 12010. The average interest rates is slowly decreasing from FY 2004 to 2008 but, little bit increase in 2009 by decimals and remain same in FY 2010. The rate decreased successively to 3.89, 2.75, 2.89, 1.947 and 1.72 in the FYs 2004, 2005, 2006, 2007 and 2008 respectively. The standard deviation of 0.8240 shows that the scattered ness among the average interest rate on all deposits from the mean of all average rates is 0.824% within these seven years time period.

**Correlation coefficient, coefficient of determination and t-statistics of SCBL**

Table 4.6

**Relationship between Interest rates and deposit Amount of SCBL**

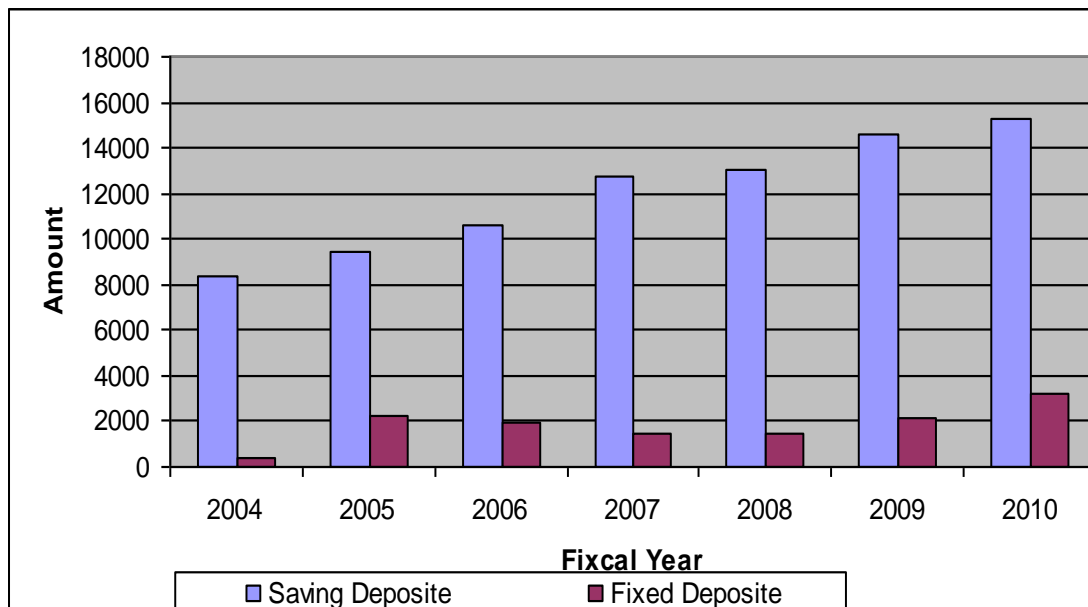
Year (1)	Saving Deposit Interest Rate (2)(%)	Saving Deposit Amount (3)(million)	Fixed Deposit Interest Rate (4)(%)	Fixed Deposit Amount (5) (million)
2004	3	8404.6	4.04	347.17

<b>2005</b>	2.5	9441.8	2.79	2264.9		
<b>2006</b>	2.5	10633.1	2.96	1948.5		
<b>2007</b>	2	12771.8	1.96	1428.5		
<b>2008</b>	1.75	13027.7	1.71	1416.4		
<b>2009</b>	2	14597.5	1.71	2163.3		
<b>2010</b>	2	15244.2	1.71	3196.5		
Correlation	$r_{23} = -0.8735$		$r_{45} = -0.526$			
Coeff. Of Det.	$r^2_{23} = 0.7629$		$r^2_{45} = 0.2628$			
t-statistic	t-cal=3.917	t-tab=2.571	Significant	t-cal=1.335	t-tab=2.571	Insignificant

Source: Banking and Financial statistics 43-49, NRB

The table 4.8 also shows saving deposit amount is in increasing trend though the interest rate is in declining trend except in FY 2008 and FY 2009. But fix deposit amount seems in decreasing trend till FY 2008 because of fall in interest rate and slightly increased in FY 2009 on deposit. But the declining speed of interest rate is quite higher than that of declining speed of deposit amount. It means that they move in same direction. These suggest that there is positive relationship but to determine the magnitude of relation, correlation coefficient should be calculated and to identify the strength or weakness of relationship it is necessary to calculate the t-test. But prior to all it is clear if we show these relations on figure 4.7 and 4.8.

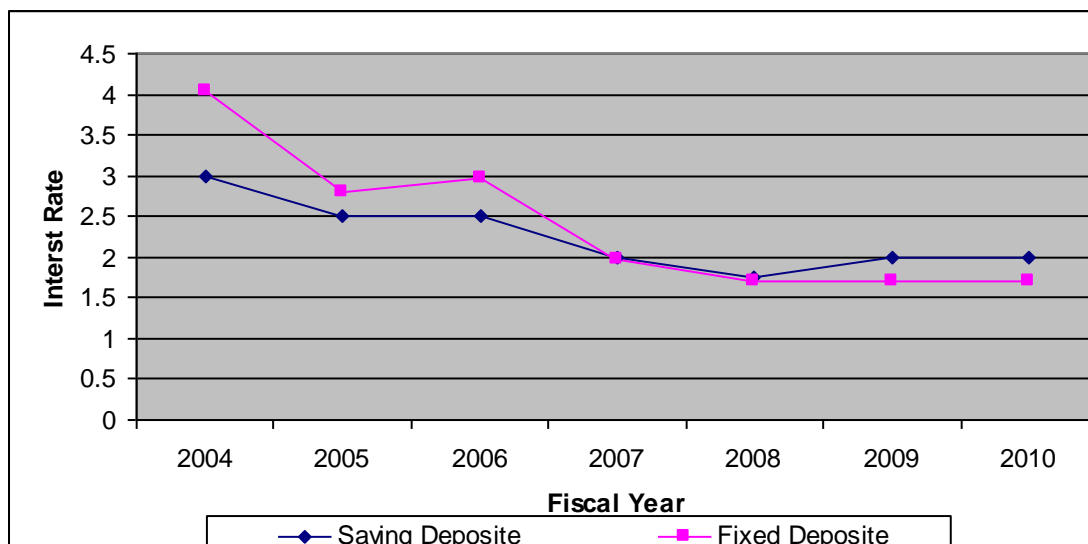
**Figure 4.5**  
**Deposit amount of SCBL during different FY**



The figure shows that SCBL collected more funds on saving deposit in last seven FYs rather than fixed deposit. It is clear that SCBL collects few funds from fixed deposit in comparison of saving deposit. Satisfactory collection is done on saving deposit but bank cannot able to collect satisfactory amount of fixed

deposit which is helpful to invest as a long term debt. The relationship between interest rate of saving and fix deposit can be shown on figure 4.9.

**Figure 4.6**  
**Inerrest Rates on SCBL on Saving and Fix Deposit.**



The correlation coefficient for saving deposit and its interest rate is found to be  $r_{23} = -0.8735$ , which means that deposit amount and its interest rate, have higher degree of negative correlation. It means increase in one variable result the decrease in other variables. Similarly the coefficient of determination,  $r^2_{23} = 0.7629$  which means that the value of dependent variables is dependent on independent variables to the extent of 75.43%. Similarly the t-test for same shoes that the calculated value of t is 3.918 ( $t\text{-cal} = 3.918$ ). This value is greater than the tabulated value ( $t\text{-tab} = 2.571$ ) at 5 degree of freedom and 5 level of significance. Therefore when  $t\text{-cal} > t\text{-tab}$ , then  $H_1$  or alternative hypothesis is accepted i.e. variables are significantly correlated and their relationship is significant.

Similarly the correlating for fixed deposit interest rate and fixed deposit amount,  $r_{45}$  found to be 0.526. This shows that they have positive correlation. It means that the increase in deposit interest rate stimulates saving on fixed deposit. This relation can clearly explained by the coefficient of determination which is 0.2628, means that total variation in interest rate on fixed deposit has been explained by supply of deposits to the extent of 26.28% and remaining 73.72% is the effect of other variables. The t-value for testing the significance of the correlation coefficient between variables is 1.335 ( $t_{\text{cal}}=1.335$ ). Which is significantly smaller than tabulated t value ( $t_{\text{tab}}=2.571$ ) at 5% level of significance with 5 degree of freedom. Since the calculated value is significantly smaller than tabulated value, the conclusion can be drawn that correlation coefficient between variables is insignificant. This means that the correlation between interest rate on fixed deposit amount of SCBL shows the negative correlation, the t-test indicates that there is insignificant correlation between them.

## 4.2 Analysis of Lending and Interest Rate

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

### 4.2.1 NABIL Bank Limited (NABIL)

The sector where NABIL supplied credit during last seven FYs and their corresponding interest rate, average interest rate and lending amount are presented in the table 4.9.

**Table 4.7**

#### **Lending Rate of NABIL on different sectors during seven FYs(%)**

<b>Sector</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>Overdraft</b>	-	-	-	-	-	-	-
<b>Export credit</b>	11.5	11.25	11	11	11	11	10.5
<b>Import LC</b>	11.5	11.25	11	11	11	11	10.5
<b>HMG Bond</b>	10.5	8	7.5	7.5	7.5	7.5	7.5
<b>BG/CG</b>	10.5	9.5	9	9	9	9	7.5
<b>Other Guarantee</b>	-	10.5	10	10	10	10	8.5
<b>Industrial Loan</b>	-	-	-	-	-	-	-
<b>Commercial Loan</b>	-	-	-	-	-	-	-
<b>Priority Sector Loan</b>	14	13.5	13	13	12	12	11
<b>Poorer Sector Loan</b>	10.5	9	9	9	9	9	9
<b>Term Loan</b>	13.5	13.25	13	13	13	13	13
<b>Working Capital</b>	13	12.5	12	12	12	12	11.5
<b>Hire Purchase</b>	14	13	12	12.5	12.5	12	12
<b>Others</b>	14	13.5	13	13	13	13	12
<b>Average Int. Rate (1)</b>	12.30	11.41	10.95	11	10.91	10.86	10.18
<b>Lending Amount (2)</b>	8173.1	7072	7996.9	8635.1	8635.1	8635.1	15657.1
<b>Correlation (<math>r_{12}</math>)</b>	-0.7173						
<b>Coeff. Of Det. (<math>r^2_{12}</math>)</b>	0.5146						

<b>t-statistics</b>	t-cal = 2.302	t-tab = 2.571	Insignificant
<b>Standard deviation</b>	0.6465%		

Source: Banking and Financial statistics 39.47, NRB

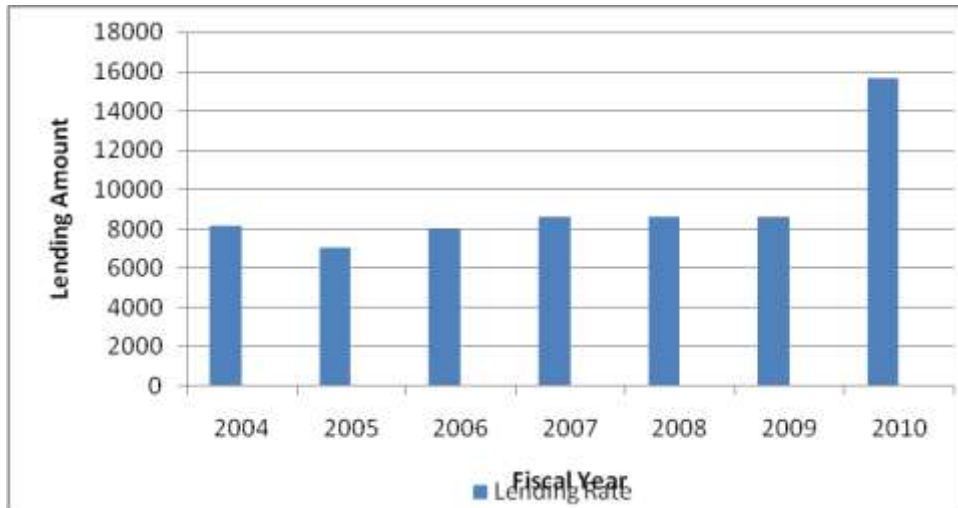
Lending activity of joint venture commercial bank can be diversified into different sectors. But according to the publication of Nepal Rastra Bank, Banking and Financial statistics the loan of commercial banks are classified in different sub-sectors like overdraft, export credit, import LC, commercial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

According to table 4-13 it shows that interest rate on lending on different area are in declining trend. The table shows that the maximum interest rate is 14 in FY 2004 and minimum rate is 7.5 on 2010. This shows that the interest rate declined drastically during the seven FYs period. Generally the productive sector loan rate (like commercial loan, industrial loan, priority sector loan, working capital rate and so on) and non productive sector loan like loan against government bond, BG/CG and so an are decreasing in similar ratios. According to theory in order to induce the investment in the country or expansion of trade, the productive sector loan should be available at cheaper rate. But the table shows that these sectors loan were somewhat costlier than other non-productive loan.

If the average of each fiscal year is taken, then it shows that average lending interest rate was 12.30 (2004), 11.41 (2005), 10.95 (2006), 11 (2007), 10.91 (2008), 10.86 (2009) and 10.869 (2010). The standard deviation for average interest rate was 0.6465, which shows the deviation from mean return. The average rate is also in decreasing trend. The decreasing tendency was not smooth. It means that the rate declined each year with different rate. In preceding year the declination was quite fast where as the declining tendency was little small in later year. This concludes that interest rate on lending is also in decreasing tendency for past few years. With harmony to interest rate, the lending amount of NABIL is seen to be in increasing trend except in FY 2003. These can be also be present in figure 4.9 and 4.10.

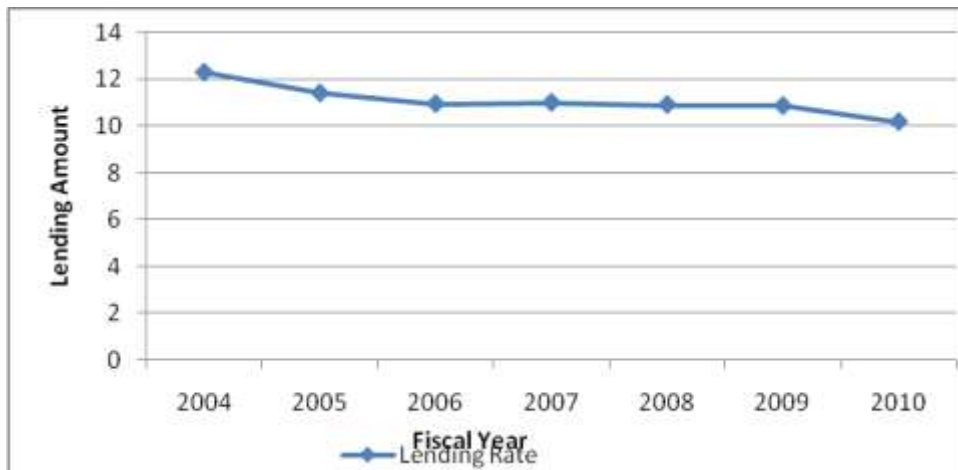
**Figure 4.7**

**Lending Amount of NABIL during different FYs**



**Figure 4.8**

**Average lending rate of NABIL during different FYs**



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

From table 4.12 the correlation coefficient (simple correlation) between lending rate and lending amount  $r_{12}$  is  $-0.7173$ . It is negative correlation. It indicates that increment in one variable result the decrement in other variables or vice-versa. Decrement in lending interest rate increases the lending amount because people preferred more credit form the bank when bank reduced the lending interest rate. This condition matches with the theory. Similarly the coefficient of determination between two variables  $(r_{12})^2$  is  $0.5146$ . It means that the relationship between dependent variable and independent variable is defined up to the extent of  $51.46\%$ . The remaining percentage is due to other factors.

Similarly the calculate value for NABIL is  $2.302$  ( $t\text{-cal} = 2.302$ ). This value is less than tabulated value, ( $t\text{-tab} = 2.571$ ) with level of significance  $5$  and d. f.  $5$ . In this condition  $H_0$  is accepted it means that there is no significant correlation between the two variables. In other words their relation is in significant. Thought



the correlation coefficient shows that these two variables have moderate level of correlation but t-statistic verify that their relation is insignificant. In conclusion the inverse relationship between lending rate and leading amount is not exactly applicable for NABIL. Now it is clear that the increase in lending amount is not significantly due to decrease in lending interest rate.

#### 4.2.2 Himalayan Bank Limited (HBL)

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

**Table 4.8**  
**Lending Rate of HBL of different sector during Seven FYs(%)**

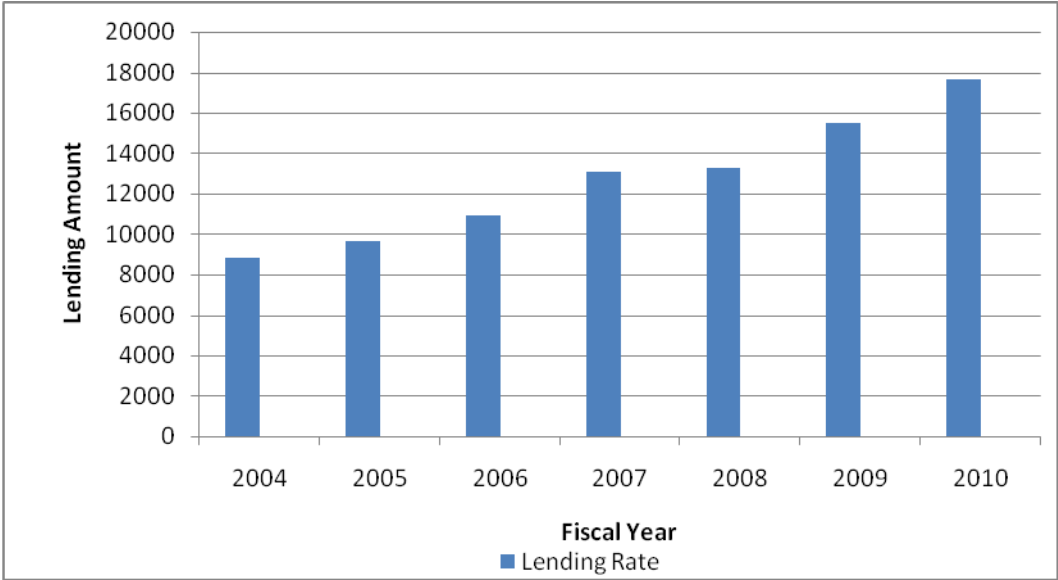
Sector	2004	2005	2006	2007	2008	2009	2010
<b>Overdraft</b>	13	13.75	13.25	13.25	12	12	10
<b>Export credit</b>	9.5	9.5	9.5	9.5	8.75	8.75	8.75
<b>Import LC</b>	13	12	12.25	12.25	11.75	11.75	9.5
<b>HMG Bond</b>	8.5	8	8	8	6	6	6.5
<b>BG/CG</b>	9.5	10.5	10.5	10.5	9.25	9.25	8
<b>Other Guarantee</b>	10.5	10.5	10.5	10.5	-	-	-
<b>Industrial Loan</b>	14	13.5	13	13	12.75	12.75	-
<b>Commercial Loan</b>	14	13.75	13.25	13.25	12.5	12.5	-
<b>Priority Sector Loan</b>	14	13	13	13	12.25	12.25	10
<b>Poorer Sector Loan</b>	8.5	8.5	8.5	8.5	8.25	8.25	8.25
<b>Term Loan</b>	13.5	13.5	13	13	11.75	11.75	10.5
<b>Working Capital</b>	13.2	13.25	13	13	-	-	-
<b>Hire Purchase</b>	13	13	13	13	11.5	11.5	9
<b>Others</b>	16.25	16.25	15.75	15.75	13.5	13.5	12
<b>Average Int. Rate (1)</b>	12.78	12.13	11.89	11.89	10.85	10.85	9.25
<b>Lending Amount (2)</b>	8836.6	9673.5	10894.2	13081.7	13245.0	15516.0	17672
<b>Correlation (<math>r_{12}</math>)</b>	-0.9127						
<b>Coeff. Of Det. (<math>r^2_{12}</math>)</b>	0.8329						
<b>t-statistics</b>	t-cal = 4.993		t-tab = 2.571			Insignificant	
<b>Standard deviation</b>	1.0619%						

The table 4.10 shows the interest rate of HBL on lending on seven fiscal years granted in different sectors. HBL lending rate was somewhat more than NABIL. The maximum interest rate quoted by the HBL during seven FYs was 16.25 on "other" categories. The interest rate of HBL is also in decreasing trend but the decreasing magnitude is very little. The average interest rate if HBL an FY 2004 was 12.18 and which becomes 9.25 in FY 2010, it means that average

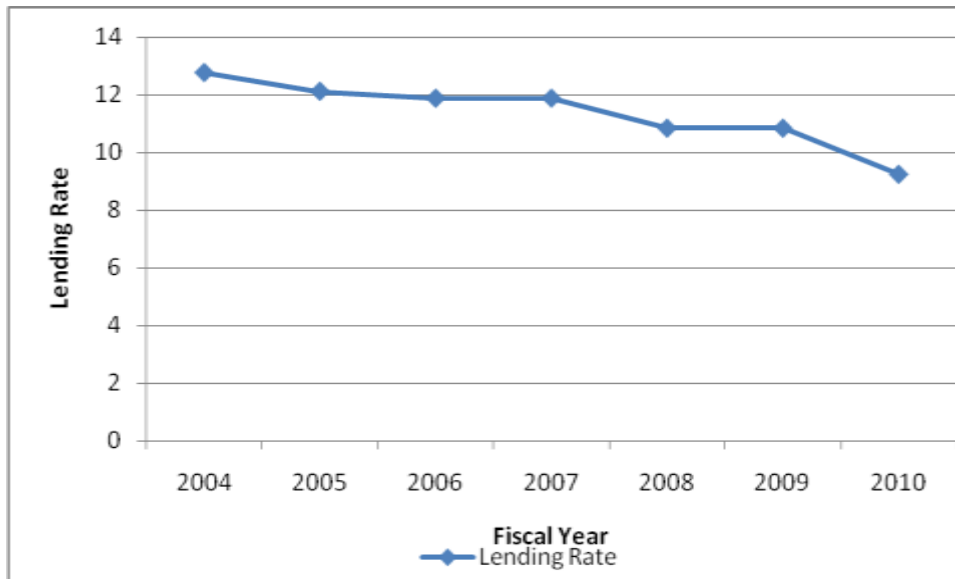
interest rate in as declining slowly. During seven years period the interest rate falls to 1.2 on average. The average interest rate was 12.18, 12.13, 11.89, 11.89, 10.85, 10.85 and 9.25 in FYs 2004, 2005, 2006, 2007, 2008, 2009 and 2010, respectively. Conversely the lending amount of HBL is seen to be in increasing trend. In comparison to FY 2004, lending of 2010 is near about tow times more. So it can be said that lending of HBL was expanded rapidly within that seven fiscal periods these phenomenon shows that lending interest rate and lending amount have inverse relationship.

To quantify this relationship it is necessary to calculate correlation and t-statistics. But prior to this it is fruitful if the trend of lending interest rate and lending amount is shown in the figure 4.11.

**Figure 4.9**  
**Leading amount of HBL during different FYs**



**Figure 4.10**  
**Average Lending Rate of HBL during different FYs**



The figure 4.12 shows that interest rate of lending falls rapidly up to FY 2005. But after FY 2005, the falling speed was very slow. It means the interest rate falls only by decimal percentage point.

**Correlation coefficient, Coefficient of determination and t-statistics of HBL**

The correlation coefficient of HBL between lending amount and lending rate is -0.9127. It is high degree negative correlation. It indicates that increments in are variable result the decrement in other variables or vice-versa. In this case decrease in lending interest rate increases the lending amount. People preferred more credit form HBL when bank reduced the lending interest rate. Similarly the coefficient of determination between two variables ( $r^2_{12}$ ) = 0.8329. It means that the relationship between dependent variable and independent variable is defined up to the extent of 83.29%. In other words the increase in lending amount by decrease in interest rate is defined up to the extent of 83.29 where as remaining percentage is due to other factors.

Similarly the t-statistics for HBL is 4.9935 (t-cal =4.9935) the tabulated value at 5 level of significance with 5 d. f. is 2.571. Comparing the t-tab and t-cal it is clear that t-cal > t-tab, so alternative hypothesis is accepted and null hypothesis is rejected. It means that the relation shown by correlation coefficient is highly significant. That is the inverse relation shown by two variables lending amount and lending rate is strong. The increase in demand of lending amount is due to the decrease in lending rate. Therefore, according to t-statistics the lending rate is also another strong as well as important factor that shape the lending amount. In conclusion the inverse relation of HBL on two variables is in accordance with theory.

**4.2.3 Standard Chartered Bank Limited (SCBL)**

At last another bank for analysis is standard chartered bank limited. This bank also grants the credit to its customers in different sectors. But according the NRB bulletin "Banking and Financial statistics" the bank provides the loan to its customers on the following sectors.

**Table 4.9**  
Lending Rate of SCBL on different sectors during seven FYs(%)

Sector	2004	2005	2006	2007	2008	2009	2010
--------	------	------	------	------	------	------	------

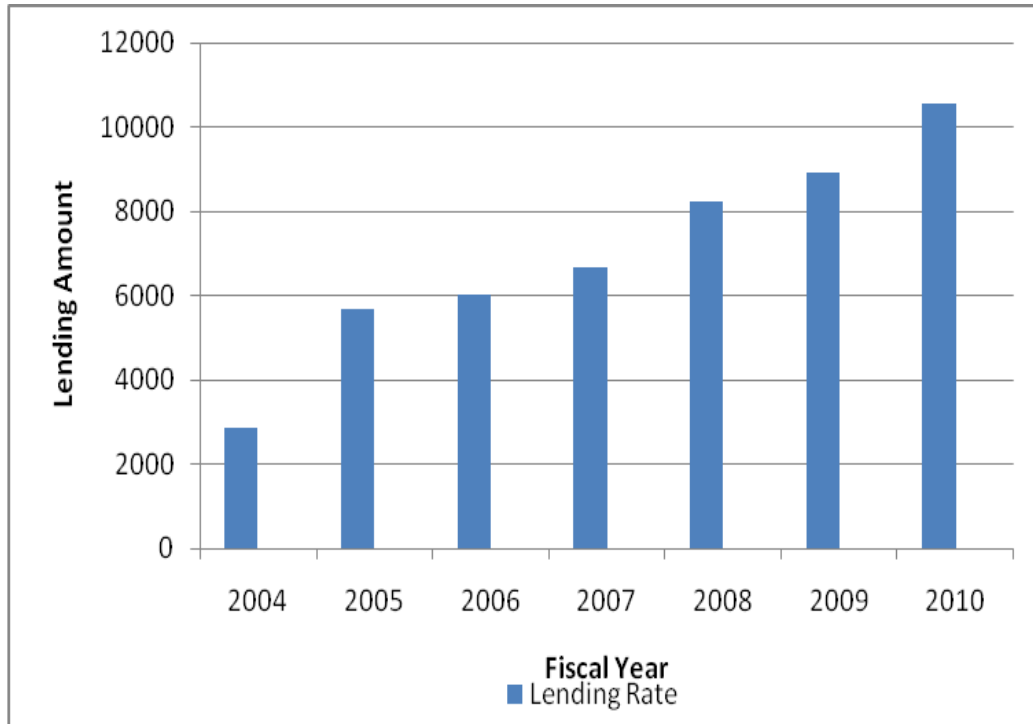
<b>Overdraft</b>		-	-	-	6.5	6.5	6.5
<b>Export credit</b>	12.5	12	12	12	12	11.5	11.5
<b>Import LC</b>	9.5	11.5	11	11	11	9	9
<b>HMG Bond</b>	9.5	9.5	9.5	9.5	9.5	8	8
<b>BG/CG</b>	14	13.5	10.5	10.5	10.5	9.5	9.5
<b>Other Guarantee</b>	10.5	10.5	13.5	13	13	11	11
<b>Industrial Loan</b>	14.5	14	13.5	13.5	13.5	11.5	11.5
<b>Commercial Loan</b>	15	14.5	14	14	14	11.5	11.5
<b>Priority Sector Loan</b>	-	-	-	-	-	-	-
<b>Poorer Sector Loan</b>	10.5	10	10	10	10	7.5	7.5
<b>Term Loan</b>	15	14.5	14	14	14	11.5	11.5
<b>Working Capital</b>	14	13.5	13	13	13	10	10
<b>Hire Purchase</b>	13	11	9	9	9	9.5	9.5
<b>Others</b>	15	14.5	14.5	14.5	14.5	13	13
<b>Average Int. Rate (1)</b>	12.96	12.42	12.04	12	11.58	10	10
<b>Lending Amount (2)</b>	2838.7	5675.6	6028.5	6662.0	8213.5	8905.1	10538.1
<b>Correlation (<math>r_{12}</math>)</b>	-0.9257						
<b>Coeff. Of Det. (<math>r^2_{12}</math>)</b>	0.8569						
<b>t-statistics</b>	t-cal = 5.472		t-tab = 2.571			Insignificant	
<b>Standard deviation</b>	1.1539%						

Source: Banking and Financial Statistics 43-49, NRB

The table 4.12 shows the lending interest rate of SCBL on different sectors in different FYs. SCBL granted credit in most of the sector. But SCBL doesn't grant credit in priority sectors loan. In past four FY bank didn't grant loan in overdraft but from FY 2008 it started to grant loan in it also. The overall lending rate of SCBL is in declining trend. In past seven FYs the highest interest rate was in "others" categories. The table 4-18 shows the interest rate falls drastically on FY 2009 but in five past FYs the interest rate falls slowly in all sectors only on decimal. Similarly the average interest rate is also in decreasing trend but the decreasing magnitude is nit more. To see the position, it is better to give glance on average lending rate during last seven FYs. The average interest rate was 12.96, 12.42, 12.04, 12.00, 11.58, 10 and 10 in FYs 2004, 2005, 2006, 2007, 2008, 2009 and 2010 respectively.

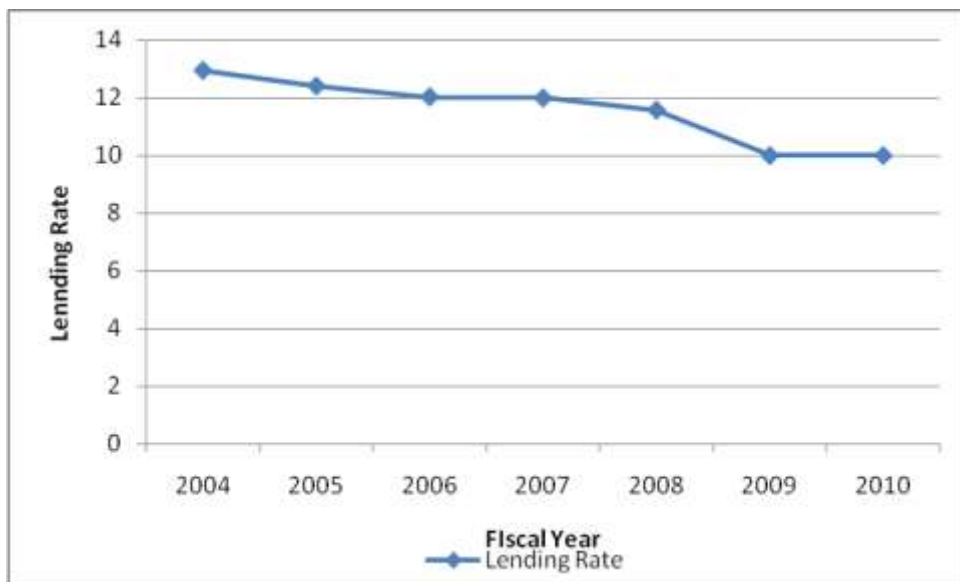
In effect of decline in interest rate the lending amount of SCBL is also found to be increasing slowly during the seven fiscal years except in 2005. During the period of seven years the lending amount was doubled. But to know the exact relationship it necessary to compute the correlation coefficient. The figure for changing trend of interest rate and lending amount is given figure 4.15 and figure 4.16.

**Figure 4.11**  
**Lending Amount of SCBL during different FYs**



**Figure 4.12**

**Average Lending Rate of SCBL during different FY**



**Correlation coefficient, Coefficient of determination and t-statistics of SBCL**

To find the exact relationship between the lending interest rate and lending amount, it is necessary to use some of the statistical tools like correlation coefficient student t-statistics is applied. For this case the correlation coefficient between SCBL'S for average interest rate and lending amount is  $-0.9257$  ( $r_{12} = -0.9257$ ) this is very high degree of correlation. The negative sign indicates that the two variables have opposite or inverse relationship meaning decrease in one variables leads to increase in other variables. For this case decrease in interest rate

stimulates the lending amount of vice-versa. The coefficient of determination for correlation coefficient is 0.8569. In other words the relationship between one variable is defined by another is up to the level of 85.69%.

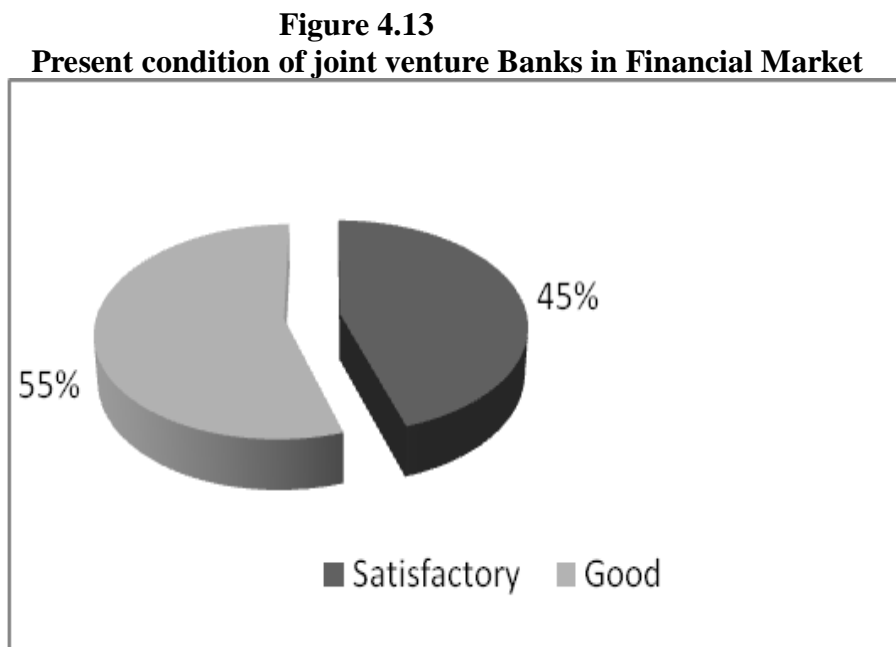
To verify the correlation coefficient statistically, it is better if t-statistics is used for t is 5.472 (t-cal=5.472). Similarly the tabulated value for t at 5 degree of freedom with 5 level of significance is 2.571 i.e. t-tab=2.571. Comparing t-cal and t-tab it is found that t-cal > t-tab. So in such case alternative hypothesis is accepted meaning the relation shown by the correlation coefficient is highly significant. In other words two variables are significantly correlated or the increase in lending amount is due to the decrease in lending rate.

### 4.3 Presentation and Analysis of Primary Data

In the section primary data is analyzed. The primary data collected through the questionnaire distributed to the executives and others personnel officers of sample banks. These people are familiar with the interest and the factors affecting it. Questionnaire has been appended at the end. Respondents were asked about the performance of joint venture banks in Nepalese financial market.

#### **Question No. 1. Present condition of joint venture Banks in Financial Market**

For the Chart of this analysis see in Annex xii. Their response are presented in figure below

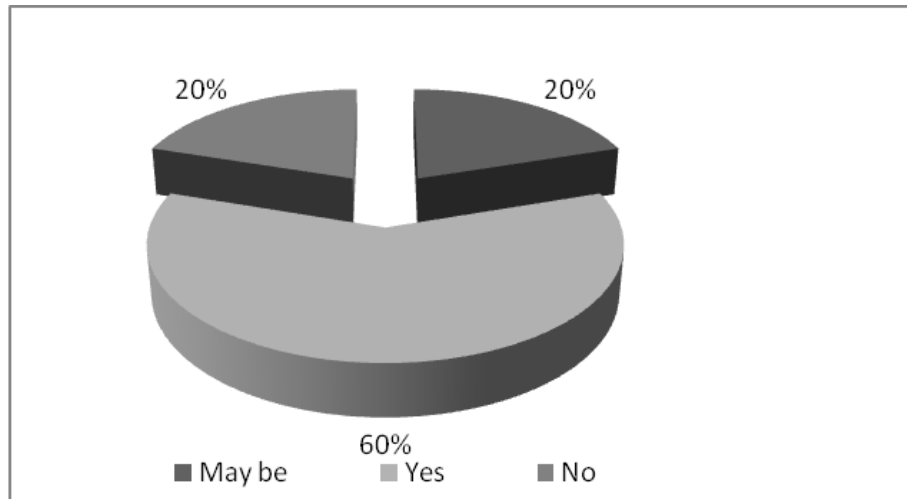


The figure 4.17 shows about the present condition of joint venture Banks in Nepalese Financial Market. 55% of the respondents agree that the joint venture banks are in good condition. Forty five percent of the respondents believe that the condition of banks is satisfactory. Satisfactory condition indicates that the condition either may go up or go down and the economy of the country is worsening day by day so the attention must be given.

**Question No 2. Interest rate structure of the banks is appropriate to attract the investor and depositors?** In order to judge the appropriateness of the interest rate structure of the various banks saved for the investor and depositors view points of different respondents are presented in figure below.

**Figure: 4.14**

**Interest rate structure of the banks is appropriate to attract the investor and depositors?**



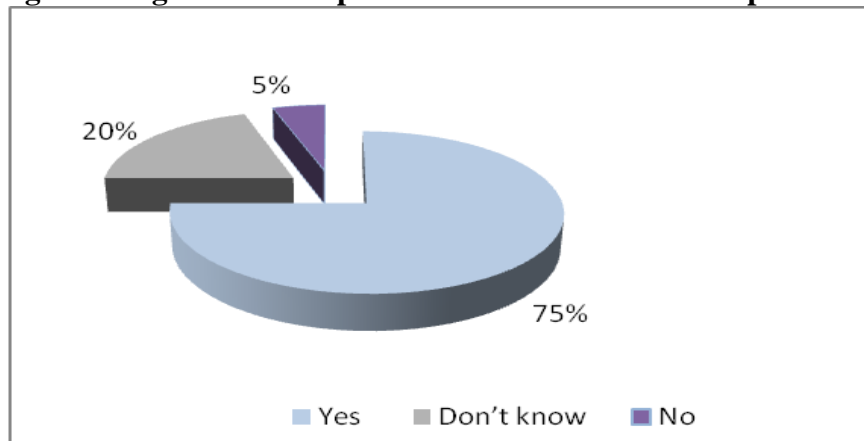
The figure 4.18 shows the 60% of respondents agree that the interest rate structure is appropriate to attract the investors and depositors. But 20% do not agree and remaining 20% aren't confirmed and hope that it may be appropriate. From the figure it is clear that most of the respondents think that interest rate structure is not appropriate so banks should think about it.

**Question No 3. There is high lending rate in non-productive sector rather than productive sector.**

The question wants to be clear about the high interest rate that is being charged on non-production sector rather than productive sector. The view points of the different respondents are presented in figure below.

**Figure 4.15**

**There is high lending rate in non-productive sector rather than productive sector.**



The figure 4.19 shows the 75% of the respondents agree that the lending rate is high on non-productive sectors. But 20% do not agree and remaining 5% are unknown about the high lending rate charged on non-productive sectors. There

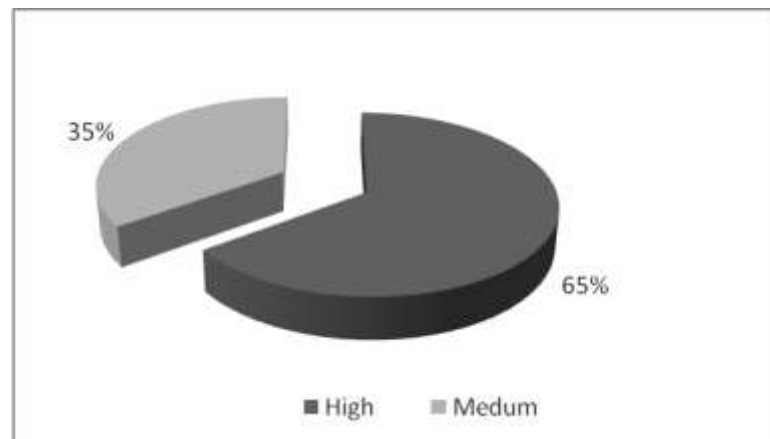
should be low interest rate on productive sector so that people can use more funds from banks on productive sector which ultimately leads nation towards success.

**Question No 4. People are feeling comfortable and safe to deposit their saving on the banks.**

This question tries to find out the feeling of people to deposit their saving on the banks. The viewpoints of the different respondent are presented in figure below.

**Figure 4.16**

**People are feeling comfortable and safe to deposit their saving on the banks**



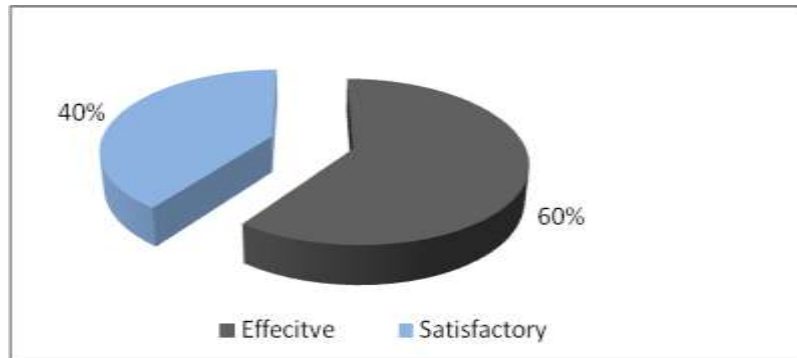
The figure 4.20 shows the 65% of respondents are feeling highly comfortable and safe to deposit their saving on the banks. But remaining 35% are moderately feeling comfortable and safe to deposit their saving on the banks.

**Question No 5. Interest rate on deposit and lending of the banks is effective in Nepalese financial market.**

This question tries to know effectiveness of interest rate on deposit and lending of the banks in Nepalese Financial Market. The result obtained from different respondents is presented below.



**Figure 4.17**  
**Interest rate on deposit and lending of the banks is effective in Nepalese financial market**

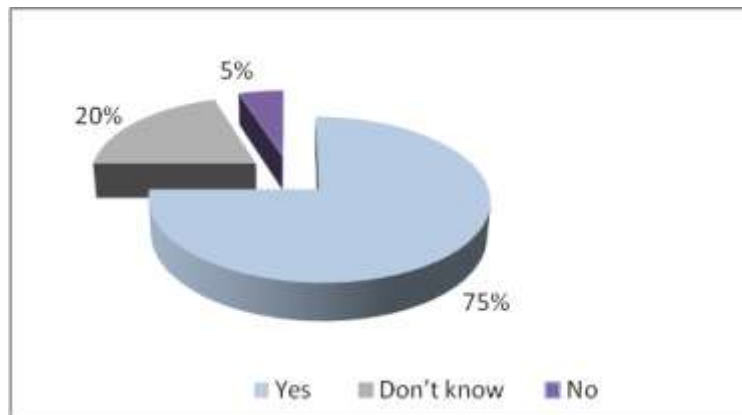


The figure 4.21 shows that only 40% of the respondents agree that interest rate on deposit and lending of the banks is effective Nepalese financial market. Even 60% think that it is satisfactory in present contest.

**Question No 6. Deposit on saving deposit scheme is effective than fix deposit scheme.**

This question wants to find out that do people like to deposit on saving deposit than fix deposit? Here is what our respondents have replied.

**Figure 4.18**  
**Deposit on saving deposit scheme is effective than fix deposit scheme**



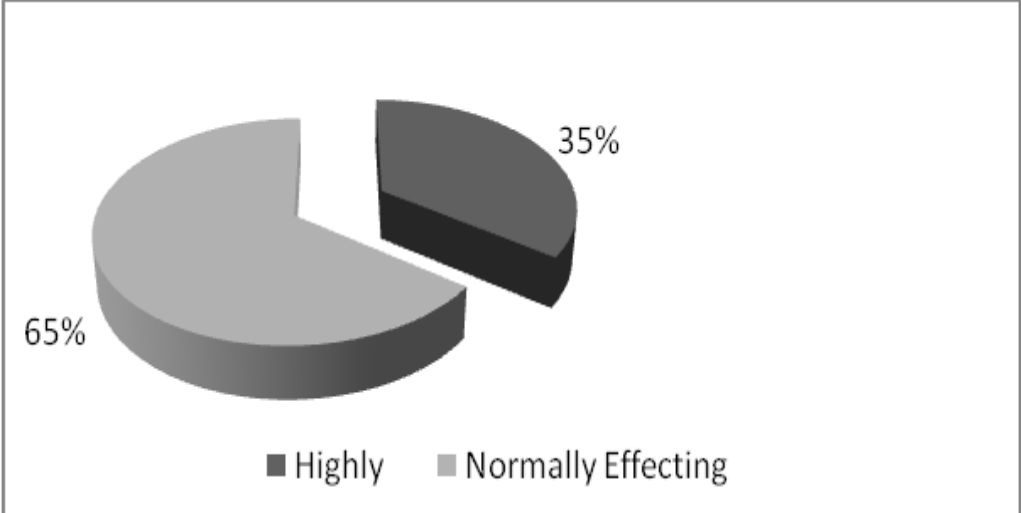
The figure 4.22 shows that about 75% of the respondents agree that people like to deposit in saving scheme. 20% respondents don't agree the statement and 5% is unknown about this. This may be because the interest provided by banks on fix deposit is decreasing day by day. Even in Nepal, people want to keep their saving in saving deposit due to its feasibility.

**Question No 7. Open borders with India affect the interest rate in borrowing and lending.**

This question wants to find out that to what extent open boarder with India affect the interest rate on borrowing and lending? The figure shows what the respondents have said.

**Figure 4.19**

**Open borders with India affect the interest rate in borrowing and lending**



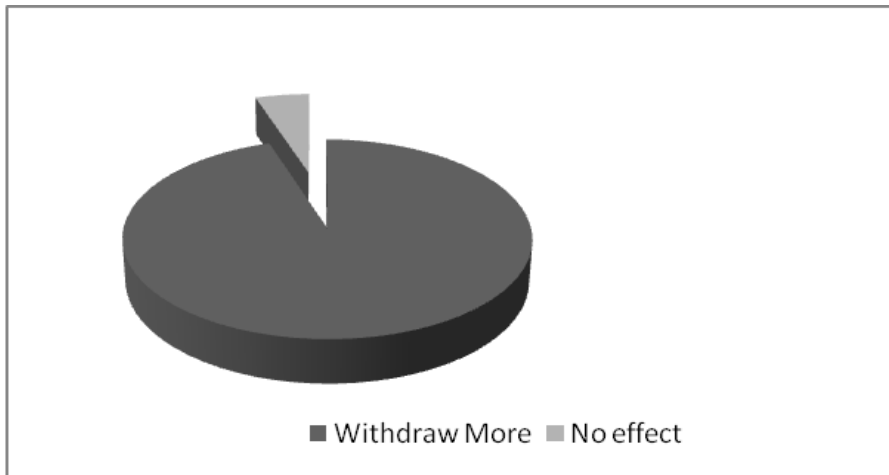
The figure 4.23 shows that about 35% of the respondents highly agree that open boarder with India affect the interest rate on borrowing and lending. 65% of respondents think that it may affect. But 9% of the respondents don't agree upon our assumption. It may suggest that open boarder with India somewhat affect the interest rate on borrowing and lending.

**Question No 8. People deposit more or with draw in the situation of violence and insecurity.**

This question wants to clear that what the people do about their cash in the situation of violence and insecurity. The result is presented in given figure.

**Figure 4.20**

**People deposit more or with draw in the situation of violence and insecurity**



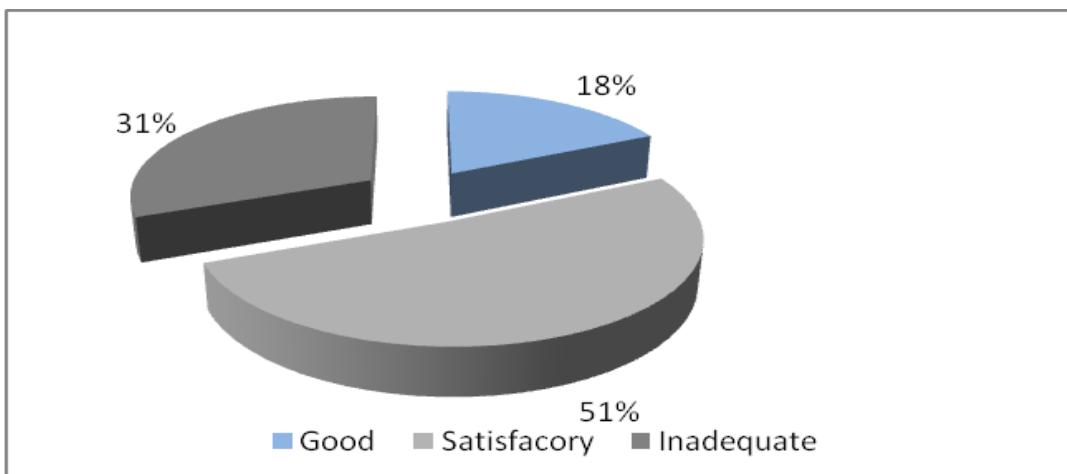
The figure 424 shows that none of respondents agree that people deposit more in the situation of violence and insecurity. But 95% of respondent don't agree this statement they have replied that people with dram more in the situation of violence and insecurity and remaining 5% have replied that there will be no effect at all. From above it is clear that people feels unsafe to deposit their saving on the bank in the situation of violence and insecurity.

**Question No 9. Rules and regulation of Nepal Rastra Bank**

This question tries to know Nepal Rastra Bank is functioning to regulated Nepalese Commercial Bank. The result obtained from different Reasons is presented below.

**Figure 4.21**

**Rules and regulation of Nepal Rastra Bank**



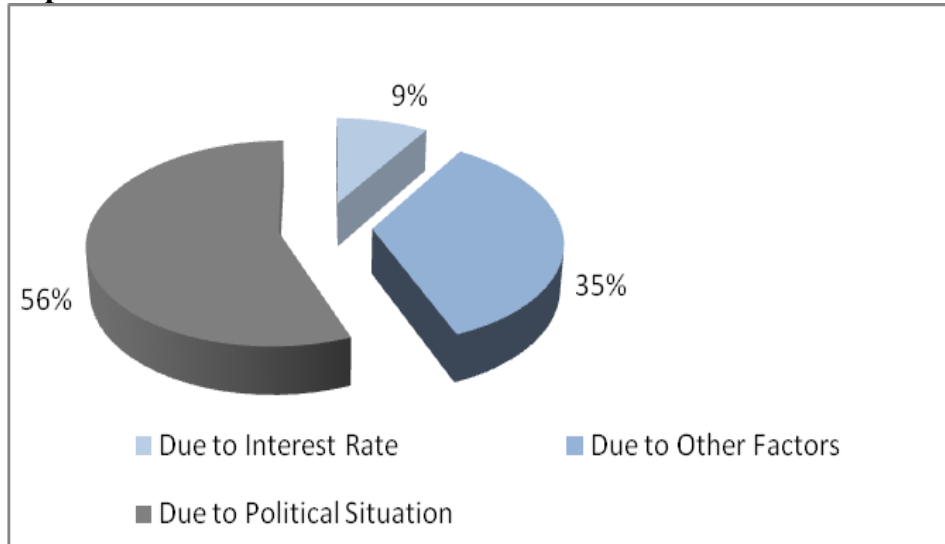
The figure 4.25 shows that only 18% of the respondents they agree that Nepal Rastra Bank is functioning well. About 51% finds the role to be satisfactory. But NRB should think about 31% hoping banks function to be inadequate.

**Question No 10. Reasons that banks aren't property utilizing the deposits in terms of loans to generate profit**

This question wants to clear that why banks are not properly utilizing their deposit in terms of loans to generated profit. There may be several reasons but according to priority only three options are mentioned. The result obtained form different persons is presented below.

**Figure 4.22**

**Reasons that banks aren't property utilizing the deposits in terms of loans to generate profit**



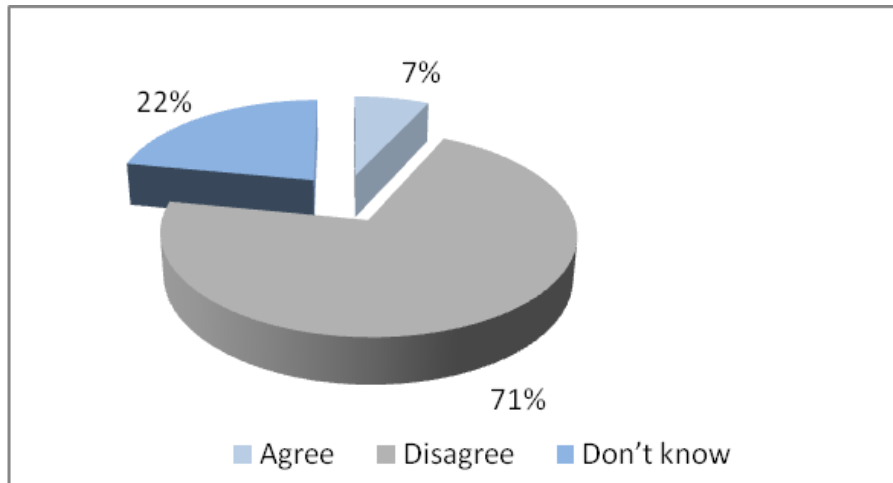
This figure 4.26 shows that only 9% of the respondents think that interest rate is main cause that is limiting banks to utilize the deposits in terms at loans to generate profit and remaining 35% think due to other several factors. Form above it is clear that political situation may hamper the banks to function well.

**Question No 11. Lending amount decreased with the decrease in lending rate**

This question is related about the lending amount and lending rate. The viewpoints of different respondents are presented in figure below.

**Figure 4.23**

**Lending amount decreased with the decrease in lending rate**



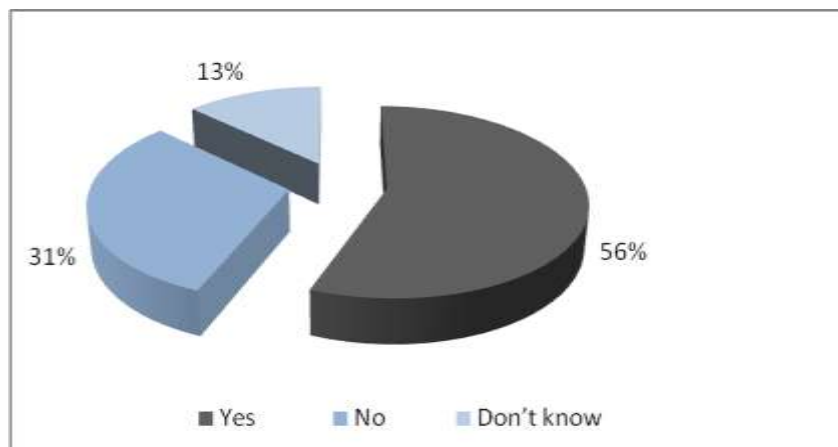
The figure 4.27 shows that about 87% of the respondents agree that joint venture banks are playing important rate in economic development of the country. No one disagree with the statement. And 13% think they may be playing important rate in economic development of the country.

**Question No 13. Lending rate should be reduced attract the investors**

This question tries to know whether lending rate should be reduced to attract investors. The figure shows what the respondents have said.

**Figure 4.24**

**Lending rate should be reduced attract the investors**

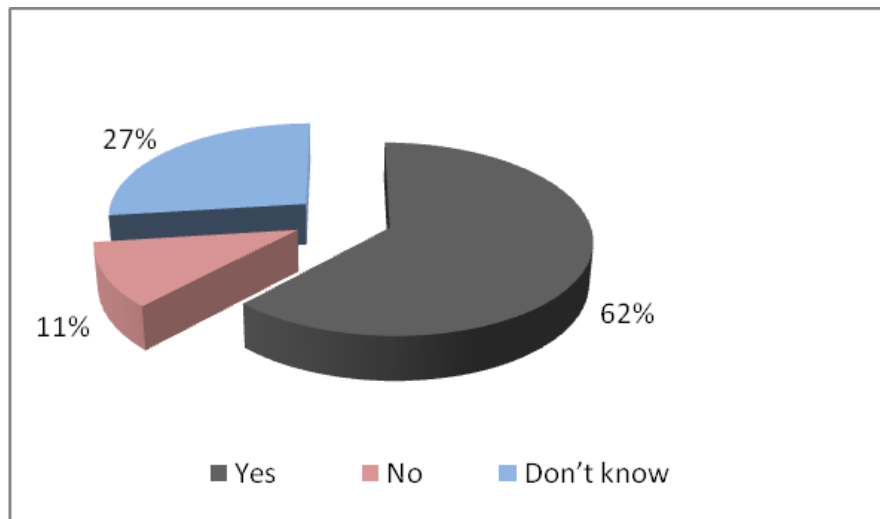


The Figure 4.28 shows that about 56% people agree that lending rate should be reduced to attract the investors. But 31% of respondents do not agree with the statement and remaining 13% are unknown about it.

**Question No 14. Inflation influences the Interest Rate**

This question tires to clear about the relationship between interest rate and inflation. The viewpoints of different respondents are given below.

**Figure 4.25**  
**Inflation influences the Interest Rate**



The figure 4.29 shows that about 62% of the respondents agree that inflation affect the interest rate. Even 27% hope that inflation may influence interest rate and 11% do not agree the statement.

#### 4.4 Major Findings of the study

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

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

Correlation coefficient of deposit amount of Nabil bank limited is -0.6856 and 0.0122. Its t-Calculated value is 2.105 & 0.027. The results of saving and fixed deposit are insignificant. Similarly the Correlation coefficient of lending amount of Nabil Bank Limited is -0.7173 and its t-calculated value is 2.302. The results of Lending are also insignificant.

- **Himalayan Bank Limited (HBL):** Amount of saving deposit and interest rate on deposit is highly negatively completed. And fixed deposit amount and interest rate on deposit is also negatively correlated. Amount of lending and interest rate is also highly negatively correlated. Relation between interest amounts with saving, fixed and lending amount are significant. The deposit rate and lending rate of it is moving in same direction.

Correlation coefficient of deposit amount of Himalayan Bank Limited is Saving Deposit -0.9628, fixed deposit -0.6796. and it's t-calculated value is 7.964 and 2.071. The result of Saving and fixed deposit are significant and insignificant. Similarly the correlation coefficient of lending amount of Himalayan bank Limited is -0.9127 and its t-calculated value is 4.993. The Result of Lending is significant.

- **Standard Chartered Bank Limited (SCBL):** Amount of saving deposit interest rate on deposit is highly negatively correlated. But amount of fixed deposit and interest rate on deposit is positively correlated. Relation between interest amounts with deposit (saving and fixed) and lending amount is significant. Both deposit rate and lending rate moved into same direction.

Correlation coefficient of deposit amount of Standard chartered Bank Limited is saving -0.8685, fixed 0.5126 and its T-calculated value is 3.917 and 1.335. The results of saving and fixed deposit are significant and insignificant. Similarly the correlation coefficient of lending amount of SCBL is -0.9257 and its t-calculated value is 5.472. The Result of Lending is significant.

# CHAPTER FIVE

## SUMMARY, CONCLUSION AND RECOMMENDATIONS

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

### 5.1 Summary

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

The review of literature shows that there are so many economic and non-economic factors that are on deposit and lending. But it is real fact that there is relationship of interest rate with deposit amount and lending amount. The volume of deposit amount and lending amount of banks are highly affected by their interest rate. Generally, there is positive relationship in between interest rate on deposit and deposit amount. That means, when rat on deposit increases that attract to the deposit and deposit amount of banks are increases or vice versa. Similarly



there is negative relationship in between interest rate on lending and lending amount of banks. That means increase in interest rate on lending, decreases the lending (loan or investment) amount of banks and vice versa. Various commercial banks and financial companies in Nepal are free to set their interest rate on deposit and lending so all banks are determined their interest rate as per their own policy purpose or objectives. However interest rate fluctuates time with impact of economic and non-economic factors which in turn affect deposit amount and lending amount of banks.

The effect of interest on deposit and lending amount and interest rate structure on deposit and lending are analyzed from four joint venture banks of Nepal for seven years period by using statistical and financial tools mentioned in chapter three. Secondary data are collected from NRB's economic reports, annual reports of related banks and websites and primary data are collected from the questionnaire distributed to various personnel of sample banks. The analysis of all banks shows average interest rate on deposit is in decreasing and deposit amount is in increasing trend. Similarly interest rate on lending is also decreasing and loan and advances (lending) amount is in increasing trend. This trend shows, there is reverse relationship in between deposit rate and deposit amount, lending rate and lending amount of joint venture banks. The statistical analysis also shows that there is significant relationship between deposit rate and deposit amount and lending rate and lending amount of most joint venture banks except few. The interest rate spread of all the sample banks found to be satisfactory except SCBL during last seven fiscal years but most of the banks found that they aren't able to use deposit in terms of loan and advances properly.

## **5.2 Conclusion**

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

1. The interest rate on both deposit and lending of all sample banks are found to be in decreasing trend. But on the contrary to this deposit amount and lending amount is increasing every year.
2. The saving deposit amount and saving interest rate negative relationship (i.e. correlation ranging from  $-0.6856$  to  $-0.9628$ ). It means that they have highly inverse relationship if one variable increases other variable decreases and vice-versa. This case is against the theory of substitution effect. This may be due to the fact that in last FYs. People accumulated most of their funds on saving accounts though they don't get appropriate interest on it. It may be just because of unavailability of other acceptable, in with a separate study can be made. Similarly, the convenience of using saving accounts provokes the

investor deposit on saving account. Similarly the excess supply of saving deposit reduces interest rate of saving account.

3. The clarify the above conclusion the t-statistic of negative correlation between saving deposit amount and saving interest rate is significant except NABIL it means that they have strong negative relationship.
4. Analysis of fixed deposit amount and fixed interest rate shows negatives relationship except NABIL and SCBL. The correlation coefficient for NABIL and SCBL is 0.0122, and 0.5126 respectively. According to correlation coefficient, the substitution effects occur for two NABIL and SCBL in case of fixed deposit that means fixed rate when interest rate on fixed deposit decreases/increases. But bank HBL, the correlation coefficient is negative meaning people deposit more money even if the bank offer lower yield rate on fixed deposit.
5. The t-statistic between fixed deposit interest rate and fixed deposit amount is insignificant. It means that all sample banks have positive relations hip for fixed deposit.
6. One of variables that affect the demand of fund (lending activity) is lending interest rate and lending amount. In this study for four sample banks, it is found that all sample banks except NABIL have negative correlation between these two variables. By using correlation tools, it can be inferred that all the sample banks have inverse relationship as suggested by theory.
7. The t-test for correlation coefficient of each sample bank for negative relationship between lending interest rate and lending amount shows that the t-value for NABIL is in significant which means that though the correlation coefficient shows moderate relationship but their relationship is not strong i.e. not significant relationship. So increase in lending amount is not due to the decrease in lending interest meaning that the one of the factor to increase the lending amount is decline in interest rates. So it can be concluded that lending interest rate is also one important factor for expansion or contraction of lending amount.
8. It is also found that lending interest rate of the productive sector loan such as commercial loan. Industrial loan, trade credit, working capital loan were

decreased lesser in magnitude in comparison to the non-productive sector loan. In case of lending people use more money when interest rate on lending is low. Almost all banks have lent more money by lower interest rate on lending. But borrowing has increased on non productive sectors.

9. During the study period it is found that there exist the high spread between deposit interest rate and lending interest rate. In the beginning of the seven FYs this spreads was large but on later years, the interest rate spread declined to some extent. That may be due to competitive financial environmental and less availability of investment opportunity.
10. Based on analysis of sample banks it can be concluded that interest rate on deposit does not attractive for the depositors; as every year deposit rate of sample banks are seen deceasing. So it may also be concluded that commercial banks are not conceived deposit as interest rate on deposit is too lees.
11. Form the analysis of lending rate of sample banks it can be condition that interest rate on lending attract borrowers investors as lending rate of sample banks have decreased every year to provide better opportunities for the borrowers investors.
12. Through questionnaire to different persons, conclusion can be draw as that the present condition of joint venture banks is an satisfactory condition, interest rate depositors, there is high interest rate on lending non-productive sectors attract incisors and depositors, there is high interest rate on lending on non-productive sectors compared that of productive sector, people are feeling more comfortable and safe to deposit their saving on the banks, interest rate on deposit and lending of the banks is found satisfactory in Nepalese financial market, deposit on saving scheme is found effective that fixed deposit scheme, open border with India normally effect the interest rate on borrowing and lending, people withdraw more money in the situation of violence and insecurity, rules and regulation of Nepal Rastra bank to be found satisfactory. To some extent banks are not mobilizing its deposits interest of loan and advances due to political situation of the country, lending amount increases with the decrease in lending rate, joint venture banks are playing important role in economic development of country lending rate

should be reduced to attract the investors and inflation influence the interest rate.

### **5.3 Recommendations**

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

1. Interest rates on deposit is too less since 2004 to 2009 in Nepal. Joint venture banks are suggested to increase the interest rate on deposit so that depositor are benefited by their saving.
2. The high spread between interest rate on deposit and lending is another factor to be considered. Higher spread merely increases the partite margin of the banks but at the same time it reduces the deposit collection and investment in the country. So financial institutions are suggested to reduces the spread as minimum as possible.
3. The central banks of Nepal, NRB should pay special attention towards decreasing trend of interest rate on deposit. It may cause different bad effect in the country such as disintermediation, lack of saving and further saving may go outside of the country.
4. As the central bank of the country, NRB has power to specify the range or spread between lending rate and deposit rate. So NRB is suggested to specify the spread whenever there is high gap between lending rate and deposit rate in the country. In order to create fair economic situation, NRB being the regulator it should watch the functions of banks very closely.
5. As the key to success for any organization and for good financial is essential, this is possible only by proper decision making of interest. So all the joint venture banks are supposed to set proper to set proper and practical interest rate policy.

6. While reduction the lending rate, it is suggested to reduce more on productive sectors than non-productive. If not possible then bankers can reduce the rate of all sectors proportionately.
7. In order to promote more lending and to promote more borrowing lending institutions should introduce new customer oriented schemes of lending and borrowing. So that more lending can be promoted and over liquidity may be solved.
8. Banks are not able to mobilize to its deposits in terms of loan due to lack of sufficient safe investment opportunities. Thus it is suggested to the government to improve the political situation of the country.
9. As NRB'S publications are the major sources of data and information regarding this topic, untimely and late publications makes the researcher wait long and even individual banks do not put available information regarding interest rate structure on their published report. So NRB and even individual joint venture banks are suggested to publish all necessary publication in time and in their and in their publications respectively for the convenience of researcher and other interested people.

#### **5.4 Present Scenario**

In the fiscal year 2010/2011, liquidity crisis was felt in the Nepalese economy. There are two causes of the liquidity crunch. First, there was dramatic increase in imports, especially of gold and decrease in remittance. Contrary to popular belief, the rise in gold imports wasn't caused by a price differential with India. Actually, the import of gold coincided with the increase in the price of gold in the international market. It became a lucrative investment because gold is an extremely liquid instrument. Second private sector credit growth is higher than deposit growth, which automatically results in tight liquidity.

Thus, as a precautionary measure, NRB had to inject massive amount of liquidity into the banking system through repos. Further, it also directed banks and financial institutions to increase their interest rate on deposit in order to attract the idle cash. As a result presently banks are offering up to 10.5% interest on saving accounts.

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

**ANNEX-I**  
**QUESTIONNAIRE**

A survey interest rate structure and its influence on deposit and lending of Joint Venture Commercial Banks in Nepal.

Name:

Position:

Institution

Address:

1. How is the present condition of Joint Venture Banks in Nepalese Financial Market?  
a) Good                      b) Satisfactory                      c) Poor
2. Is the interest rate structure of bank is appropriate to attract the investors and depositors?  
a) Yes                      b) No                      c) May be
3. Is there higher lending rate in non productive sectors compared to productive sector?  
a) Yes                      b) No                      c) Don't Know
4. How much you feel you are comfortable and safe to deposit you saving in the banks?  
a) High                      b) Low                      c) Medium
5. Does the interest rate one deposit and lending of banks is effective in Nepalese Financial Market?  
a) Effective                      b) Satisfactory                      c) Not- Effective
6. Does you agree that saving deposit scheme is more effective then Fixed Deposit Schemes?  
a) Yes                      b) No                      c) Don't Know
7. To what degree open boarder with India affect the interest rate on borrowing and lending?  
a) Highly                      b) Normally effecting                      c) Not effecting at all
8. In your experience, whether people deposits more or withdraw in situation of violence and insecurity?  
a) Deposit more                      b) Withdraw more                      c) No effect
9. What do you think about Nepal Rastra Bank's Regulation regarding interest rates?

- a) Good                      b) Satisfactory                      c) Inadequate
10. What are the reasons that banks aren't able to utilize the deposits in terms of loan to generate profit?
- a) Due to interest rate structure  
b) Due to Political situation  
c) Due to other factors
11. Do you agree that lending amount decreases with an increment in lending interest rate?
- a) Agree                      b) Disagree                      c) Don't Know
12. Joint venture bank is playing an important role in economic development of the country do you agree?
- a) Agree                      b) Disagree                      c) May Be
13. Do you think lending rate should be reduced to attract investors?
- a) Yes                      b) No                      c) Don't Know
14. Does inflation influence the interest rate?
- a) Yes                      b) No                      c) Don't Know



## ANNEX-II

### BRIEF PROFIT OF SAMPLE BANKS UNDER STUDY

In this section general introduction of sample banks under study is being given, so as to furnish easy reference of samples and to do research smoothly. This is supposed to be useful in the proper understanding of research work and its inferences in the whole sum concept. Although 31 commercial banks are actively working in the nation out of them 31 commercial banks only 6 of them are joint venture banks. Three joint venture banks are taken as samples the sample banks are as follows.

- i. NABIL Bank Ltd.
- ii. Himalayan Bank Ltd
- iii. Standard Chartered Bank Ltd

#### a) NABIL Bank Limited

Nabil Bank Limited, the first foreign joint venture bank of Nepal, started operations in July 1984. Nabil was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, Nabil provides a full range of commercial banking services through its 19 point of representation across the kingdom and over 170 reputed corresponding banks across the global.

Nabil, as a pioneer in introducing many innovative and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business.

The ownership of NABIL is composed as:

Subscription	%holding
N.B international limited, Bangladesh Nepal	50.00%
Industrial development corporation Nepal	6.15%
Stock Exchange Limited	0.33%
	9.67%
Rastriya Beema Sanstha	33.26%
Nepalese General Public	0.59%
Total	100%

Source: Annual Report of NABIL 2010/2011

The present capital structure of NABIL is shown below:

Share structure	Amount (Rs)
Authorized capital (16000000 shares @100)	1,600,000,000
Issued capital (4916544 share@100)	9,65,747,000
Paid up capital (4916544 shares@100)	9,65,747,000

Source: Annual Report of NABIL 2010/2011

#### b) Himalayan Bank Limited (HBL)

Himalayan Bank is a joint venture with Habib bank of Pakistan. It started its operation in 2049 B.s with paid up capital of Rs. 60million. This is the first joint venture bank managed by Nepali chief executive. The operation of the bank started form 1993 Feb. Himalayan Bank Ltd does not include government ownership. It has been established to maintain the economic welfare of the general people to facilitate loan for agriculture, industry and commerce to provide the banking services to the country and people. It is the first commercial bank of Nepal with maximum share holding by the Nepalese private sector. Besides commercial activates, the bank also offers industrial and merchant banking. HBL has been operating in high profit for the establishment's period till now. The bank has 25 branches, 10 in Kathmandu valley and 16 in outside the valley. The bank has aimed install more Automated Teller Machines(AIM) and improve its credit card business. HBL is providing any branch banking services form some of its branches. The Himalayan Bank is the only bank in Nepal which issuing Master cards.

The bank has a very aggressive plan of establishing more branches in different parts of the nation in near future. HBL was access to the world wide correspondent net work of Habib bank for fund transfer, letter of credit or any other banking business anywhere in the world. Himalayan Bank has adopting innovative and latest banking technology. The bank provides services and facilities such as:

- Tele-Banking
- 24 hours banking
- Credit card facilities
- Automated Teller Machine (ATM)
- Visa card
- Letter of credit services
- Safe deposit locker
- Short Message Service (Himalayan SMS)
- Foreign currency transaction etc.

The ownership of HBL is composed as:

<b>Subscription</b>	<b>%holding</b>
Promoter Share Holders	51%
Habib Bank Ltd Pakistan	20%
Employee's provident Fund	14%
Nepalese Public Shareholder	15%
Total	100%

Source: Annual Report of HBL 2010/2011

The present capital structure of HBL is shown below:

<b>Share structure</b>	<b>Amount (RS)</b>
------------------------	--------------------

Authorized capital (20000000 shares@100)	2,000,000,000
Issued capital (10135125 shares@100)	1,013,512,500
Paid up capital (10135125 share@100)	1,013,512,500

Source: Annual Report of HBL 2010/2011

#### f) Standard Chartered Bank Limited (SCBL)

Standard Chartered Bank Ltd was established as a joint venture between ANZ Grindlays and Nepal Bank Ltd. This bank is known as standard chartered bank since July 2001. Standard Chartered Bank Ltd was renamed form Nepal Grindlays Bank Ltd which was established in 1987 A.D. as one of the commercial bank of Nepalese economy. The bank is providing many of the banking services its customer through the branches motional wide. The bank places a great emphasis on being equipped with the best human resources so as continue to be the leader of the industry. To improve the skills and knowledge of the staff, the bank continues to provide development programs, including on the job training and job rotation. The bank provides carious services and facilities such as:

- Loan and Advances
- Deposits
- Trade finance
- Bank guarantee
- Remittances
- Hire purchase loan
- House loan and education loan
- Automated Teller Machine (ATM) facility

Standard Chartered Bank has the following hare holding patterns:

<b>Subscription</b>	<b>%holding</b>
SBL Standard Chartered Grin lay's Ltd. Australia Standard Chartered, United Nation Nepalese Public Shareholders	75%
Total	100%

Source: Annual Report of SCBL

The present capital structure of SCBL:

<b>Share structure</b>	<b>Amount (RS)</b>
Authorized capital (shares100000000@100)	100000000
Issued capital (shares50000000@100)	413254800
Paid up capital (shares413254800@100)	50000000

Source: Annual Report of SCBL 2010/2011

### ANNEX-III

Calculation of Standard Deviation, correlation Coefficient, Coefficient of Determination, t value (calculated) and Mean of Interest with Deposit of NABIL Bank Limited.

Saving Deposit Interest Rate (X <sub>2</sub> )	Saving Deposit Amount (X <sub>3</sub> )	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub> <sup>2</sup>	X <sub>2</sub> X <sub>3</sub>
4.75	4917.1	22.5625	24177872.41	23356.225
3	4889	9	23902321	14667
2.75	5237.4	7.5625	27430358.76	14402.85
2.5	5994.1	6.25	3929234.81	14985.25
3	7026.4	9	49370296.96	21079.2
2	8770.8	4	76926932.64	17541.6
2	10187.4	4	103783118.8	20374.8
$\sum X_2=20$	$\sum X_3=47022.2$	$\sum X_2^2=62.375$	$\sum X_3^2=341520135.3$	$\sum X_2 X_3=126406.93$
Fixed Deposit Interest Rate (X <sub>4</sub> )	Fixed Amount (X <sub>5</sub> )	X <sub>4</sub> <sup>2</sup>	X <sub>5</sub> <sup>2</sup>	X <sub>4</sub> X <sub>5</sub>
4.62	3719.2	21.3444	13832448.64	17182.704
3.25	2446.8	10.5625	5986830.24	7952.1
3.45	2552.6	11.9025	6515766.76	8806.47
2.87	2310.6	8.2369	5338872.36	6631.422
3.37	2078.6	11.3569	4320577.96	7004.882
3.41	3450.2	11.6281	11903880.04	11765.182
2.875	5435.2	8.26563	29541399.04	15626.2
$\sum X_4=20$	$\sum X_5=21993.2$	$\sum X_4^2=83.2969$	$\sum X_5^2=77439775.04$	$\sum X_4 X_5=74968.96$

Year	Avg. Interest Rate (X)	$(X-\bar{X})$	$(X-\bar{X})^2$
2004	4.64	1.3129	1.7236
2005	3.2	-0.12371	0.0162
2006	3.35	0.0229	0.0005
2007	2.82	-0.5071	0.2572
2008	3.32	-0.0071	0.0001
2009	3.21v	-0.1171	0.0137
2010	3.21	-0.5771	0.3331
	$\Sigma(X - \bar{X})=23.29$		$\Sigma(X - \bar{X})^2=2.3343$

**ANNEX-IV**

Calculation of standard Deviation, Correlation Coefficient, Coefficient of Determination, t value (calculated) and Mean of Interest with Deposit of Himalayan Bank Limited.

Saving Deposit Interest Rate ( $X_2$ )	Saving Deposit Amount ( $X_3$ )	$X_2^2$	$X_3^2$	$X_2 X_3$
4.25	9164.1	18.62	83980728.81	38947.425
4	9102.8	16	82860867.84	36411.2
3.75	10840.8	14.0625	117522944.6	40653
3.75	11719.7	14.0625	137351368.1	43948.875
2.5	12852.4	6.25	165184185.8	32131
2	14582.8	4	212658055.8	291569.4
2	15784.7	4	269156754.1	31569.4
$\Sigma X_2=20$	$\Sigma X_3=84047.3$	$\Sigma X_2^2=76.4375$	$\Sigma X_3^2=1048715505$	$\Sigma X_2 X_3=252826.5$
Fixed Deposit Interest Rate ( $X_4$ )	Fixed Amount ( $X_5$ )	$X_4^2$	$X_5^2$	$X_4 X_5$
4.46	5668.1	19.8916	32127357.61	25279.726
4.23	6044.9	17.8929	36540816.01	25569.927
4.06	5880.7	16.4836	3458232.49	23875.642
4.06	6043.7	16.4836	36526903.69	24537.422
2.79	6364.3	7.7841	4050434.49	17756.397
2.79	6350.2	7.7841	40.325040.04	17717.058
2.79	8201.1	7.7841	67258/041.21	22881.069
$\Sigma X_4=22.25$	$\Sigma X_5=44553$	$\Sigma X_4^2=94.104$	$\Sigma X_5^2=287864511.5$	$\Sigma X_4 X_5= 157617.24$

Year	Avg. Interest Rate (X)	$(X-\bar{X})$	$(X-\bar{X})^2$
2004	4.43	0.8571	0.7347
2005	4.19	0.6171	0.3809
2006	4.01	0.4371	0.1911
2007	4.01	0.4371	0.1911
2008	2.79	-0.7829	0.6129
2009	2.79	-0.7829	0.6129
2010	2.79	-0.7829	0.6129
	$\Sigma(X - \bar{X})=25.01$		$\Sigma(X - \bar{X})^2=3.3363$

### ANNEX VI

Calculation of standard Deviation, Correlation Coefficient, Coefficient of Determination, t value (calculated) and Mean of Interest with Deposit of Standard Chartered Bank Nepal Limited.

Saving Deposit Interest Rate (X <sub>2</sub> )	Saving Deposit Amount (X <sub>3</sub> )	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub> <sup>2</sup>	X <sub>2</sub> X <sub>3</sub>
3	840.6	9	70637301.16	25213.8
2.5	9441.8	6.25	89147587.24	23604.5
2.5	10633.1	6.25	11306281.56	26582.75
2	12771.8	4	163118875.2	25543.6
1.75	13027.7	3.0625	169720967.3	22798.475
2	14597.5	4	213087006.3	29195
2	15244.2	4	232385633.6	30488.4
<b>Σ X<sub>2</sub>=15.75</b>	<b>Σ X<sub>3</sub>=84120.7</b>	<b>Σ X<sub>2</sub><sup>2</sup>=36.5625</b>	<b>Σ X<sub>3</sub><sup>2</sup>=1051160186</b>	<b>Σ X<sub>2</sub> X<sub>3</sub>=183426.53</b>
Fixed Deposit Interest Rate (X <sub>4</sub> )	Fixed Amount (X <sub>5</sub> )	X <sub>4</sub> <sup>2</sup>	X <sub>5</sub> <sup>2</sup>	X <sub>4</sub> X <sub>5</sub>
4.04	3471.7	16.3216	12052700.89	14025.668
2.79	2264.9	7.8441	5129772.01	6319.071
2.96	1948.5	8.7616	3796652.25	5767.56
1.96	1428.56	3.8416	2040612.25	2799.86
1.71	1416.4	2.9241	2006188.96	2422.044
1.71	2163.3	2.9241	4679866.89	3699.243
1.71	3196.5	2.9241	10217612.25	5466.015
<b>Σ X<sub>4</sub>=16.88</b>	<b>Σ X<sub>5</sub>=15889.8</b>	<b>Σ X<sub>4</sub><sup>2</sup>=45.4812</b>	<b>Σ X<sub>5</sub><sup>2</sup>=39923405.5</b>	<b>Σ X<sub>4</sub> X<sub>5</sub>=40499.461</b>



Year	Avg. Interest Rate (X)	$(X-\bar{X})$	$(X-\bar{X})^2$
2004	3.89	1.5014	2.2543
2005	2.75	0.3614	0.1306
2006	2.89	0.5014	0.2514
2007	1.97	-0.4186	0.1752
2008	1.72	-0.6686	0.4470
2009	1.75	-0.6389	0.4078
2010	1.75	-0.6386	0.4078
	$\Sigma(X - \bar{X})=16.72$		$\Sigma(X - \bar{X})^2=4.0741$

### ANNEX-VII

Calculation of standard Deviation, Correlation Coefficient, Coefficient of Determination, t value (calculated) and Mean of Interest with Lending of NABIL Bank Limited.

Lending Interest Rate ( $X_2$ )	Lending Amount ( $X_3$ )	$X_2^2$	$X_3^2$	$X_2 X_3$
12.3	8173.1	151.29	66799563.61	100529.13
11.41	7072	130.1881	50013184	80691.52
10.95	7996.9	119.9025	63950409.61	87566.055
11	8635.1	121	74564952.01	94986.1
10.91	11078	119.0281	122722084	120860.98
10.89	13021	117.9396	169546441	141408.06
10.18	15657.1	103.6324	245144780.4	159389.28
$\Sigma X_2=77.61$	$\Sigma X_3=71633.2$	$\Sigma X_2^2=862.9807$	$\Sigma X_3^2=792741414.6$	$\Sigma X_2 X_3=785431.12$

Year	Avg. Interest Rate (X)	$(X-\bar{X})$	$(X-\bar{X})^2$
2004	12.13	1.2129	1.470
2005	11.14	0.3229	0.1042
2006	10.95	-0.1371	0.0188
2007	11	-0.0871	0.0076
2008	10.91	-0.1771	0.0314
2009	10.86	-0.2271	0.0516
2010	10.18	-0.9071	0.8229
	$\Sigma(X - \bar{X})=77.61$		$\Sigma(X - \bar{X})^2=2.5075$

### ANNEX-VIII

Calculation of standard Deviation, Correlation Coefficient, Coefficient of Determination, t value (calculated) and Mean of Interest with Lending Himalayan Bank Limited.

Lending Interest Rate ( $X_2$ )	Lending Amount ( $X_3$ )	$X_2^2$	$X_3^2$	$X_2 X_3$
12.18	8836.6	148.3524	78085499.56	107629.79
12.13	9673.5	147.1369	93576602.25	117339.56
11.89	10894.2	141.3721	118683593.6	129532.04
11.89	13081.7	141.3721	171130874.9	155541.41
10.85	13245	117.7225	175430025	143708.25
10.85	15516	117.7225	240746256	168348.6
9.25	17672	85.5625	312299584	163466
$\Sigma X_2=79.04$	$\Sigma X_3=88919$	$\Sigma X_2^2=899.241$	$\Sigma X_3^2=11899524356$	$\Sigma X_2 X_3=9885565.64$

Year	Avg. Interest Rate (X)	$(X-\bar{X})$	$(X-\bar{X})^2$
2004	12.18	0.8886	0.7896
2005	12.13	0.8386	0.7032
2006	11.89	0.5986	0.3583
2007	11.89	0.5986	0.3583
2008	10.85	-0.4414	0.1949
2009	10.85	-0.4414	0.1949
2010	9.25	-2.0414	4.1674
	$\Sigma(X - \bar{X})=79.04$		$\Sigma(X - \bar{X})^2=6.7665$

### ANNEX-X

Calculation of standard Deviation, Correlation Coefficient, Coefficient of Determination, t value (calculated) and Mean of Interest with Lending SCBNL.

Lending Interest Rate ( $X_2$ )	Lending Amount ( $X_3$ )	$X_2^2$	$X_3^2$	$X_2 X_3$
12.63	4091	159.5169	16736281	51669.33
12.33	4529	152.0289	20511841	55842.57
12.04	4961	144.9616	22667121	57322.44
10.95	4591	119.9025	30151081	60126.45
10.67	6619	113.8489	43811161	70624.73
10.67	8060	113.8489	64963600	86000.2
9.78	9847	9536484	96963409	96303.66
$\Sigma X_2=79.07$	$\Sigma X_3=43398$	$\Sigma X_2^2=899.7561$	$\Sigma X_3^2=295804494$	$\Sigma X_2 X_3=477889.38$

Year	Avg. Interest Rate (X)	$(X-\bar{X})$	$(X-\bar{X})^2$
2004	12.63	1.3343	1.7803
2005	12.33	1.0343	1.0697
2006	12.04	1.7443	0.5540
2007	10.95	-0.3457	0.1195
2008	10.67	-0.6257	0.3915
2009	10.67	-0.6257	0.3915
2010	9.78	-1.5157	2.2974
	$\Sigma(X - \bar{X})=79.07$		$\Sigma(X - \bar{X})^2=6.6040$

### ANNEX-XI

Questions	Options Provided	Respondents	Total	Percent
1	a) Good	11	20	55
	b) Satisfactory	9		45
	c) Poor	-		-
2	a) Yes	12	20	60
	b) No	4		20
	c) May be	4		20
3	a) Yes	15	20	75

	b) No c) Don't know	1 4		5 20
4	a) High b) Low c) Medium	13 - 7	20	65 - 35
5	a) Effective b) Satisfactory c) Not-effective	12 8 -	20	60 40 -
6	a) Yes b) No c) Don't know	15 4 1	20	75 20 5
7	a) Highly effecting b) Normally affecting c) Not effecting at all	13 7 -	20	65 35 -
8	a) Deposit more b) Withdrawal more c) No effect	19 1	20	95 5
9	a) Good b) Satisfactory c) Inadequate	3 16 1	20	15 80 5
10	a) Due to interest rate structure b) Due to political situation c) Due to other factored	8 7 5	20	40 35 25
11	a) Agree b) Disagree c) Don't Know	4 15 1	20	20 75 5
12	a) Agree b) Disagree c) May Be	16 - 4	20	80 - 20
13	a) Yes b) No	14 3 3	20	70 15 15

	c) Don't Know			
14	a) Yes	19	20	95
	b) No	-		-
	c) May Be	1		5



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## ABBREVIATIONS

AD	=	Anno Domini
ATM	=	Automated Teller Machine
BS	=	Bikram Sambat
Cal	=	Calculator
Coeff	=	Coefficient
d.f.	=	Degree of freedom
Det	=	Determination
Dr	=	Doctor
Fig	=	Figure
FY	=	Fiscal Year
GDP	=	Gross Domestic Product
HBL	=	Himalayan Bank Limited
i.e.	=	that is
ICFC	=	International Finance and Commercial Bank
JVB	=	Joint Venture Bank
Ltd.	=	Limited
NABIL	=	Nabil Bank Limited
NRB	=	Nepal Rastra Bank
PNB	=	Punjab National Bank
SCBL	=	Standard Chartered Bank Nepal