CHAPTER-I

INTRODUCTION

1.1 General Background of the Study

The major concern of many countries of the world has been accelerated their development process and thereby increase the welfare of their people. This can be done only through rapid industrial development. This would require gearing up savings, creating conductive and enabling investment atmosphere and developing efficient capital market to facilitate mobilization of both ownership and debt capital through appropriate instruments. Such a scenario will help to grow corporate enterprise capable of ushering into a high growth era. Besides, the development of corporate culture depends upon a sound financial system, a set of complex and closely connected or inter-mixed institutions, agent's process, markets, claims etc. in an economy.

With the worldwide move towards open and market oriented economic system in the world economy, it has led to growth and expansion of banking and financial system too. As a matter development of new financial instrument and improved and diversified financial services are taking place. One of the concrete financial services is merchant banking function. Under merchant banking function, financial institutions provide necessary information on the financial instruments to any industry or any concern involved in business, in addition to consultancy services on procedural formalities to use the instruments and all necessary management services.

In most economics around the world, markets are used to carry out the complex task or allocating resources and producing goods and services. Market is an institution set up by society to allocate the resources that are scarce relatives to the demand for them. Markets are the channels through which buyers and sellers meet to exchange goods, services and resources.

In economic system market can be classified into three types:-

- Factor market
- Product market
- Financial market

Factor markets are markets where factor of production are exchanged.

Product markets are the markets where goods and services are exchanged.

Financial markets are an institutional mechanism created by society to channel savings and other financial services to those individuals and individuals willing to pay for them.

In financial market, the financial system fulfills its various roles through markets where financial claims and financial services are traded. These markets may be viewed as channels, through which moves a vast flow of funds that is continually being drawn upon by demanders of funds and continually being replenished by suppliers of funds. The flow of funds through the financial markets may be divided into many segments, depending on the characteristics of financial claims beings treaded and the need of different investors. The financial system comprises all the financial institutions, financial markets, procedures and practices adopted in these markets and the financial instruments which facilitate the transfer of funds from surplus-spending units to deficit-spending unit. It is customary to classify financial markets are:-1. Capital market and money market. 2. Primary market and secondary market. One of the most important divisions in the financial system is in between money market and capital market.

The thesis mainly concerns with the money market, its instruments and its practices.

Capital market is the place through which the entrepreneurs can collects the required long term fund floating securities to the general public. Both the individual and institutional investors can invest in the issued securities. So the market can be categorized in to two such as primary market and secondary market. These two components are considered as major components of the capital market. In fact these two markets are complementary to each other. In the absence of one market the growth and sustainability of another cannot be envisaged. This is why it is said that these two components are interwoven with the economic policy of the governments. In other words, govt. policy may affect the market positively and negatively. If the policy is unfavorable to the market, entrepreneurs as well as the participants will be discourage to channelize the funds through market mechanism. In this case the total market system will be responsive. On the other hand, if he economic policy is favorable then market will be more responsive. In this situation, the entrepreneurs can collect more funds by using long –term securities. Such securities can be common stock or debt instruments.

Capital market in other words can be defined as a market place where the trading of capital will be done. In order to trade there must be demander of capital and supplier of capital. The suppliers of capital are individual and institutions. They can supply the capital by converting their hard earn savings in to investments an also can make investments by borrowing from the financial intermediaries such as commercial bank, financial institutions, provident fund and other. Besides individuals, the financial intermediaries can also participate in the market. They can make investment of their own funds and other under the scheme of portfolio management. The demander of the funds may be entrepreneurs who are need of fund to run different business activities like trade, commerce, industries of trade and commerce. So they can issue different types of securities to collect the required capital.

The investors can invest both through primary and secondary market. If they want to invest through primary market they can do so by investing at the time of initial public offerings. This is why primary market is called initial public offering (IPO)

market. Securities already traded once through primary market are traded in secondary market. This market arranges liquidity in the securities that are already in the hands of general public. In fact, both the markets are inter-locked with national economic policy. If the government policy is favorable, the demand for securities will increase and the price of the securities in secondary market also increases. If not, the result will be just reverse. Because of this reason capital market especially the secondary market is called as the "economic barometer" of the country.

The money market is the market through which corporations and governments borrow cash for short-term purposes. Corporations use the money market to cover temporary short falls in their cash flows to meet payrolls, purchase inventories, pay taxes and stockholder dividends etc. when there are insufficient internally-generated funds to meet these needs.

The money market is created by a financial relationship between suppliers, and demand makers of short-term funds, which have maturates of one years or less. As far as money is concerned, banking institutions are at the helm of monetary activities for this reason; it is also called the short-term financial market. The main function of the money market is to provide short-term loans to the business, loans to the government and loans to households. The governments and business organizations requiring short-term funds sell securities and investors who have surplus money buy securities in this market.

The money market is a market for short term transferable securities. The sale of these securities finances the working capital of commercial and industrial firms, financial firms, and governments.

The money market is always the head-quarters of the capitalist system, form which orders go out to its individual division and that which is debated and decided there is always in essence the settlement or plans for further development. It is designed for the making of individuals and other institutions with temporary surplus of

funds meet the needs shortages. Thus the money market enables economic units to manage their liquidity position.

By convention, a security or loan maturing within one year or less is considered to be money market instrument. One of the principles functions of the money market is to finance the working capital near of corporations and to provide government with short term fund in lies of tax collection. The money market also supplies funds for speculative buying of securities and commodities.

Money market can be considered in following perspective.

- Market for short-term securities.
- Use of money market instrument that cover short-term and marketable securities as well as liquid and low-risk based debt securities.
- Just cash equivalents used in money market.
- Providing a channel for the exchange of financial assets converting into money.

Money market is the major issue that affects the financial system of a country which impact negatively upon the overall economy of country. Nepalese money market is not well developed in forms of securities dealt with an institution involved in the market. Institutions that deal completely on money market instrument are absent. Similarly, many of the instruments which are popular in developed money market like commercial paper, bankers' acceptance, have not yet entered in Nepalese money market. In Nepal are basically Nepal Rastra bank and commercial banks and instrument dealt are Treasury bill, Commercial bill, short-term bank loan.

1.2 Statement of the Problem

Financial market and institutions have undergone significant changes in recent years. Technology, innovation, deregulation, competition and global financial crises have driven transformation. The financial market plays a key role of facilitating the flow of funds from individual units to business, government and household as well. The financial institutions in relation to financial market are the key players serving the role of intermediaries to determine the flow of funds in financial system. So there is a growing prospect of financial market, financial institutions and financial instruments in a developing nation like Nepal.

In context of Nepal, the money market is not well developed. Similarly most of the instruments which are popular in developed money market have not yet entered in Nepalese money market. Nepalese money market is still in the beginning stages where different effort has been made for the development of money market. There are hybrid money market instruments available in the world of financial market, but not in Nepal. So the research problems are summarized below:

- What is the role of money market in the financial system?
- What types of money market instruments are being traded in Nepal?
- How can create good scope of money market instrument which are not much applied?
- What is the interrelation between money market and interest rate?
- Which money market instruments investing prefer more?
- What factors affect the choice of money market instrument?

1.3 Objective of the Study

The major objectives of the study are to find the Nepalese money market instruments and the specific objectives are as follows;

- To identify the various money market instruments and participation in Nepalese money market.

- To examine the yield concept and trading procedure of money market instruments.
- To analyze the role of money market to control the economic activities in the country.

1.4 Importance of the Study

The main objective of the study is the focus on the role of money market and its instruments in the development of Nepalese financial market. The market is dominated by individual investors and most of them are not making informed investment decision rather driven by markets rumors. Information helps investor to decide whether or not to invest in the instruments of certain company. In order to complete the role of institutional investor, adequate instruments are required.

Money market is a part of financial market, plays a vital role in the economic development of a country. Before taking any decision about money market or money market instrument all individual and institution need full information about money market its instrument and its importance in economy. This research may help researcher and other individual to explore their career in money market, measurement tool of money market.

1.5 Limitation of the Study

While studying anything we need real data but there is hard to get data and perfect information from institution. Money market is in initial phase in Nepal. The major limitations of the study are as follows:-

- The data are available and published in annual report may be incorrect.
- There are so many organizations, only few organizations of a particular sector will be taken as sample.
- This study focus on the relevant data and information for short period.
- Only selected statistical tools have been employed in this study.

1.6 Organization of the Study

The present study is organized in such way that the stated objectives can easily be fulfilled. The structure of the study will try to analyze the study in a systemic way. The study report has presented the systemic presentation and finding of the study. The study report is designed in five chapters which are as follows:

Chapter-I: Introduction

This chapter describes the basic concept and general background of the study. It has served orientation for readers to know about the basic information of the research area, statement of problem, objective of study, importance of the study limitation of the study and chapter plan of the study. It is oriented for reporting giving them the perspective they need to understand the detailed information about coming chapter.

Chapter-II: Review of literature

The second chapter of the study assures readers that they are familiar with important research that has been carried out in similar areas. It also establishes that the study as a link in a chain of research that is developing and emerging knowledge about concerned field.

Chapter-III: Research Methodology

Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives in view. It describes about the various source of data related with study and various tools and techniques employed for presenting the data.

Chapter-IV: Presentation and Analysis of data

This chapter analyzes the data related with study and presents the finding of the study and also comments briefly on them.

Chapter-V: Summary, Conclusion and Recommendation

On the basis of the results from data analysis, the researcher concluded about the performance of the concerned organization for better improvement.

Bibliography, appendix and other supporting documents have also been incorporated at the end of the study

CHAPTER-II

REVIEW OF LITERATURE

Review of literature is basically a stock taking of available literature in one's field of research. The literature survey thus provides the students with the knowledge of the status of their field of research. Thus, previous studies cannot be ignored as they provide the foundation of the present study. This chapter highlights the literature that is available in concerned subject as to my knowledge, research work, and relevant study on this topic, review of journals and articles and review of thesis work performed previously.

The primary purpose of literature review is to learn not to accumulate. It enables the researcher to know:

- What has been done in the subject?
- What others have written about the topic?
- What theories have been advanced?
- What approaches have taken by other researchers?
- What are areas of agreement or disagreement about the research?
- Whether there are gaps that can be bridged through the research purpose.

The purpose of literature review is thus, to find out what research studies have been conducted in one's chosen field of study and what remains to be done.

2.1 Conceptual Review

Conceptual framework deals with the theoretical aspects of financial system, financial market, money market and money market instrument, interest rate in money market and \other many more related under this topics etc.

2.1.1 The Financial System

The financial system is the system that allows the transfer of money between savers (and investors) and borrowers. A financial system can operate on a global, regional or firm specific level. The financial system fulfills its various roles through markets where financial claims and financial services are traded. These markets may be viewed as channels through which moves a vast flow of funds that is continually being drawn upon by demanders of funds and continually being replenished by suppliers of funds.

People have different needs, and in trying to fulfill these needs, opposite needs are matched. Where needs are matched on a large scale, markets for those needs develop. Market forces are thus:

- The supply of an item or service where there is
- A demand for that item or service.

A market is not necessarily a physical and geographically identifiable place, and goods traded are not necessarily physical goods. Trading might take place over the telephone, and goods traded might be knowledge, etc. Goods traded in markets are traded through a price mechanism which expresses the interaction of demand for and supply of these goods as a value.

The different markets in the financial system of a country are not isolated markets, but they interact with each other. With electronic communication and the revolution in computers and computer networks, the markets of the world are busy interacting on a large scale. In a small country like Nepal, one could sometimes feel lost in this "universe" of supplies and demands. As astronomer Bernard de Fontenelle (1657-1757) put it: "Behold a universe so immense, I am lost in it. I no longer know where I am."

2.1.2 Function of Financial System

Financial market performs a vital function within the economic system. The financial markets channels saving to those individuals and institution needing more funds for spending than are provided by their current incomes. The financial markets are the heart of the financial system, attracting and allocating saving and setting interest and security prices.

Saving function

- Wealth function
- Liquidity function
- Credit function
- Payment function
- Risk function
- policy function

2.1.3 Types of Financial Market within the Financial Market

1. The money market versus the capital market
2. Open versus negotiated market
3. Primary versus secondary market
4. Spot versus future, forward and option markets

The flow of funds through the financial market may be divided into different segment depending on the characteristics of financial claims being traded and the needs of difference investors. One of the most important divisions in the financial system is between the money market and capital market.

The money market is designed for the making of short-term loans. It is the institution through which individuals and institution with temporary surplus of

funds meet the needs of borrowers who have temporary funds shortages. Thus, the money market enables economic units to manage their liquidity position. By convention, a security or loan maturing within one year or less is considered to be a money market instrument. One of the principal functions of the money market is to finance the working capital needs of corporations and to provide government with short-term funds in lieu of tax collections. The money market also supplies funds for speculative buying of securities and commodities.

In contrast, the capital market is designed to finance long term investment by businesses, government and households. Trading of funds in the capital market makes possible the construction of factories, Highways, schools and homes. Financial instrument in the capital market have original maturities of more than one year and range in size from small loans to multimillion dollar credits.

2.1.4 The Development of Financial Markets and Instruments

The basic needs in the financial world are the following:

- The need to invest excess money (supply)
- The need to borrow money (demand) where there is a shortage of money.

The government of a country might, for instance, need money for certain projects, while certain private sector companies or individuals might have excess money to invest in profitable investments. The "price" paid for money is interest paid on the amount borrowed, and the interest rate is thus the price mechanism used in financial markets.

To match different financial needs such as the need to borrow and the need to invest, intermediaries are mostly used, for example:

Where an institution wants to invest a certain sum of money, for a certain time, giving them a certain yield. Another institution wants to borrow a certain amount of money for a period at the lowest cost possible, the lenders and the borrower's demands might differ.

An example would be:

- Butwal Power Company needs Rs. 100 million for a period of at least 10 years to erect new power lines
- Kumari bank has Rs. 50 million it wants to invest for 7 years
- Mohan has Rs. 50 million it wants to invest for 12 years.

An intermediary would seek to merge these different needs and demands of borrowers and lenders through negotiation and financial instruments. A certificate would be issued to the lender giving him the right to the interest payments and the redemption amount at expiry of the loan. These instruments are called securities.

Large financial transactions involving the lending and borrowing of money (such as the example above), which are done through intermediaries or as principal by the lender, are often structured and standardized regarding:

- The amount of the loan or investment
- The interest paid and received thereon
- The term to redemption of the loan.

In order to enhance the marketability and tradability of these securities, these standards created for transactions are incorporated into financial instruments. A borrowing certificate from a certain institution, where the institution borrows the money and gives the lender (investor) a certificate promising to pay the owner or holder of the certificate Rs.1 million on 1 June 2008 and interest of 11.00% per annum on Rs.1 million up to 1 June 2008 (similarly to the Eskom 168 certificates), is an example of a financial instrument. A certificate representing the contract between the lender and borrower is issued for the duration of the loan.

2.1.5 The Money Market

Money markets are the markets for short-term debt securities. Example of money market securities are treasury bills, Bankers acceptances, commercial paper and negotiable certificate of deposit issued by the government, business and financial institutions.

These instruments are very liquid and consider extraordinarily safe. Because they are extremely conservative, money market securities offer significantly lower return than most other securities.

In the money market, loans have an original maturity of one year or less. Money market loans are used to help corporation and government pay the wages and salaries of their workers, make repairs, purchase inventories, pay dividends and taxes, and satisfy other short-term working capital needs.

The money market, like all financial market, provides a channel for the exchange of financial assets for money. The money market is the mechanism through which holders of temporary cash surpluses meet holders of temporary cash deficits. It is designed, on the one hand. To meet the short term cash requirement of corporation, financial institution, and government, providing a mechanism for granting loans as short as overnight and as long as one year to maturity. At the same time, the money market provides an investment outlet for those spending units (also principally corporations, financial institution and government) that hold surplus cash for short periods of time and wish to earn at least some return on temporary idle funds. The essential function of the money market is to bring these two groups into contact to make borrowing and landing possible.

2.1.6 Types of Money Market Instruments

Money market does not operate by itself. In fact, the actual operation of money market instrument depends on using a wide variety of money market instruments. The characteristics of the various money market instruments that agree in common are low default risk, short-term to maturity and high marketability. Financial claims are supported by the given money market instrument characteristics. Thus, the money market instrument include among all-Treasury Auction, Treasury Bills, Commercial Paper, Banker's Acceptance, Certificate of Deposit (CDs), Eurodollars, Repurchase Agreements, Federal Funds, and so on (Shrestha M.K 2007:79).

Though having many money markets instrument practices in global market place but in Nepal, few instruments practice that are Treasury bills and repurchase agreement. We can find only government securities are traded in market as more reliable & secure securities. Due to unsecured & undeveloped phenomena of Nepalese industrial sector & lack of high class consultancy for the other instruments, those are not issued.

So we mainly focus on Treasury bills and repurchase agreement.

Treasury Bills: The Treasury bills are short-term money market instrument that mature in a year or less than that. The purchase price is less than the face value. At maturity the government pays the Treasury bill holder the full face value. The Treasury Bills are marketable, affordable and risk free. The security attached to the treasury bills comes at the cost of very low returns.

Certificate of Deposit: The certificates of deposit are basically time deposits that are issued by the commercial banks with maturity periods ranging from 3 months to five years. The return on the certificate of deposit is higher than the Treasury Bills because it assumes a higher level of risk.

Commercial Paper: Commercial Paper is short-term loan that is issued by a corporation use for financing accounts receivable and inventories. Commercial Papers have higher denominations as compared to the Treasury Bills and the Certificate of Deposit. The maturity period of Commercial Papers is a maximum of 9 months. They are very safe since the financial situation of the corporation can be anticipated over a few months.

Banker's Acceptance: It is a short-term credit investment. It is guaranteed by a bank to make payments. The Banker's Acceptance is traded in the Secondary market. The banker's acceptance is mostly used to finance exports, imports and other transactions in goods. The banker's acceptance need not be held till the maturity date but the holder has the option to sell it off in the secondary market whenever he finds it suitable.

Euro Dollars: The Eurodollars are basically dollar- denominated deposits that are held in banks outside the United States. Since the Eurodollar market is free from any stringent regulations, the banks can operate at narrower margins as compared to the banks in U.S. The Eurodollars are traded at very high denominations and mature before six months. The Eurodollar market is within the reach of large institutions only and individual investors can access it only through money market funds.

Repos: The Repo or the repurchase agreement is used by the government security holder when he sells the security to a lender and promises to repurchase from him overnight. Hence the Repos have terms ranging from 1 night to 30 days. They are very safe due government backing.

2.1.7 Need of Money Market

The need for a money market arises because receipts of economic units do not coincide with their expenditures. These units can hold money balances to insure that planned expenditures can be maintained independently of cash receipts (that is, transactions balances in the form of currency, demand deposits). There are however, costs in the form of foregone interest involved, by holding these balances. To enable the economic units to minimize this cost, they usually seek to hold the minimum money balances required for day-to-day transactions. They supplement these balances with holdings of money market instruments. The advantages of money market instruments are: that it can be converted to cash quickly and at a relatively low cost, and it have low price risk due to their short maturities. Economic units can also meet their short-term cash demands by maintaining access to the money market and raising funds there when required.

Money market has an important role to play in raising the funds whenever needed for the industries, firms, government and households. The industries and firms can issue securities to manage the funds and government can borrow funds from money market. The households can sell their holding of security in the money market.

Money market helps the investor to invest their funds with various alternatives of getting expected returns. They can earn reasonable interest or income from supply of funds in the money market. Money market helps to government in the getting funds for paying day to day expenditures and other unexpected expenses can be paid through a raising funds from money market until the revenue do not come in time. Government can raise fund issuing treasury bills that time government become a borrower for money market after the collection of funds form tax the government purchase treasury bills, this is the case of lender.

Money market helps in timing of cash receipts and disbursement of cash inflows and outflows. Moreover, business firm have cash shortage and they can match the funds from money market by issuing various short-term market instrument or borrowing directly from the networks of financial intermediaries engaged in money market. They become the borrowers in the money market to meet their temporary cash deficiencies as well as lenders to invest when they have surplus cash.

Why is such a market needed? There are several reasons. First, for most individual and institution, inflows and outflows of cash are rarely in perfect harmony with each other. Government, for example, collects taxes from the public only a certain times of the year. Disbursement of cash must be made throughout the year, however, to cover the wages and salaries of government employee, office supplies, repair, and fuel costs, as well as unexpected expenses. When taxes are collected, governments usually are flush with funds that far exceed their immediate cash needs. At this time, they frequently enter the money market as lenders and purchase treasury bills, bank deposit and other attractive financial assets. Later, however, as cash runs low relative to current expenditure, these same governmental units must once again enter the money market as borrowers of funds, issuing short-term notes attractive to money market investors.

Business firms too, collect sales revenue from customers at one point in time and dispense cash at other points in time to cover wages and salaries, make repairs, and meet other operating expenses.

We must remember that money is one of the most perishable of all commodities. The holding of idle surplus cash is expensive, because cash balance earns little or no income for their owners. When idle cash is not invested, the holder incurs an opportunity cost in the form of interest income that is forgone. Moreover, each day that idle funds are not invested is a day's income lost forever. When large amounts of funds are involved, the income lost from not profitability investing idle funds for even 24 hours can be substantial. Billions of dollars in credit are extended in the money market overnight or for only a few daylight hours to securities dealers, banks and non-financial corporation to cover temporary shortfalls of cash.

Money market is an important ingredient of the financial market. The market for short-term securities is known as the money market. It deals with those debt instrument and other financial instruments that are issued with maturity of one year or less. In the financial market, money market is providing very significant role. Money market instrument cover short-term, marketable, liquid, low-risk debt securities. Sometimes money market instruments are called just cash-equivalents.

Money market provides a channel for the exchange of financial assets for money. Loan is made available to meet purely short-term cash needs of the firm and institution on current account rather than on the capital account. Money market serves the purpose of meeting the short-term cash requirement of the companies, individual households, financial institution and government as well as it helps in providing investment outlets for all those having surplus funds to invest in promising securities having less than one year of maturity. It is thus best for making effective use of the idle funds on a temporary basis.

There is no denying the fact that money market is slowly growing in our country it is because money market has been able to meet the temporary short term credit needs of the government although companies and firms have not yet been able to capture the importance of money market due to failure to infuse credit worthiness of short-term market instrument in the country.

At present, government is playing a more decisive role in mobilizing funds through issue of short-term treasury bills with the help of NRB. In the daily popular newspaper, one can notice about issue of Treasury bill on auction basis and yield on Treasury bill is published every quarterly in Kathmandu post. Every week or two weeks treasury bills are issued with a maturity period varying from minimum 91 days to maximum 364 days with a discount yield below 5 percent. But, still there is need for improvement in the money market in bringing efficient and faster contact between lender and borrower in the transfer of the funds for a short- term period.

2.1.8 Money Market in Nepal

The money market is founded on the large amounts funds, which companies, banks and other financial institutions wish to hold in highly liquid form to meet short- term fluctuations in their finance. Generally, the money market is divisible under two sector- organized and unorganized. The organized market comprises Nepal Rastra Bank – the central bank and commercial banks. It is called organized because the activities of commercial bank are systematically coordinated by the central bank. The unorganized market is largely made of indigenous bankers and money lenders. It is unorganized because Nepal Rastra Bank does not systematically coordinate the activities of these indigenous bankers and money lenders.

Nepalese money market is not well developed in terms of securities dealt with and institutions involved in the market. Institutions that deal completely on money market instrument are absent. Similarly, many of the instruments which are popular in developed money market like commercial paper, banker's acceptances, have not yet entered the Nepalese money market. Therefore, the institutions that operate in the money market in Nepal are basically Nepal Rastra bank and commercial banks and instruments dealt are treasury bills, commercial bills and short- term bank loan.

Treasury bill market is a major component of money market in Nepal, started in the year 1961-62. Since then, it has been an important source of short-term fund for the government except for few years taking from 1968 to 1974. But, because of low yield and absence of active secondary market with brokers, it remained mostly at the hand of the central bank. The holding of Treasury bill by commercial banks, through it was counted for the purpose of statutory liquid ratio, was uneven in the past particularly because of low yield. The interest rate was five percent until mid-November 1988. Since then, the rate is determined through auction in the market. The weighted average ratio on 91- day Treasury bill increased from 5.2 percent in 1088/89 to 10.93 percent in 1995/96 and again declined to 2.33 percent in 1998/99. It then slightly increased to 4.96 percent in 2000/01. Treasury bills are being held mostly by commercial banks. The role of other institutions is still insignificant in Treasury bill market.

Commercial banks are the major borrowers and lenders in the short- term money market. Although, commercial bank have been dealing with commercial bills since long, the bill market has its position as underdeveloped in Nepal. Only a larger amount is invested in import bills and LCs and the purchase of export bills. For examples, commercial banks' lending in bill finance including letter of credit were Rs.544 million in mid- July 1980 which increased to Rs.1406 million in 1990 to Rs. 11802 million in 2001. It accounted 19.62, 11.92 percent and 10.46 percent of the total loan and advance made by commercial banks in the respective years. The development of genuine bill market is beneficial both to borrowers and to lenders in a number of ways. For example, bills are normally self-liquidating and therefore offer greater liquidity to the holders. To the banks and financial institution, it provides higher return than treasury bills, and for borrowers, it costs less than under cash credit system. A well-developed bill market also helps in generating liquidity throughout the financial system. But Nepal has long way to go to realized the full advantage of bill market because it still lacks institutions like 'discount houses' and 'acceptance houses 'and traders prefer cash credit form of short term financing.

Besides treasury and commercial bills, short- term credit by commercial banks also forms another important part of money market in Nepal. Through short-term credit has not fully developed to encourage growth of money market in Nepal, even then it has been the convenient vehicle for lending and borrowing. This type of finance was largely the monopoly of commercial banks in the past but in recent years. NIDC and other development banks also provide such finance.

In Nepal, money market is in initial phase. It is underdeveloped in terms of securities dealt with and institutions involved in the market. Many money market instruments and institutions are still absent in Nepal. Treasury bill market and short-term credit by commercial bill market is evolving steadily despite numerous setbacks.

2.1.9 The Significance of Money Market for Controlling Economic Activities

Significance of money market has lies in controlling economic activities in the country. Because of short-term nature of the money market instrument, control in the economic activities is made possible. There exists no wide yield fluctuation in money market. Being less risky investment instrument, control in economic activities is automatic in money market. The principle money market instruments are listed and there is very little default of risk. Even in other money market instrument issued by bank and blue chip companies, maturity pay back is certain and so money market always put the economy going on with sound footing through satisfactory maintenance of liquidity, safety and proper utilization of funds to minimize risk. Take for instance, if there is too much funds flashed in the economy, money market helps to draw the excess funds by issuing various short-term money market instrument. However, on the contrary, if there is shortage of funds in the money market, the funds are made available through the purchase of various money market securities to maintain sufficient liquidity to serve the purpose of the economy. Money market is sensitive to the credit needs of the economy. Whenever there is higher demand for credit, money market facilities

commercial banks and other financial institution to borrow at lower rate. But, at the same time, wherever the excess funds exist money market helps to earn some yield instead of keeping funds idle. This is how money market tends to establish a balance between excess and shortage of funds in the economy.

2.1.10 The Volume of Money Market Securities

The principle financial instruments traded in the money market in global market place are treasury bills, federal agency securities, dealer loans, repurchase agreements, bank certificates of deposit (CDs) federal funds, commercial paper, bankers' acceptances, financial futures, and Eurodollar deposits.

In fact, the volume of money market securities has grown rapidly in recent years. One reason is the international economy's growing need for liquid, readily marketable securities. Another factor in the money market's growth has been the attractive yields offered investors.

2.1.11 Investment and Interest Rate in Money Market

In financial market terms, the money market exists for the purpose of issuing and trading of short-term instruments, that is, instruments where the term remaining from the date when trading takes place to the date of redemption of the loan represented by die instrument (commonly referred to as the "term to maturity"), is of a short-term nature. In theory, this term for classification as a money market instrument is given as one year.

In general terms, the money market is the market where liquid and short-term borrowing and lending take place. The lending of funds in this market constitutes short-term investments. In a certain sense all bank notes, current accounts, cheque accounts, etc. belong to the money market.

Investment in money market instrument depends upon the prevailing rates in the money market. How much to invest is a matter of the attractive features attached in various kinds of money market instrument. These attractive features include among all the rates quoted in money market. Although the money market is

defined as considerable variation in rates within the money market, these rates are also popularly known as the yields that can be earned by investing in various types of money market instruments.

But, the difference in money market yield is affected by a number of factors acting directly or indirectly in the economy. One of the most important factors affecting rates of investment in money market instruments is the investor's preparation towards risk. Investors have to consider market risk or interest rate risk which refers to the danger that fall in prices tent to raise the interest rate and subjecting investors to suffer a capital loss. In addition, there is reinvestment risk that means that investors have to reinvest their earnings from financial assets in lower yielding assets at some point time in the future. Anyhow investors consider investment in money market safe and liquid for which it has to compromise for getting lower rates to protect against inflation risk, default risk etc. in international money market, there are further protection of currency risk, political risk and many more like.

However, there is no denying the fact that rates in the money market instruments tends to be remarkably stable over time compared to the long-term securities like bonds, stocks, real state, commodities, etc. it is because money market instruments do not offer the prospect of significant capital gains for the investor who are more concerned with to minimize capital losses from investment. This is the reason why money market instruments have good credit ratings as money marketing borrowers belong to well established institutions. The other factor significant affecting rate of investment in money market is that adequate provision of liquidity as a cushion again inflation risk encourages investors to prefer lower yields.

Rates in money market also depend upon money market maturities as well as depth and breadth of money market. The difference of original maturity from that of actual maturity brings variation in rates. While the original maturities is one year or less but the actual maturity can be days, months or years and the date on which the security is actually retired. The flexibility in maturity terms lead to create difference in rates.

Likewise, money market can absorb a large volume of transactions with only small effects on security prices and interest rates. Due to broad and deep market, rates in money market are maintained as investors can sell most money market instruments on short notice. The active traders in money market do not allow the rates to fluctuate too much as money market is one of the most efficient markets in the world. But, in Nepal, money market is still in developing stage and recent demand of the brokers' community that they should be allowed to trade in various money market instruments to influence the rates in money market are still under consideration by the government and regulating authorities like Securities Exchange Board, Central Bank of the country (NRB), etc.

2.1.12 Interrelationship of Short-term Interest Rates in Money Market

Money market interest rates are closely related to each other. The interrelationship of short term interest rates in money market instruments serves as close substitutes for each other in many investment portfolios due to the interrelationship of money market rates. In fact, various money market instruments have their individual differences. Making investment in money market provides different rates of return despite the fact that the securities traded in such market covers original maturity of one year or less. In other word, the rate of return or yield within the money market securities varies over time and among different securities. Among the various money market instrument issued, t-bills offer the lowest yield, as it has zero default risk and minimal market value. There is an active combination of low risk and ready marketability for T-bills and as such it carries the lowest yield in money market. In our country, experience shows that yield on T-bills are less than 5%. Even then, commercial banks invest in such instrument to ensure adequate liquidity with zero risk of default. There is the best backing of security by the government promise to repay in time. Then, in order of importance comes the commercial paper and bankers' acceptance. Commercial paper issued by the blue chip companies have slightly lower yield than the yield on certificate of deposit (CDs). Likewise, Bankers' acceptance offer lower return than a certificate of

deposit because there is added margin of safety and security in CDs. Eurodollars CDs pays a higher return than domestic CDs due to higher risks involved. Money market practice shows that yields on various money market instruments are scaled upward from T-bills rate. Take for instance in our own country T-bill rate on government securities is very low as there is virtually no risks involved. Despite strong plea for local development, municipalities and local development authorities have not been in a position to mobilize short-term funds through issue of various money market instruments and the question of determining yield does not come into question. There is no doubt the rate charged by Nepal Rastra Bank on the use of the funds kept as statutory vault reserves by commercial banks and other financial institutions. But the yield is very low as these are given as overnight loans rate.

In our country, bankers' Acceptance and negotiable CDs have not come into practice to form the part of the money market although there is wider scope for the development of these money market instruments. The well-established firms and corporations are not developing in the country, so commercial papers are not issued and no yield could be determined yet. However, there is the discount rate or refinancing rate charged by Nepal Rastra Bank on the depository institutions when they borrow in times of need and this rate is not determined by the market forces. It is based on the Nepal Rastra Bank's assessment of the state of the economy and credit market conditions.

2.1.13 Yield Calculation on Money Market

In the money market, interest bearing instrument are issued with a specific par value and stated coupon rate. Interest is earned on the basis of par value and it is calculated at coupon rate but discount paper issued in money market has no coupon rate although par value is given, thus discount paper is sold at discount below its par value. It is also called Zero coupon-bond since it has no coupon rate given.

2.1.14 Yield Calculation of Treasury Bills

T-bills are one of the most widely used discount paper in the money market. The practical side of the money market makes the point clear that treasury bills as a money market instrument does not provide a promised interest rate but instead sold at a discount from par. The yield on treasury bills is based on the appreciation in price between time of issue and the time they mature or are sold by the holder of such T-bills.

Calculating yield on T-bills as follows.

1. The Bank Discount Rate (DR):

The Bank discount rate is calculated, discount amount divide by par value and use 360 days year for per year rate. The bank discount rate DR on bills is given by the following formula.

$$DR = \frac{\text{Par Value} - \text{Purchase Prise}}{\text{Par Value}} X \frac{360}{\text{No of days to maturity}}$$

Where as, DR= Bank Discount Rate

2. Annual Equivalent Yield (IR):

The rate of return on T-bills is figured in different ways then the rate of return on most other debt instrument, the investor must convert bills yield to an instrument yield to make realistic comparisons with other securities. The annual equivalent rate (IR) on bills can be obtained from the following formulas.

$$IR = \frac{\text{Par Value} - \text{Purchase Prise}}{\text{Purchase Prise}} X \frac{365}{\text{No of days to maturity}}$$

Where as, IR= Annual Equivalent yield

The IR formula explicitly recognized that each bill purchase at a discount price, which should be used instead of par value as the basis for figuring the bill's true

return. Because of the compounding of interest and the use of a 365- day's year, the annual Equivalent Rate (IR) on bill is always higher than its discount rate (DR)

2.1.15 Yield Calculation of Certificate of Deposit (CDs)

This is the interest bearing money market instrument that provide promised interest rate with principle at maturity time. Interest is earned on the basis of purchase price of CDs. Yield of CDs is equal to interest rate given by the CDs issuer. CDs holder get principle amount with interest amount. Generally, CDs interests calculate by simple interest Rate.

$$\text{Interest Rate on Certificate of Deposit} = \frac{\text{Interest Amount}}{\text{Price of CDs}} \text{ X } \frac{360}{\text{Days to Maturity}}$$

$$\text{Interest amount on CDs} = \text{ Price of CDs X} \frac{\text{Interest Rate on CDs}}{100} \text{ X } \frac{\text{Days to Maturity}}{360}$$

Annual equivalent yield of Certificate of Deposit,

$$\text{IR} = \text{ Interest Rate on CDs X} \frac{365 \text{ Days}}{360 \text{ Days}}$$

Where as, IR= Annual Equivalent yield

2.1.16 Yield Calculation of Commercial Paper

Yields to the investor are calculated by the bank discount method just like Treasury bills. As in the case of T-bills, most commercial paper is issued at a discount from par; the investor's yield arises from the price appreciation of the security between its purchase date and maturity date.

$$\text{DR} = \frac{\text{Par Value} - \text{Purchase Price}}{\text{Par Value}} \text{ X } \frac{360}{\text{Days to Maturity}}$$

Where as, DR = Bank Discount Rate

If this commercial note's rate of return were figured like of a regular bond. Its coupon equivalent yield would be,

$$IR = \frac{\text{Purchase Price} - \text{Par Value}}{\text{Purchase Price}} X \quad \frac{365}{\text{Days to Maturity}}$$

Where as, IR= Annual Equivalent yield

This second formula helps an investor compare prospective returns on paper against the returns available on other securities available for purchase. In addition to discount paper

$$\text{Interest Rate of Commercial Paper (DR)} = \frac{\text{Interest Amount}}{\text{Price of Commercial Paper}} X \frac{360}{\text{Maturity Period}}$$

$$\text{Interest Amount of Commercial Paper} = \text{Price of Commercial Paper} X \frac{\text{Interest Rate on Paper}}{100} X \frac{\text{Days to Maturity}}{360}$$

2.1.17 Yield Calculation of Bankers' Acceptance

Bankers' Acceptance is another popular money market instrument priced on a discount yield basis. Acceptances do not carry a fixed rate of return of interest but are sold at a discount in the open market like Treasury bills. The prime borrower under an acceptance is charged a commitment fee for this line of credit. Yield calculation method for acceptance is as follows;

$$DR = \frac{\text{Par Value} - \text{Purchase Price}}{\text{Par Value}} X \frac{360}{\text{Days to Maturity}}$$

Where as, DR = Bank Discount Rate

If this Bankers' Acceptance rate of return were figured like of a regular bond. Its coupon equivalent yield would be,

$$IR = \frac{\text{Purchase Price} - \text{Par Value}}{\text{Purchase Price}} X \quad \frac{365}{\text{Days to Maturity}}$$

Where as, IR= Annual Equivalent yield

2.1.18 Yield Calculation of Eurodollars

Eurodollars is priced below its par or face value and appreciates in value as maturity approaches. The interest rate quoted to investors is expressed as a discount rate (DR) like that attached to Treasury bill.

$$\text{Price of Eurodollar issue} = 100 - \text{DR X } \frac{\text{Days to Maturity}}{\text{360 Days}}$$

$$\text{DR} = \frac{\text{Par Value} - \text{Purchase Price}}{\text{Par Value}} \text{ X } \frac{360}{\text{Days to Maturity}}$$

Where as, DR = Bank Discount Rate

Annual equivalent yield of Eurodollars

$$\text{IR} = \frac{\text{Purchase Price} - \text{Par Value}}{\text{Purchase Price}} \text{ X } \frac{365}{\text{Days to Maturity}}$$

Where as, IR= Annual Equivalent yield

2.1.19 Yield Calculation on Repurchase Agreement

$$\text{DR} = \frac{\text{Par Value} - \text{Purchase Price}}{\text{Par Value}} \text{ X } \frac{360}{\text{Days to Maturity}}$$

Where as, DR = Bank Discount Rate

Annual equivalent yield of Repurchase Agreement

$$\text{IR} = \frac{365 \text{ x DR}}{360 - \text{DR x Days to maturity}} \text{ X } 100$$

Where as, IR= Annual Equivalent yield

2.1.20 Money Market Issue in Nepal

- **Treasury bill issue**

Government need huge amount of fund to operate economical activities for development. The fund may collect from internal debt, foreign aid, tax & donation. Moreover, government use internal debt tool for various administration expenses, good governance, and deficit budget. NRB is the sole authorize institution, which collect internal debt and manage for government of Nepal. Moreover, Nepal Rastra Bank, Department of National Debt acting vital role according to NRB law 2058, National debt act 2059.

Generally, short-term debt means instrument having one year or less maturity period. Among the short term instrument Treasury bill accepted as highly liquid able, highly marketable instrument. Treasury bill helps to control demand & supply of money market. T-bills help to success the purpose of monetary policy.

In the context of Nepal, only Treasury bill is a short-term instrument. First time NRB issued T-bills amounted Rs.70, 00,000.00 having 1% interest in 2018/19. Since 2045 B.S. Auction system started with monthly & bio-monthly after 2028 B.S. push weekly auction take place. Investor may apply for T-bill from district level office of NRB from 2049 Magh. NRB issues 28 days, 91 days, 181 days and 364 days.

- **Repurchase Agreement issue**

In Nepal the liquidity situation of commercial bank is monitored under the liquidity monitoring and forecasting framework (LMFF). The secondary market in treasury bills is operated through four different windows; outright sale, outright purchase, repurchase (Repo), and reverse repurchase (Reverse repo) auctions. Treasury bills are sold (or bought) for the remaining term to maturity under outright sale (or purchase) and Nepal Rastra Bank takes initiations for these transactions. Nepal Rastra Bank uses repurchase auction to supply reverses to the banking system and reverse repurchase auction to drain its reverse. Repurchase

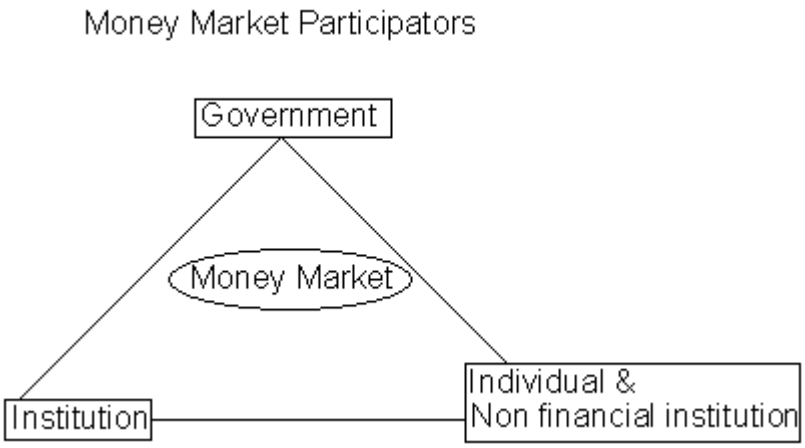
and reverse repurchase auctions are, therefore, used to respectively inject and absorb the short-term liquidity. These transactions extend up to a maximum period of 28 days.

- **Certificate of Deposit Issue**

Only negotiable CDs are traded in money market. In Nepal none of the banks have issued the negotiable CDs. Though the non-negotiable CDs are traded in the secondary market but some commercial banks have issued it. The following commercial banks have issued non-negotiable CDs: Nepal Bank Ltd., Rastriya Banijya Bank, Nabil Bank Ltd., Nepal Investment Bank., Standard Charted Bank Ltd., Himalayan Bank Ltd., Nepal SBI Bank Ltd., Nepal Bangladesh Bank., Everest Bank Ltd., Bank of Kathmandu Ltd., NCC Bank Ltd., Lumbini Bank Ltd., NIC Bank., Machapuchre Bank Ltd., Kumari Bank Ltd., Laxmi Bank Ltd., Siddhartha Bank Ltd., Agricultural Development Bank Ltd., Global Bank., Citizens Bank Ltd., Sunrise Bank Ltd., Bank of Asia Ltd., Prime Commercial Bank., DCBL Bank., NMB Bank.

2.1.21 Participators of Money Market in Nepal

Participators of money market instrument means all the party involve in money market. Government, institution, individual all are the participators for money market. In the context of Nepalese money market only T-bills & Repurchase agreement are trading. T-bills are issued by Nepal Rastra Bank to maintain short term cash deficit. Large volumes of T-bills are purchased by financial institutions and rests of T-bills are purchased by individual & nonfinancial institution. Though there is several money market instruments available, one and only T-bills have domination in Nepal. Others are used hardly.

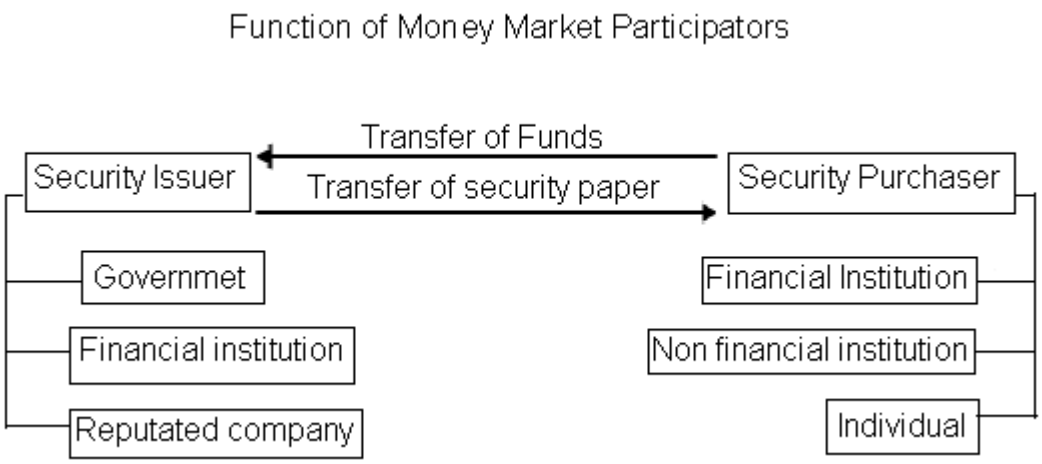


Main function of money market participator is fund transfer from lender to borrower and security transfer from fund borrower to lender. The Issuer issues security to borrow fund from lender. Generally, Government Issues T-bills with the help of Central Bank. Security purchaser invests their money taking security as collateral. If we classified according to group we find them as follows:

Government: - In this group NRB plays main role. NRB works as a mediator of government & other institutions. NRB issues Treasury bill, regulates the money market and maintains financial environment on financial market.

Institution: - In this group we can find financial institutions & Blue Chip Company which have huge volume of fund for lend and they play good role on money market. In the context of Nepal, only commercial bank full fill the role of institution group.

Non-financial institution & Individual: - Individual & other institution, who deals in money market lies in this group. In the context of Nepal, small number of nonfinancial institution & individual are involve in the money market.



2.1.22 How T-bills are Sold in Nepal

Government auctions Treasury bill in the money market to meet the short-term credit needs. Such auction is made very often each week and it includes the sale of Treasury notes and bonds as well. In our own country, we very often read Treasury bill auction in newspaper either for 91 days or less at a discount. In accordance with National Debt Act 2017 and national debt by laws based on national debt act, Nepal Rastra bank can assist government in mobilizing resources by issuing 91,180 or 364 Treasury bills. The amount of T-bills auctioned varies from a minimum of Rs. 200 million to the maximum amount of Rs. 800 million at a time. It is one of the short-term funding alternatives for the government to meet government budget deficit. It makes best use of the excess liquidity available in the economy and there by encourages the smooth and stabilized growth of the monetary and overall financial system in the economy.

The procedures to be followed in auctioning Treasury bill consist of:

1. Fix the price or interest rate and this has been replaced by sale of treasury bills at a discounted price.
2. Sale on monthly and bi-monthly basis earlier and now selling treasury bills on a weekly basis.
3. Auction called on every Monday and sold the issue on every Tuesday.

4. Specify the payment period and make clear of all terms and conditions.
5. Notice the bid to be opened on every Thursday.
6. Submit the bid every Monday in loan Debt Department's main office, branches and sub-branches. Fill the bid firm stating the bid price.
7. Issue of treasury bills on a discounted basis.

2.1.23 The Use of Repos by the Central Bank

The use of Repos becomes common after World War II. The market for Repos began to expand rapidly in the 1980s as government debt stocks increased and as countries moved toward indirect monetary instruments. Central Banks began to use Repos as tools of monetary policy. Repo-based operations have proved to be very popular cash management vehicles for with unpredictable cash flows. For this purpose, central banks can use government securities or its own bonds as the underlying collateral. Central banks inject short-term liquidity in the system by buying securities from the commercial bank (Repos). In order to withdraw liquidity from the system, central banks sell securities to commercial banks (Reverse Repo). In some developing and emerging economics, Repos can also be used as a means of fostering secondary market for government securities. Repos offer a number of benefits to central bank.

Central Banks can use to adjust their balance sheet in the absence of true secondary market without issuing new securities.

Monetary impact can be self- limiting as repo expires on a specific date in future.

Repo arrangements are secured against default by the borrower, which help enhance discipline in the financial system.

Repo can be used to smooth variations in rates and exposure limits in the interbank.

Repurchase agreements carry interest rates close to the interbank rates. However, the practices of determining the interest rates on repurchase transactions may vary from country to country. Usually the interest rates are specified in the agreement. The central bank can announce a repo interest rate (Monetary Policy reference rate to signal short-term market rate fluctuations) at which it will buy or sell eligible securities. Alternatively, the central bank can auction specific repo quantities in order to meet liquidity goals or targets and the market determines repo rates. Repurchase agreements can be done on an overnight basis, for a fixed term, or on the basis of a continuing contract. Fixed-term repos are usually made for less than 30 days. Under a continuing contract, repo contracts usually contain a clause to adjust the interest rate on a day to day basis.

2.1.24 Repurchase Agreement in Nepal

In Nepal the liquidity situation of commercial bank is monitored under the liquidity monitoring and forecasting framework (LMFF). The secondary market in treasury bills is operated through four different windows; outright sale, outright purchase, repurchase (Repo), and reverse repurchase (Reverse repo) auctions. Treasury bills are sold (or bought) for the remaining term to maturity under outright sale (or purchase) and Nepal Rastra Bank takes initiations for these transactions. Nepal Rastra Bank uses repurchase auction to supply reverses to the banking system and reverse repurchase auction to drain its reverse. Repurchase and reverse repurchase auctions are, therefore, used to respectively inject and absorb the short-term liquidity. These transactions extend up to a maximum period of 28 days. Different types of memories operations along with their implications on the system's liquidity are summarized below.

Figure: 2.1

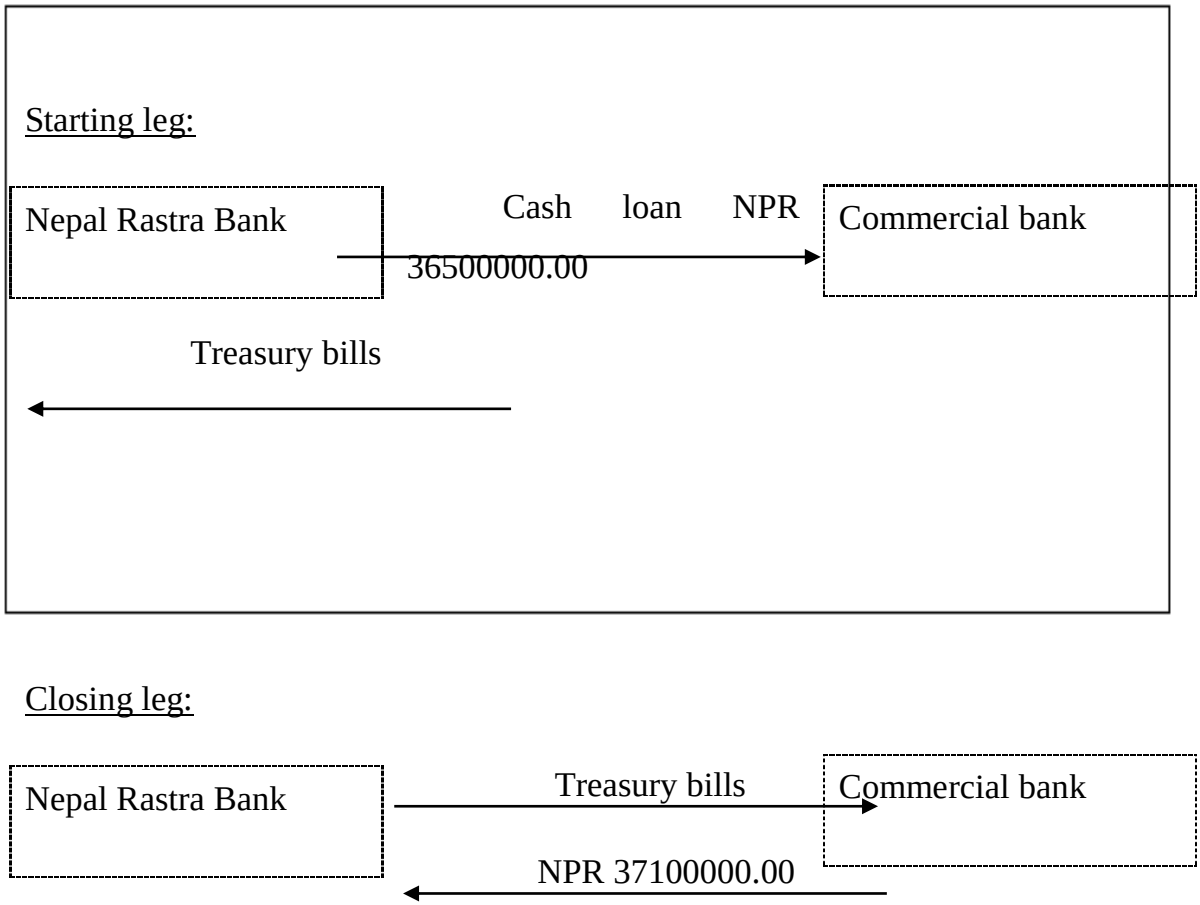
Monetary Action by Nepal Rastra Bank

Monetary actions	Term	Implications
Repo	Short term (up to 28 days)	Inject liquidity
Reverse Repo		Withdrawal liquidity
Outright purchase	Medium term	Inject liquidity withdrawal
Outright sale		Withdrawal liquidity

Nepal Rastra Bank auctions the quantities of Repo/Reverse repo transactions and interested commercial banks take part in the auction. The interest rates on these transactions are determined by the market. The auction is based on multiple-price format. Commercial banks submit sealed bids where no one has any information on the bids of other participants. Under a repo transaction bids are ranked and bidders with the highest interest rates are awarded first, followed by the next highest, until the entire allocation is awarded. Successful bidders have to pay different interest rates they quote. The mechanism for operating these transactions is illustrated with the help of an example. For example, Nepal Rastra Bank lends NPR 36500000.00 to a commercial bank for 4 days at an annual interest rate of 1.50 using Treasury bill as collateral. This is a repo transaction under which Nepal Rastra Bank buys securities from the commercial bank. The commercial bank sells treasury bills Treasury bill to Nepal Rastra Bank to obtain cash loan. As with a collateralized loan, the lender or Nepal Rastra Bank has possession of the borrower's securities during the term of the loan. The payment in the stating leg is the principle amount of the loan; the excess of the repurchase price over the sale price is the interest paid on the loan. On maturity date, the commercial bank pays 37100000.00 (Principle of NPR 36500000.00 plus interest thereon @ 1.50 % P.a. for 4 days) to Nepal Rastra Bank and repurchases the Treasury bill.

Figure: 2.2

Repo Transactions

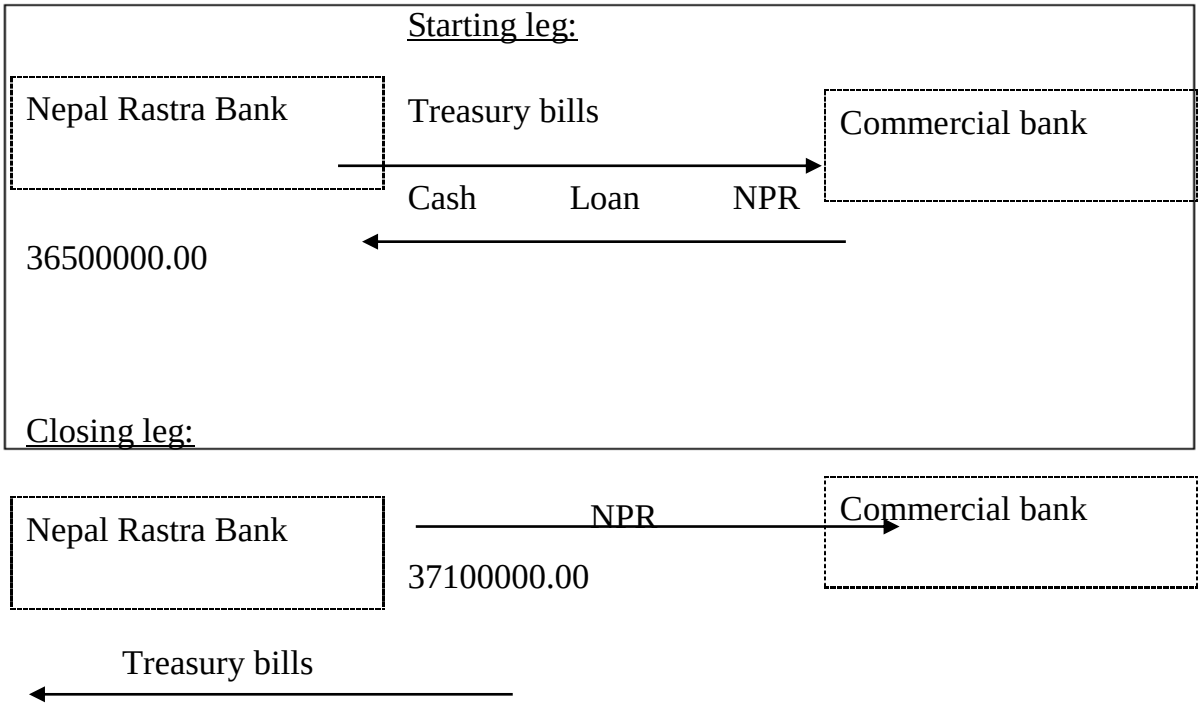


In the starting leg of the transaction, Nepal Rastra Bank exchanges reserves for the security, thus adding liquidity in the system. The process is reversed in the closing leg of the transaction.

A reverse repurchase transaction is the same as a repo transaction from the perspective of the lender or the commercial bank. Under a reverse repurchase transaction; Nepal Rastra Bank borrows from the commercial bank with the objective of moping-up excess liquidity from the system. Bidders with the lowest interest rate are awarded first and this process of award continues until the entire amount offered is exhausted.

Figure: 2.3

Reverse Repo Transaction



From Nepal Rastra Bank's perspective, repo transaction is associated with lending to commercial banks and reverse repo transaction is concerned with borrowings from the commercial bank. Nepal Rastra Bank tries to maximized interest income when it lends (Repo) to the commercial banks and to minimize interest costs when it borrows (Reverse repo) from the commercial banks.

Recently, Nepal Rastra Bank has entered into master repurchase agreement with each of the individual commercial banks. This master repurchase agreement sets out the relationships between Nepal Rastra Bank and individual commercial bank and general provisions applicable to all repos in terms of transaction, eligible securities, collateral , auction process and the confirmation of transaction, payment and transfer, representation, events of default and miscellaneous. The transaction is defined as a collateralized loan for a maximum period of 28 days. The transaction is based on auction, which is being initiated by Nepal Rastra Bank. Treasury bills issued by th e government of Nepal are the only eligible securities under this agreements. A minimum of 110 % of the borrowing /lending amount should be placed as collateral and the face value of collateral is to be taken for valuation

purpose. However, Nepal Rastra Bank will provide only an advice to the commercial bank when it borrows under the agreement. Telephone and other means of communications can be used by Nepal Rastra Bank to convey the message to the commercial banks under this agreement. Payment of cash and transfer of securities must take place immediately by complying all the necessary procedures. The agreement also covers the events of defaults and this include; seller fails to transfer or buyer fails to purchase upon the applicable purchase date; seller fails to repurchase or buyer fails to transfer securities upon the applicable repurchase date; and non-compliance of any of the conditions stated in the agreement. If the seller fails to transfer securities to the buyer upon the applicable purchase date, the seller shall have to pay a penalty of 2.5 % of the approved amount to the buyer or non-defaulting party. If the buyer fails to purchase securities from the seller up on the applicable purchase date the buyer shall have to pay a penalty of 2.5 % of the approved amount to the seller or non- defaulting party. If the seller fails to repurchase the securities by paying an additional interest rate of 1.5 % point above the normal interest rate as penalty within 5 days from such applicable repurchase date. If the transaction is not settled within the period of 5 days from the maturity date, the buyer can buy such securities by adding 1.5 % point as penalty on the interest rate determined in the primary auction of such securities.

2.2 Review of Related Books

The money market is the arena in which financial institutions make available to a broad range of borrowers and investors the opportunity to buy and sell various forms of short-term securities. The money market is not a physical place, but an informal network of banks and traders linked by telephones, fax machines, and computers. Money markets exist both in the United States and abroad.

The short-term debts and securities sold on the money markets which are known as money market instruments have maturities ranging from one day to one year and are extremely liquid. Some examples of common money market instruments include treasury bills, federal agency notes, certificates of deposit (CDs),

Eurodollar deposits, commercial paper, bankers' acceptances, and repurchase agreements. The suppliers of funds for money market instruments are institutions and individuals with a preference for the highest liquidity and the lowest risk.

Bhole (2003) Repurchase agreement also known as repos or buybacks are Treasury securities that are purchased from a dealer with the agreement that they will be sold back at a future date for a higher price. These agreements are the most liquid of all money market investments, ranging from 24 hours to several months. In fact, they are very similar to bank deposit accounts, and many corporations arrange for their banks to transfer excess cash to such funds automatically.

A repurchase agreement (repo) agreement is a sale of securities coupled with an agreement to repurchase the same securities at a higher price on a later date. Such a transaction is viewed from the perspective of the supplier of the securities or the party acquiring funds. It is a short- term, collateralized loan from a lender to a borrower that is executed through the sale and subsequent future repurchase of security at a specified date and price. It involves cash, security, and two transactions. The cash loan is made by the purchaser of the security to the seller and is repaid when the security is repurchased by the original owner. The security is transferred to the lender and the buyer acquires full ownership of the underlying security. The buyer may sell the security if the seller makes default in repaying the loan and any unsecured claim is subjected to bankruptcy proceedings. The first leg of the repurchase transaction takes place when one party (the seller) sells a transaction involves the repurchase of the security by the original owner or the seller at a specified future date. Therefore, a repurchase transaction involves an immediate sale of a security with an agreement to reverse the transaction at a specified future date. Repurchase agreement is arranged for short period, typically ranging from overnight to two weeks.

Johnson (2004) Bankers' Acceptances "A banker's acceptance begins life as a written demand for the bank to pay a given sum at a future date," Brealey and Myers noted. "The bank then agrees to this demand by writing 'accepted' on it. Once accepted, the draft becomes the bank's IOU and is a negotiable security. This

security can then be bought or sold at a discount slightly greater than the discount on Treasury bills of the same maturity." Bankers' acceptances are generally used to finance foreign trade, although they also arise when companies purchase goods on credit or need to finance inventory. The maturity of acceptances ranges from one to six months.

Saunders and Kornett (2007), Certificates of deposit (CDs) are certificates issued by a federally chartered bank against deposited funds that earn a specified return for a definite period of time. They are one of several types of interest-bearing "time deposits" offered by banks. An individual or company lends the bank a certain amount of money for a fixed period of time, and in exchange the bank agrees to repay the money with specified interest at the end of the time period. The certificate constitutes the bank's agreement to repay the loan. The maturity rates on CDs range from 30 days to six months or longer, and the amount of the face value can vary greatly as well. There is usually a penalty for early withdrawal of funds, but some types of CDs can be sold to another investor if the original purchaser needs access to the money before the maturity date.

Large denomination (jumbo) CDs of $100,000 or more are generally negotiable and pay higher interest than smaller denominations. However, such certificates are insured by the FDIC only up to $100,000. There are also Eurodollar CDs, which are negotiable certificates issued against U.S. dollar obligations in a foreign branch of a domestic bank. Brokerage firms have a nationwide pool of bank CDs and receive a fee for selling them. Since brokers deal in large sums, brokered CDs generally pay higher interest rates and offer greater liquidity than CDs purchased directly from a bank.

Shrestha and Bhandari (2008), Commercial paper refers to unsecured short-term promissory notes issued by financial and nonfinancial corporations. Commercial paper has maturities of up to 270 days (the maximum allowed without SEC registration requirement). Dollar volume for commercial paper exceeds the amount of any money market instrument other than T-bills.

It is typically issued by large, credit-worthy corporations with unused lines of bank credit and therefore carries low default risk.

Standard and Poor's and Moody's provide ratings regarding the quality of commercial paper. The highest ratings are A1 and P1, respectively. A2 and P2 paper is considered high quality, but usually indicates that the issuing corporation is smaller or more debt burdened than A1 and P1 companies. Issuers earning the lowest ratings find few willing investors.

Unlike some other types of money-market instruments, in which banks act as intermediaries between buyers and sellers, commercial paper is issued directly by well-established companies, as well as by financial institutions. "By cutting out the intermediary, major companies are able to borrow at rates that may be 1 to 1 Â½ percent below the prime rate charged by banks," according to Brealey and Myers. Banks may act as agents in the transaction, but they assume no principal position and are in no way obligated with respect to repayment of the commercial paper. Companies may also sell commercial paper through dealers who charge a fee and arrange for the transfer of the funds from the lender to the borrower.

Thapa (2007), Treasury bills (T-bills) are short-term notes issued by the U.S. government. They come in three different lengths to maturity: 90, 180, and 360 days. The two shorter types are auctioned on a weekly basis, while the annual types are auctioned monthly. T-bills can be purchased directly through the auctions or indirectly through the secondary market. Purchasers of T-bills at auction can enter a competitive bid (although this method entails a risk that the bills may not be made available at the bid price) or a noncompetitive_bid. T-bills for noncompetitive bids are supplied at the average price of all successful competitive bids.

2.3 Review of Journal and Articles

The money market is better known as a place for large institutions and government to manage their short-term cash needs. However, individual investors have access to the market through a variety of different securities. A segment of

the financial market, in which financial instruments with high liquidity and very short maturities are traded. The money market is used by participants as a means for borrowing and lending in the short-term, from several days to just under a year. Money market securities consist of negotiable certificates of deposit (CDs), bankers' acceptances, US Treasury bill, commercial paper, municipal notes, federal funds and repurchase agreements (repo). (www.investopedia.com)

The money market is the arena in which financial institutions make available to a broad range of borrowers and investors the opportunity to buy and sell various forms of short-term securities. The money market is not a physical place, but an informal network of banks and traders linked by telephones, fax machines, and computers. Money markets exist both in the United States and abroad. The short-term debts and securities sold on the money markets which are known as money market instruments have maturities ranging from one day to one year and are extremely liquid. Some examples of common money market instruments include treasury bills, federal agency notes, certificates of deposit (CDs), Eurodollar deposits, commercial paper, bankers' acceptances, and repurchase agreements. The suppliers of funds for money market instruments are institutions and individuals with a preference for the highest liquidity and the lowest risk (www.answers.com).

The money market is important for businesses because it allows companies with a temporary cash surplus to invest in short-term securities, and it also allows companies with a temporary cash shortfall to sell securities or borrow funds on a short-term basis. In essence, it acts as a repository for short-term funds. Large corporations generally handle their own short-term financial transactions, participating in the money market through dealers. Small businesses, on the other hand, often choose to invest in money-market funds, which are professionally, managed mutual funds consisting only of short-term securities (www.answers.com).

Repurchase agreement (repo or RP) and reverse repurchase agreement refers to a type of transaction in which a money market participant acquires funds which are immediately available by selling securities and simultaneously agreeing to

repurchase the same or similar securities after a specified time at a given price, interest at an agreed-upon rate incurred. When viewed from the perspective of the supplier of the securities (the party acquiring funds) such a transaction is called a repo and a reverse repo or matched sale-purchase agreement when viewed from the point of the supplier of funds. The term to be used whether a repro or reverse agreement, usually depends on which party initiated the transaction, with a few exceptions: RP transactions between a dealer and a retail customer or between a dealer and the Federal Reserve, for example, are generally described from the dealer's perspective. A retail investor's purchase and commitment to resell securities to a dealer is a repo as the dealer has sold the securities under an agreement to repurchase. Similarly, the transaction when the Federal Reserve supplies funds to the market by buying securities from dealers with a commitment to resell is called a repo. The converse transaction, in which specific securities are sold from the System's portfolio for immediate delivery and simultaneously repurchased for settlement on the desired date, is called a matched sale-purchase agreement (MSP). (When the Fed is involved, the term "reverse repo" generally is not used, although MSPs produce the reverse effect on reserves as RPs.)

Repos (in many respects), are hybrid transactions that combine features of both secured loans and outright purchase and sale transactions but do not fit clearly into any one classification.

Examples of repo features that are characteristic of secure lending arrangement are:

- The use of margin of haircuts in valuing repo securities
- The right to substitute collateral in term agreements
- The use of mark-to-market provisions

By contrast, the repo buyer's right to trade the securities during the term of the agreement represents a transfer of ownership that normally does not occur in collateralized lending arrangements. (www.egaltrade.com)

A banker's acceptance, or BA, is a negotiable instrument or time draft drawn on and accepted by a bank. Before acceptance, the draft is not an obligation of the bank; it is merely an order by the drawer to the bank to pay a specified sum of money on a specified date to a named person or to the bearer of the draft. Upon acceptance, which occurs when an authorized bank accepts and signs it, the draft becomes a primary and unconditional liability of the bank. If the bank is well known and enjoys a good reputation, the accepted draft may be readily sold in an active market. A banker's acceptance is also a money market instrument – a short-term discount instrument that usually arises in the course of trade. A banker's acceptance starts as an order to a bank by a bank's customer to pay a sum of money at a future date, typically within six months. At this stage, it is like a postdated check. When the bank endorses the order for payment as "accepted", it assumes responsibility for ultimate payment to the holder of the acceptance. At this point, the acceptance may be traded in secondary markets much like any other claim on the bank. Bankers' acceptances are considered very safe assets, as they allow traders to substitute the banks' credit standing for their own. They are used widely in international trade where the creditworthiness of one trader is unknown to the trading partner. Acceptances sell at a discount from face value of the payment order, just as US Treasury bills are issued and trade at a discount from par value. Bankers' acceptances trade at a spread over T-bills. The rates at which they trade are called bankers' acceptance rates. The Fed publishes BA rates in its weekly H.15 bulletin. Those rates are a standard index used as an underline in various interest rate swaps and other derivatives. Acceptances arise most often in connection with international trade. For example, an American importer may request acceptance financing from its bank when, as is frequently the case in international trade, it does not have a close relationship with and cannot obtain financing from the exporter it is dealing with. Once the importer and bank have completed an acceptance agreement, in which the bank agrees to accept drafts for the importer and the importer agrees to repay any drafts the bank accepts, the importer draws a time draft on the bank. The bank accepts the draft and discounts it; that is, it gives the importer cash for the draft but gives it an amount less than

the face value of the draft. The importer uses the proceeds to pay the exporter. The bank may hold the acceptance in its portfolio or it may sell, or rediscount, it in the secondary market. In the former case, the bank is making a loan to the importer; in the latter case, it is in effect substituting its credit for that of the importer, enabling the importer to borrow in the money market. On or before the maturity date, the importer pays the bank the face value of the acceptance. If the bank rediscounted the acceptance in the market, the bank pays the holder of the acceptance the face value on the maturity date. (www.en.wikipedia.org)

Bankers' acceptances date back to the 12th century when they emerged as one of the early forms of the instruments used to finance trade. During the 18th and 19th centuries, there was an active market for sterling bankers' acceptances in London. When the United States Federal Reserve was formed in 1913, one of its purposes was to promote a domestic bankers' acceptance market to rival London's in order to boost U.S. trade and enhance the competitive position of U.S. banks. National banks were authorized to accept time drafts, and the Fed was authorized to purchase certain eligible bankers' acceptances. Rules for eligibility are complex. Generally, they require that a banker's acceptance finance a self-liquidating transaction with a maturity less than six months. Today, the Fed no longer buys bankers' acceptances. The practical significance of eligibility is that there are no reserve requirements if a bank sells an eligible acceptance. Banks sometimes create ineligible acceptances, but they incur reserve requirements if sold. (www.en.wikipedia.org).

Lang and Lansing (2012) stated that ‘the economy recession ended in June 2009 since when the U.S. economy has recorded four consecutive quarters of positive real GDP growth’. By reducing interest rate to zero and buying bad assets, the Fed has implemented a series of accommodative monetary policy to stabilize asset price and the whole economy. Regardless of the controversy aroused by

spending tax revenue to save FannieMae and Freddie Mac, the reaction of the Fed during this unique period and its impact was not to be ignored. Indication from this

would be the consideration of policy behavior differences before, during and after the recession.

2.4 Review of previous Thesis

Habibullah (2009), in his study *entitled "Financial Markets in Least Development Countries."*

Main Objectives.

- Financial performance of Least Development Countries like Nepal.
- Economic Development of Least Development Countries like Nepal.
- Money Market and Capital Market of Least Development Countries like Nepal.

Research Tools.

- Pie-Diagram
- Percentage
- Model for Measuring Growth Rates

Major Findings

- Some Asian countries including Nepal economic development reflected in economic growth leads the financial development measured in the ratio of broad money to gross national product.
- The stock market development measured by market liquidity, market capitalization and total turnover is correlated with current and future economic growth, capital accumulation, and productivity growth.
- The efficient money, foreign exchange and capital markets increase investment to the most productive sector of the economy and thereby

increase output through saving mobilization. Such markets also price the risk associated with any investment accurately.

Neupane (2010) concluded a research on *"Rights Shares Practice in Nepal and its Impact on Shares Price of Listed Companies".*

Main Objectives:

- To analyze the impact of rights shares issue in shares price.
- To examine, rights issue practice in to identify the problems regarding under subscription.
- To examine the impact of rights offering in earning per shares.

Research Tools.

- Pie-Diagram
- Percentage
- Regression analysis

Major Findings

- There was significant difference between the shares price of National finance ltd. Before and after the rights issue. It‟s stock price followed the theory of rights offering.
- Under subscription of rights shares is common phenomena in Nepal.
- There is no easy and clear provision regarding the sales of under subscribed rights shares in Nepal.
- Recent year's subscription of rights shares is in increasing trend.
- There is not like uniformity in the impact of rights offering of shares price.

- Another major case is dilution in sharesholders wealth position is the holder's record date. In some sample companies, offering rights holders record date is prior to the announcement date.

Gautam, (2011) conducted a research on *"A Study on the Behavior of Stock Market Price in Nepalese Security Market"*.

Main Objectives

- To examine examine and study the price trend with the help of NEPSE index, volume of stock traded, impact of signaling factors on NEPSE.
- To find the correlation coefficient and regression analysis between the sampled companies and to analyze the closing market price of the sampled companies.

Research Tools.

- Multiple Bar-Diagrams and Graphs
- Pie-Diagram
- Percentage

Major Findings

- The price trend of the sampled companies was not in a predictable trend and the volume of the stock traded was in a fluctuating trend during the study period.
- The relationship between EPS and DPS and EPS and NWPS was positive. The regression analysis between the EPS and market price showed that all sample companies had positive regression coefficient which indicated that the price would increase at an average rate.
- The major signaling factors such as closure of major industries, closure of multinational companies and political demonstrations of four political parties played a major role in determining the NEPSE index.

Baniya, (2012) conducted a research on *"Share Price Behavior of Commercial Banks and Effect of Macroeconomic Variables in Nepalese Stock Market".*

Main Objectives

- To analyze stock price trend and behavior of the selected commercial banks and draw the main influencing factors of share price.
- To examine the impacts of GDP, rate of interest and rate of inflation on NEPSE Index.
- To establish the relationship between the NEPSE index and the macroeconomic variables GDP, rate of interest and rate of inflation during the study period.

Research Tools.

- Pie-Diagram
- Percentage
- Regression analysis

Major Findings

- The graphical analysis and volatility test showed that stock price behavior of sample commercial banks was not even, some showed fluctuating trend whereas other showed moderate trend.
- The results of run test showed market price of selected commercial banks were not random which indicated that market overreacted to the available information. There was no significant relationship between GDP and NEPSE
- There was no supporting evidence to prove that the change in the market interest rate on deposit could have affected the NEPSE Index.
- The degree of impact in stock price due to the change in interest rate was conditional on corporate environment. If the corporate environment was

Rights enough the fall in the market interest on deposit increased the security price in the stock market and vice-versa.

- The trend of NEPSE index and the rate of inflation was not supporting with each other which proved that there was no significant relationship between NEPSE index and the rate of inflation. Finally, the study concluded that NEPSE was not influenced by macro economic variables.

Paudyal (2013) had conduct a research study on ‘‘Nepalese stock market developments, impediments and challenges”.

Main Objectives

- To find out the developments of Nepalese stock market.
- To analyze the impediments in Nepalese market.
- To find out the challengers of Nepalese stock market.

Research Tools.

- Multiple Bar-Diagrams and Graphs
- Pie-Diagram
- Percentage

Main Findings

- The stock market is still in initial stage of development.
- Lack of clarity regarding the direction of the development, priority in the market reforms and functional autonomy of SEBON are mainly responsible.
- The use of information technology in SEBON and recent development of online reporting system under securities Data management system of Nepal can be regarded as the initial efforts for strengthening the regulatory

capability of SEBON and is expected to broaden the scope for improving disclosure practice in the stock market.

2.5 Research Gap

Research gap focuses that the researcher how much trying to give new things from his/her study with compare to previous studies held by different researcher. Due to changing the time and circulation of environment the previous and present may be different in many ways. This is a research gap between the present research and previous research. Though many affiliated researchers have been done in this area but these have been very few exclusive researchers on this subject.

Though, few studies have considered Practices of money market and its instrument in Nepal, they fail to focus on money as the highest instrument of capital market.

Thus, with this several of research gap and weakness found in previous studies, this research has been conducted to find out value of money market and its instruments. This study also tries to understand the monetary policy, investor response, procedures, rules, regulations and provisions as well as public awareness about it. So this study will be fruitful to those interested person, scholars, students, teachers, civil society, businessmen and government for academically as well as policy perspectives.

CHAPTER-III

RESEARCH METHODOLOGY

Research methodology refers to the various sequential steps that are to be adopted by researchers during the course of studying a problem with certain objectives. It tends to solve the search problem in a systematic way. Hence, overall research method adopted by the researcher is mentioned. It covers quantitative methodologies in a greater extent and also uses the descriptive part based on both designed quantitative and qualitative research in a very clear and direct way using both financial and statistical tools.

3.1 Research Design

Research design is a planned structure of investigation conceived to obtain answer to research objective through the analysis of data. In this research exploratory and descriptive research design is used, which intends to explore the present practice of money market and its instruments in Nepal in terms of directives and prescription lay down by Nepal Rastra Bank. It is based on analytical case study of money market instruments that are traded in Nepal.

3.2 Population and Sample

Among the existing and operating financial institutions of Nepal, NRB and commercial bank industry is taken as the population of the study. The market for money market is in initial phase so we have taken 31 commercial Banks (BOK, NCCB, MBL, LAXMI, SIDHARTHA, CITIZENS, NABIL, NIB, SCBL, HBL, EBL, NICB, KBL, GLOBAL, SUNRISE, NMB, ADBL, BOA, NSBI, NBB, PRIME, NBL, LML, RBB & DCBL) and NRB as a sample for the purpose of research paper.

3.3 Nature and Sources of Data

The data used in this study is basically Secondary in nature because the study requires the information about the trading practices of money market instrument which can be obtained through the press release and financial statistics issued by Nepal Rastra Bank. So, statements published by debt management department are the main source of data. Beside this the required data are collected from the internet websites, relevant books and publication of Central Bureau of Statistics.

3.4 Means of Presentation and Demonstration the Data

Collected data are presented in the tabular form prescribed by Nepal Rastra Bank debt management group. Outcomes of the research are also presented in the diagrammatical way as well as comparative bar diagrams. Various formats of diagrams and lines are drawn as per the requirements of the study so that outcome could be easily understood by all.

3.5 Tools for Analysis

To analyze the collected data, various statistical tools are used as per requirements. Normally tools required by the study to calculate various risk weights are prescribed. For the analysis of the research study, the following financial tools and statistical tools are used.

1. Average/ Mean

An average is a single value related from a group of values to represent them in some way, a value, which is supposed to stand for whole group of which it is a part, as typical of all the value in the group. There are various types of averages. Arithmetic mean, median, mode, geometric mean, harmonic mean are the major types of averages. The most popular and widely used measure representing the entire data by one value is average mean. The value of average mean is obtained by adding together all the items and by dividing this total by the number of items.

Mathematically:

Arithmetic mean is given by,

$$\bar{x} = \frac{\sum x}{n}$$

Where as,

X = Arithmetic mean

∑x = Sum of all the values of the variable x

N = Number of observations

- **Standard deviation:**

The standard deviation measures the absolute dispersion. The greater the standard deviation, the greater will be the magnitude of deviations of the values from there mean. A small standard deviation means a high degree of uniformity of the observations as well as homogeneity of a series and vice versa.

Mathematically,

Standard deviation is given by:

$$\delta = \sqrt{\frac{1}{n}\sum(x - \bar{x})^2}$$

Where as,

δ = Standard deviation

n = Number of observation

$\overline{x}$ = Arithmetic mean

- **Weighted Arithmetic mean :**

Simple average method assumes that all items under consideration are of equal importance in the distribution. But in many cases the relative importance of the items in the distribution is not same. In such situation the relative importance are considered as weights of the variables and the weighted average is to be computed.

The weighted arithmetic mean is computed by:

$$\bar{x}w = \frac{w_1x_1 + w_2x_2 + w_3x_3 ..... + w_nx_n}{w_1 + w_2 + w_3 ..... + w_n}$$

or $$\bar{x}w = \frac{\sum wx}{\sum w}$$

Where As,

$\bar{X}W$ = Weighted Arithmetic mean

W_nX_n= Variables with their Corresponding weights.

- **Percentage:**

A percentage is the number of hundredth parts one number is of another. This is the simplest statistical device used in the interpretation of phenomenon. Mathematically, let “n” represent the base used for comparison, “x” represents the given data to be compared with the base, and then the percentage of the given number in the base may be defined as:

P% = x/n × 100%

- **Diagrams:**

Diagrams are the effective way of presenting and analysis data. Diagrams can be of various types of such as bar diagrams, trend lines etc. the bar diagrams will be used extensively to analyze the data. The bar diagrams represent the data by bars of equal width. The length of the bars represents the bars represents the given figure and width may be of any size, similarly trend analysis has been used to compare the concerned data of the selective commercial banks. The upper trend means the higher value and vice versa.

CHAPTER-IV

DATA PRESENTATION AND ANALYSIS

In this chapter, an attempt has been made to show the various dimension of money market instruments used in Nepalese economy. The chapter devotes to demonstrate the various dimensions of the money market instruments used in Nepalese financial institutions and central bank to mobilize and fulfill short-term liquidity. In order to highlight the formulated objectives, related data have been collected from different sources and demonstrated by the use of different tools and techniques.

4.1 Treasury Bills

Up on the visit of internet and related journal it is found that trading of treasury bills in Nepal was started in 1961/62 with the issue of treasury bills of Rs 7,000,000.00. Since then Nepal Rastra Bank has been issuing 28, 91, 182, 364 days Treasury-bills.

Table: 4.1

Analysis of Yields on T-bill with Different Maturities

year	Maturity periods of T-bills			
	28days (%)	91days (%)	182 days (%)	364days (%)
2007/08	2.67	3.16	3.74	4.29
2008/09	2.90	3.66	4.10	4.90
2009/10	4.16	4.18	4.60	5.22
2010/11	6.26	5.61	5.45	6.05
2011/12	6.78	6.50	7.26	7.60

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.1 shows the discount yield on T-bill during five years time at different maturity periods. The discount rate of 28 days T-bill is 6.78 in 2011/12, which is

highest and 2.67 in 2007/08 is the lowest. Similarly, the discount yield of 91 days T-bill is 6.50 in 2011/12, which is highest and 3.16 in 2007/08 is the lowest. In the same way, discount yield of 182 days T-bill is 7.26 in 2011/12, which is the highest and 3.74 in 2007/08 is the lowest. The yield of 364 days T-bill is 7.60 in 2011/12, which is the highest and 4.29 in 2007/08 is the lowest.

Figure: 4.1

Comparison of Yield on T-bills with Different Maturities

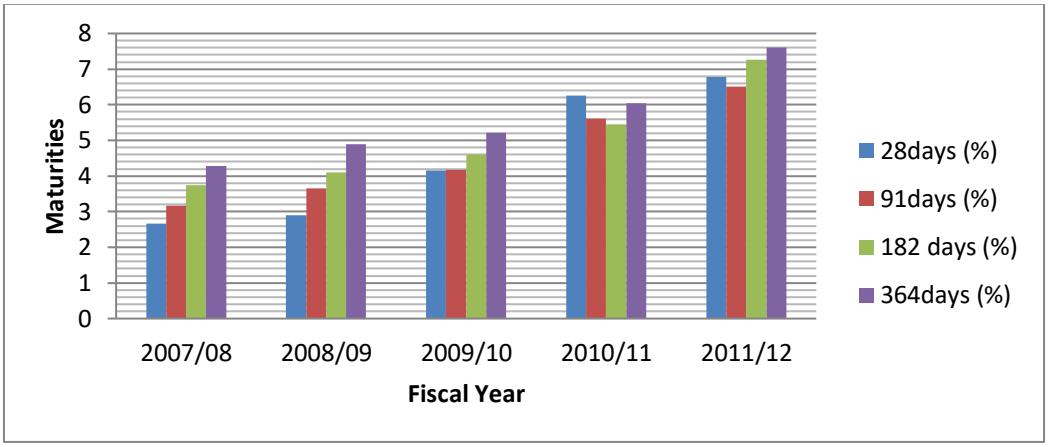


Figure 4.1 shows the yield of T-bill with different maturity period is increasing trend, yield on maturity of 28 days, 91 days, 182 days and 364 days is also increasing trend on same year. Yield of 364 days T-bill in 2011/12 is greatest and yield of 28 days T-bill in 2007/08 is lowest.

Table: 4.2

Discount Yield of 28 Days Treasury Bills

Discount Yield of 28 Days Treasury-Bills.				
Year	Yield (%)	Growth Rate (%)	Average Yield (%)	Standard deviation
2007/08	2.67	-	4.55	1.69
2008/09	2.90	8.61		
2009/10	4.16	43.45		
2010/11	6.26	50.48		
2011/12	6.78	8.31		

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.2 shows the discount yield of 28 days T-bill during five years time at different maturity periods. The growth rate of 28 days T-bill in 2008/09 is 8.61%, in 2009/10 is 43.45%, 50.48% in 2010/11 and 8.31% in 2011/12. Similarly, the average yield 4.55% represents the mean yield during the year 2007/08 and the deviation or fluctuation on yield is 1.69.

Figure: 4.2

Discount Yield of 28 days Treasury-Bills

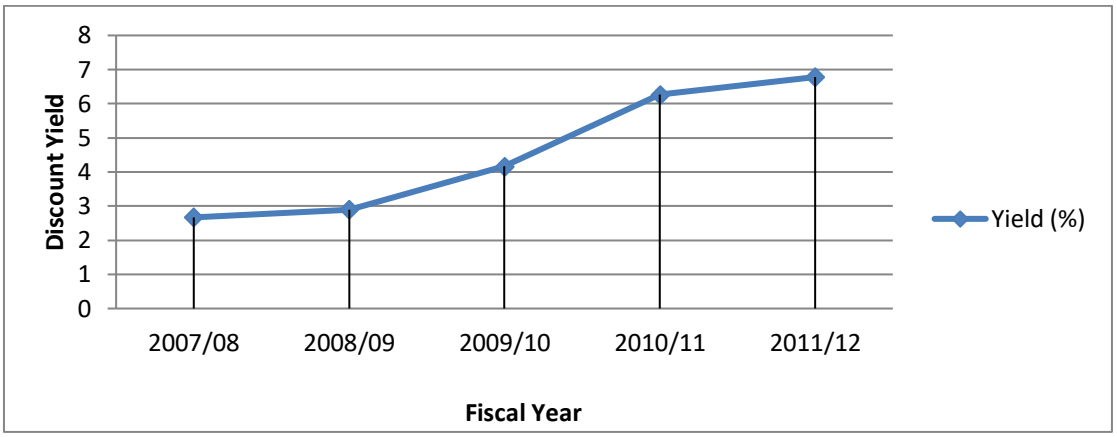


Figure 4.2 shows the yield rate of 28 days T-bill in increasing trend. It is increasing year by year, but the increasing rate in the year 2010/11 is greater than other year. Growth rate of yield in the 2007/08, 2008/09, 2009/10, 2011/12 is slower than 2010/11.

Table: 4.3

Discount Yield of 91 Days Treasury Bills

Discount yield of 91days Treasury-bills				
Year	Yield (%)	Growth Rate (%)	Average yield (%)	Standard Deviation
2007/08	3.16	-	4.62%	1.25%
2008/09	3.66	15.82		
2009/10	4.18	14.21		
2010/11	5.61	34.21		
2011/12	6.50	15.86		

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.3 shows the growth rate of yield on 91 days T-bills in 2008/09 is 15.82%, in 2009/10 is 14.21%, in 2010/11 is 34.21%, and in 2011/12 is 15.86%. Growth rate of yield in 2010/11 is very high that is 34.21%. Similarly, the mean yield during this five year is 4.62% and the fluctuation rate of yield is 1.25. The yield of 91 days T-bill has been present in figure 4.3.

Figure: 4.3

Discount Yield of 91 Days Treasury Bills

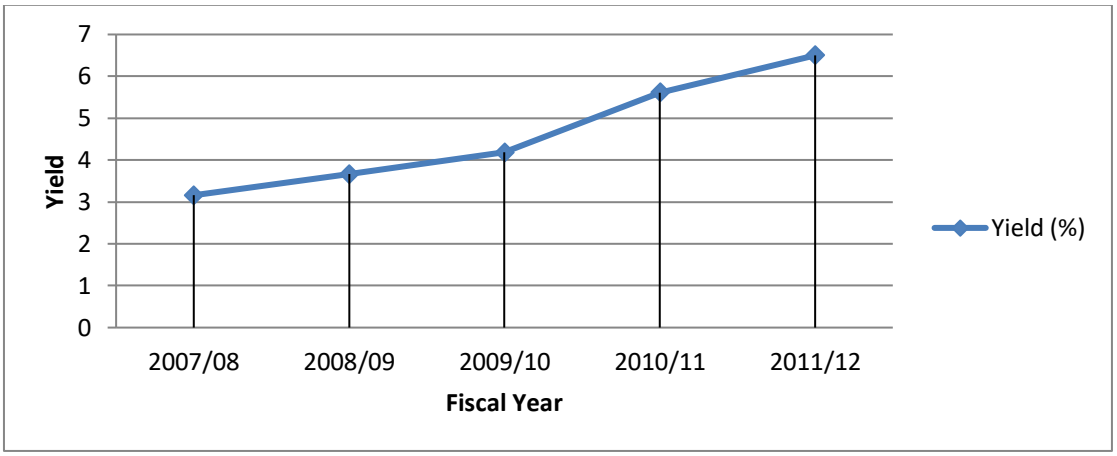


Figure 4.3 shows yield rate of 91 days T-bill is increasing trend. It is increasing year by year but the increasing rate in the year 2010/11 is greater than other year.

Table: 4.4

Discount Yield of 182 Days Treasury Bills

Discount Yield of 182 Days Treasury Bills				
Year	Yield (%)	Growth Rate (%)	Average Rate (%)	Standard Deviation
2007/08	3.74	-	5.03%	1.25
2008/09	4.10	9.62%		
2009/10	4.60	12.19%		
2010/11	5.45	18.48%		
2011/12	7.26	33.21%		

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.4 shows the growth rate of yield of 182 days T-bills in 2008/09 is 9.62%, in 2009/10 is 12.19%, in 2010/11 is 18.48% and in 2011/12 is 33.21%. Growth rate of yield of 182 days T-bills highly increase in the year 2011/12 and very little increase in year 2008/09. The fluctuations rate of T-bills 182 days yield is 1.25 from their average mean.

Figure: 4.4

Discount Yields of 182 Days Treasury Bills

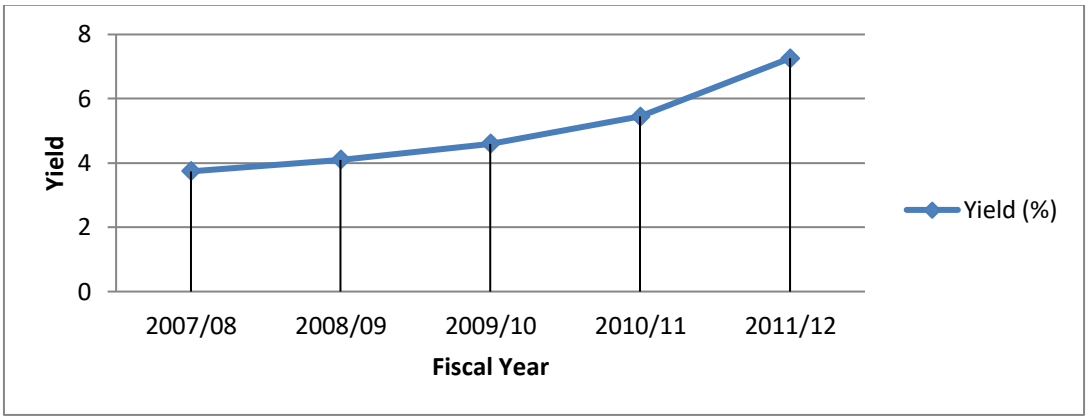


Figure 4.4 shows that the yield rate of 182 days T-bills is increasing trend. It is increasing year by year but the increasing rate in year 2011/12 is very high than other year.

Table: 4.5

Discount Yields of 364 Days Treasury Bills

Discount yield of 364 days Treasury Bills				
Year	Yield %	Growth rate (%)	Average yield (%)	Standard deviation
2007/08	4.29	-	5.61	1.14
2008/09	4.90	14.22		
2009/10	5.22	6.53		
2010/11	6.05	15.90		
2011/12	7.60	25.62		

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.5 shows the growth rate of yield of 364 days T-bills in 2008/09 is 14.22, 6.53 in 2009/10, 15.90 in 2010/11 and 25.62 in 2011/12. Growth rate of yield of 364 days T-bills highly increase in 2011/12 and very little increase in 2009/10. Similarly the average yield is 5.61 and the variability on yield of 364 days T- bills is 1.14.

Figure: 4.5

Discount Yields of 364 Days Treasury Bills

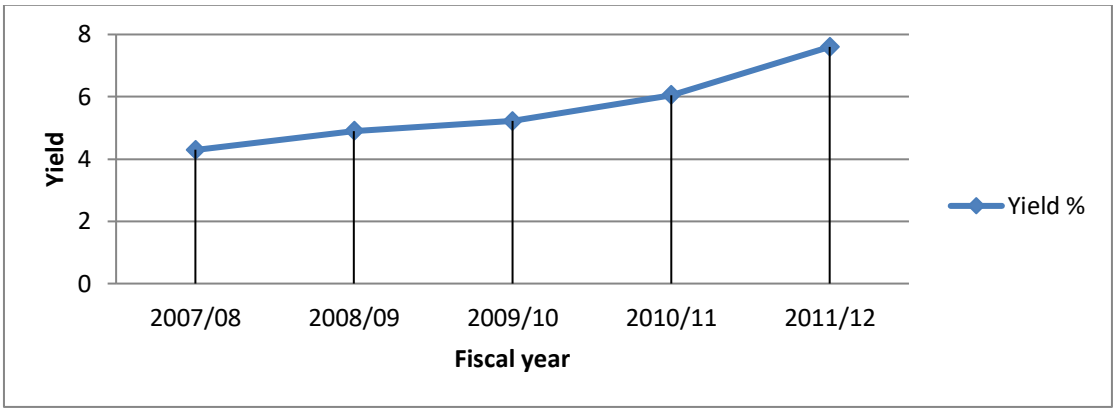


Figure 4.5 Shows that yield rate of 364 days T-bills is increasing trend. It is increasing year by year. The increasing rate in the year 2011/12 is very high than other year.

4.2 Certificates of Deposits (CDs)

Only one negotiable CDs are practice in Nepal. Few banks have been using this test for short-term fixed cash management. Practice of Certificate of Deposit on now days are growing day by day.

Laxmi bank, Citizen bank and NCC bank issue 7 days maturity CDs only one time during the data period. Bank of Kathmandu has been issuing 7 days maturity CDs continuously since 2006 vs. the highest interest rate on 7 days CDs is 2.5% and 1.25% is lowest interest rate. Similarly BOK and NIB have been issuing 14 days CDs since 2006 continuously. Citizen bank has issued 14 days CDs only one time during the data period. Highest interest rate is 3% and 1% is lowest. NBL ,Nabil, NIBL ,HBL , NABI ,NSB ,BOK ,KBL, LAXMI , SIDDHARTHA ,ADBL , have

been issuing CDs of 1 month continuously . Similarly NBL, SCNBL, EBL, and CITIZENS, banks have been issued CDs having maturity 2 months. SCBL has issued more time than other. 4% highest interest rate given by citizen bank and lowest interest i.e.1.5% is given by SCBL. Most of banks have issued 3 months, 6 months and 1 year CDs during the data period. NMB started to issue CDs from 2011 vs.

Table: 4.6

Average Rates of CDs with Different Maturities

Average Rate of CDs with different maturities							
Year	7days	14days	1month	2month	3month	6month	1year
2006	2.1%	2.48%	3.12%	2.75%	3.66%	4.25%	4.82%
2007	1.67%	1.8%	2.4%	1.5%	2.87%	3.28%	3.9%
2008	1.5%	1.84%	2.46%	1.5%	3.01%	3.51%	4.24%
2009	1.5%	1.75%	2.37%	2.13%	2.93%	3.33%	4.01%
2010	1.83%	2.27%	2.75%	2.75%	3.4%	3.94%	4.86%
2011	2%	2.13%	3.12%	2.75%	3.64%	4.3%	5.68%

Sources: Annual Report of NRB 2006/07 to 2011/12

Table 4.6 shows the average interest rate of CDs with different maturity during the data period. The interest rate of CDs rate slightly increasing each higher maturity period and the highest average CDs rate 5.68.

Figure: 4.6

Average Interest Rates of CDs with Different Maturities

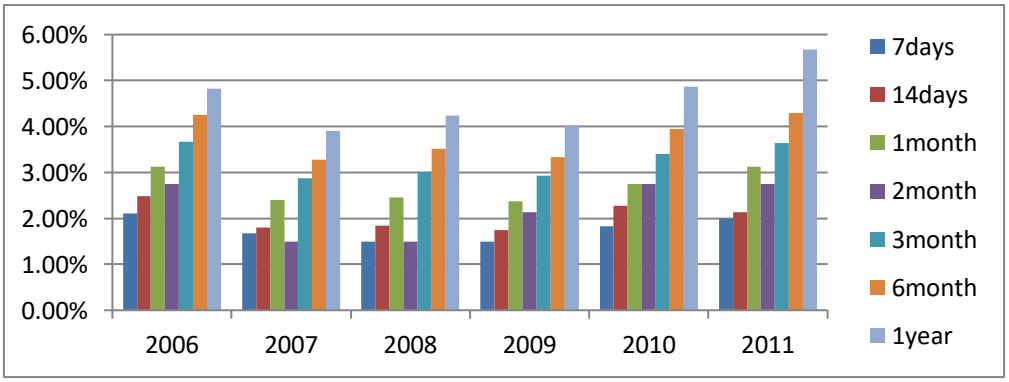


Figure 4.6 shows that the rate of interest of different maturity of CDs slightly increasing over after another. Interest rate of 2 month of CDs is decreasing after 2006 and increased after 2009. Similarly in the year 2006 all the CDs pay higher interest rate than other year only one year maturity CDs pay highest in 2009.

4.3 Repurchase Agreement (Repo)

A repurchase agreement (Repo) is a sale of securities coupled with an agreement to repurchase the same securities at a higher price on a later date. In this regard Nepal Rastra Bank uses the Repo transaction with commercial bank. NRB have issued Repo since 2008 vs. due to the initial phase of issuing Repo here we have only 3 years of Repo data, that help us to understand the transaction made by NRB with other commercial bank. In Repo NRB provide loan to commercial bank taking T-bills as collateral and take interest according to agreement. Other hand NRB pull money from commercial bank giving T-bills as collateral.

Table: 4.7

Weighted Average Interest Rate of Repurchase Agreement (Repo) in 2009/10

Repo Auction 2009/10				
S.N.	Amount	Average Rate	Weight	Weight x Average Rate
1	200,000,000.00	4.1	0.22	0.90
2	200,000,000.00	7.39	0.22	1.63
3	200,000,000.00	7.4	0.22	1.63
4	100,000,000.00	7.6	0.11	0.84
5	200,000,000.00	7.31	0.22	1.61
	900,000,000.00		1.00	6.61

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.7 shows that the weighted average rate of Repo in the year 2009/10. In this fiscal year NRB used Repo transaction for 5 times. In this period interest rate highly increased on first issue and constantly run after that. Higher interest rate is 7.6 and 4.1 is lowest interest rate. The trend of interest rate of Repo shows the cash scarcity of commercial bank. NRB provides cash to commercial bank taking T-bills as collateral and commercial bank pays interest amount after the maturity period.

Table: 4.8

Weighted Average Interest Rate of Repurchase Agreement (Repo) in 2010/11

Repo Auction 2010/11				
S.N	Amount	Average Rate	Weight	Weight x Average Rate
1	2,000,000,000.00	7.09	0.22	1.56
2	2,000,000,000.00	7.19	0.22	1.58
3	5,000,000,000.00	7.2	0.56	4.03
	9,000,000,000.00		1.00	7.17

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.8 shows the weighted average rate of Repo in the year 2010/11.In this fiscal year NRB uses Repo transaction for 3 times. Average rate of Repo slightly change over this period.

Table: 4.9

weighted Average Interest Rate of Repurchase Agreement (Repo) In 2011/12

S.N.	Amount	Average Rate	Weight	Weight x Average Rate
1	2,000,000,000	7.49	0.011	0.08
2	2,000,000,000	7.46	0.011	0.08
3	7,000,000,000	7.32	0.039	0.28
4	3,000,000,000	6.49	0.017	0.11
5	10,000,000,000	5.98	0.055	0.33
6	9,500,000,000	7.22	0.052	0.38
7	6,000,000,000	7.11	0.033	0.24
8	6,000,000,000	8.11	0.033	0.27
9	14,950,000,000	7.98	0.083	0.66
10	6,000,000,000	7.19	0.033	0.24
11	3,000,000,000	7.10	0.016	0.12
12	9,250,000,000	6.08	0.051	0.31
13	6,000,000,000	6.98	0.033	0.23
14	3,000,000,000	7.45	0.016	0.12
15	5,000,000,000	7.82	0.028	0.22
16	4,000,000,000	5.89	0.022	0.13
17	5,000,000,000	6.71	0.028	0.18
18	3,000,000,000	6.61	0.017	0.11
19	3,960,000,000	7.35	0.021	0.16
20	5,000,000,000	7.49	0.027	0.21
21	4,000,000,000	7.56	0.022	0.17
22	3,000,000,000	6.83	0.016	0.11
23	2,140,000,000	6.78	0.012	0.08
24	5,000,000,000	8.41	0.027	0.23
25	5,000,000,000	8.15	0.027	0.22
26	1,000,000,000	7.24	0.005	0.04
27	5,000,000,000	6.88	0.027	0.18
28	3,000,000,000	5.98	0.016	0.09
29	5,000,000,000	5.94	0.027	0.16
30	5,000,000,000	6.85	0.027	0.18
31	5,000,000,000	7.65	0.027	0.21
32	5,000,000,000	8.15	0.027	0.22
33	5,000,000,000	8.31	0.027	0.23
34	4,000,000,000	7.22	0.022	0.16
35	5,000,000,000	6.59	0.027	0.18
36	5,000,000,000	7.41	0.027	0.20
	180,800,000,000		1.00	7.24

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.9 shows the weighted average rate of Repo in the year 2011/12. In this fiscal year NRB used Repo transaction for 36 times. In this period, higher interest rate is 8.41 and lower interest rate is 5.89. Average rate of Repo slightly change over this period.

Table: 4.10

Weighted Average Interest Rate of Reverse Repo in 2009/10

Reverse Repo Auction 2009/10				
S.N.	Amount	Average Return (%)	Weight	Weight x Average Rate
1	1,000,000,000.00	1.7	0.15	0.26
2	620,000,000.00	2.4	0.09	0.23
3	2,060,000,000.00	3.14	0.31	0.98
4	1,500,000,000.00	3.41	0.23	0.78
5	390,000,000.00	3.26	0.06	0.19
6	1,000,000,000.00	2.7	0.15	0.41
	6,570,000,000.00		1.00	2.85

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.10 shows weighted average interest rate of Reverse Repo in 2009/10. In this fiscal year NRB uses Reverse Repo for 6 times. The rate of interest rate is up and down, it is increasing trend in up to 4^{th} transaction and after that it is decreasing trend. NRB pays this interest to commercial bank at the maturity period. Weighted average rate of Reverse Repo is 2.85%.

Table: 4.11

Weighted Average Interest Rate of Reverse Repo in 2010/11

Reverse Repo Auction 2010/11				
S.N.	Amount	Average Rate	Weight	Weight x Average Rate
1	2,000,000,000.00	3.11	0.15	0.47
2	2,000,000,000.00	2.77	0.15	0.42
3	1,520,000,000.00	3.38	0.11	0.39
4	1,500,000,000.00	3.66	0.11	0.41
5	2,000,000,000.00	3.83	0.15	0.58
6	2,000,000,000.00	3.73	0.15	0.56
7	1,240,000,000.00	4.26	0.09	0.40
8	1,000,000,000.00	5.99	0.08	0.45
	13,260,000,000.00		1.00	3.68

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.11 shows weighted average interest rate of Reverse Repo in 2010/11. In this fiscal year NRB uses Reverse Repo for 8 times. The rate of interest rate is in increasing trend, it means that the NRB mopping up cash from the commercial bank for control the liquidation position of market.

Table 4.12

Weighted Average Interest Rate of Reverse Repo in 2011/12

Reverse Repo Auction in 2011/12				
S.N.	Amount	Average Rate	Weight	Weight X Average Rate
1	1,000,000,000.00	4.38	0.05	0.22
2	5,000,000,000.00	5.29	0.25	1.32
3	3,000,000,000.00	4.38	0.15	0.66
4	4,000,000,000.00	4.52	0.2	0.90
5	3,000,000,000.00	6.22	0.15	0.93
6	2,000,000,000.00	6.31	0.10	0.63
7	2,000,0000,000.00	5.98	0.10	0.60
	20,000,000,000.00		1.00	5.26

Sources: Annual Report of NRB 2007/08 to 2011/12

Table 4.12 shows the weighted average interest rate of Reverse Repo in 2011/12. In this fiscal year NRB uses Reverse Repo for 7 times. The rate of interest is up and down. The weighted average rate of Repo is 5.26%.

4.4 Findings

Based on the analysis and presentation of data, following major findings have been drawn.

- There are varieties of money market instruments such as Treasury bills, Repurchase Agreement, Certificate of Deposit, Commercial Paper, Eurodollar, etc. but in Nepal many popular money market instruments are still absent. Only Treasury Bills, Repurchase Agreement, Non-negotiable CDs are practice in Nepal.

- Entire money market in Nepal is dominated by the Treasury bills, the CDs are non-negotiable and whole repurchase agreement also constitutes the trading of the Treasury bills.

- Treasury bills rate have found is increasing every year during the study period. The reasons behind the increment in this rate are: - to attract investors to raise the increasing need of government expenditures and to meet the deficit budget of the nation.

- Only the non-negotiable CDs are practice in Nepalese money market and very few commercial banks are issuing the CDs. The maturity of these CDs are found to be ranged from 7 days, 14 days, 1 month, 2 months, 3 months, 6 months and 1 year. As the CDs issued in Nepal is non-negotiable, it has no role in secondary trading in financial markets.

- Trading of Repurchase Agreement not so popular in Nepal, however it is playing a vital role to stabilize the financial system by liquidity in the market.

- The transaction of Repurchase Agreement only occurs between the NRB and local commercial banks. There is the regulatory provision about the Repurchase Agreement that, Nepal Rastra Bank must be the one party to conduct the Repurchase Agreement either to fulfill short fund of commercial bank or to meet the requirement of NRB. NRB uses this instrument to control the financial inefficiencies of financial system like to control excess liquidity or lack of liquidity in market inflation, over capitalization and other types of instable economic condition. It is treaded as one of the best instrument used by NRB to mop up and spread money in market.

- Very few banks have found to use non-negotiable CDs as short term sources of funds; however it has been found that banks issuing the CDs are increasing in recent years. The interest rate of non negotiable Certificate of Deposit is also increasing trend. None of the banks have practice the negotiable CDs but, if the government plays good role & NRB makes favorable monetary policy; commercial bank can issue the CDs.

- As mentioned earlier, the many popular money market instruments like Commercial Paper, Eurodollar Deposit, Bankers acceptances and other instruments are still lacking in Nepalese financial market. In this sense, Nepalese money market is still in infantry stage.

- As compared to the international money market practices, unlike developed countries, small investors like individuals and non-financial institutions are not found actively involving in money market to acquire and lend the short term shortage and surplus of fund.

- Generally, most of the money market instruments issue on discount at par. Certificate of Deposit issue on simple interest yield methods.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter embodies three parts of the study; summary, conclusion and recommendation. The first part goes over with summarization of the whole study, the second part depicts the conclusion and the final part presents recommendation in the light of its findings.

5.1 Summary

This study is altogether related with practice of money market and its instruments in Nepalese financial market. As the first step of the preparation of the thesis, as required by the format of the study, overall study has been divided in five respective chapters presenting various sequential arrangement of materials and data which are relevant to the study.

General information of financial market , status of marketing economy, general information of capital market , general information of money market, value of the money market in financial market , types of the money market instruments and other introductory part of the study are included in first chapter . After general information about the money market and its instruments, area or focus of the study has been presented which is prepared by gathering existing information about the money market instruments. The study without the objectives is like the journey without destination, so objectives of the study along with limitation as well as importance are presented in successive pages. Importance of the study has been shown to provide information about how this thesis helps new researcher and individual to know about money market instruments and its practice in Nepal. Due to the lack of time, cost, techniques of data collection and area of the research may affect in reliability of research these all are shown on limitation of the study. Methodology shows the method of making a valuable research.

The second chapter is prepared based on the various previous literatures which were collected from various sources. In the 1st phase of second chapter conceptual

review helps us to understand the financial system, function of financial market, history of financial market and types of financial market. Moreover, financial system, function of financial system, types of financial market, importance of money market. Conceptual review explore the relationship between interest rate in money market , yield calculation method of money market instruments , participator of money market instruments , trading procedure of money market instruments in Nepal. In the 2nd phase of this chapter, we can find various books, journals and articles and previous research work.

The overall study framework and roadmap of the study has been presented in 3rd chapter called research methodology. This chapter is basically prepared to disclose the designed and format used to present the information in systematic way. The discloser about the population, samples and the sources of data are presented in this chapter. Along with these, various tools used in the study are described in the same chapter.

In chapter four, presentation has been made about the Treasury bills, Certificate of Deposit and Repurchase Agreement by using the tools, as mentioned in research methodology. Analysis has been shown from various dimensions and sides of available data and information's which have helped to fulfill the objectives of the study. The disclosure about the yield rate and the growth rate of use of money market instruments are shown in the same chapter. Absence of negotiable Certificate of Deposit, here we get interest rate structure of some non-negotiable Certificate of Deposit .Similarly, Repurchase Agreement has short history of practice. Due to the lack of data, only three years of data presented and try to understand the practice of Repurchase Agreement.

After the overall study of related materials through the various techniques, summary, some conclusive sentences and some suggestions has been presented in last chapter. It is prepared by including the major conclusions drawn from the study along with the summary of the study. Moreover, as recommendation, some suggestions to the participants of the Nepalese financial market were provided which was derived from the result of the study.

5.2 Conclusion

Conclusively, Money market is slowly growing to meet the temporary short term credit needs of the government although companies and firms have not yet been able to be benefited from the use and importance of money market as a source of short term surplus. This condition exists mainly because of low regulations about the matter as well as the low awareness of financial institutions about the importance of money market. In the context of Nepal, Nepal Rastra Bank, commercial bank, companies and individual are participators of money market. However, share of individual & companies are negligible. Due to lack of awareness and lack of knowledge of short term investments, few commercial banks grabbing the opportunity of short term fund transaction. Treasury bills are one of the most important instruments in the operation of money market. In the context of Nepal, Treasury bills commands a major share of the market in the absence of the market for other short term securities. Money market consists of huge volume transaction for very short period, so individual can't manage the entire amount, and thus commercial banks are the main investors of Treasury bills.

Though Certificate of Deposit is one of the most effective instruments for Commercial banks, they are issuing only non-negotiable Certificate of Deposit due to absence of rules and regulation lack of secondary market and provision of NRB. Commercial banks are using CD's day by day limiting only on non-negotiable Certificate of Deposit to meet short term cash deficit. Increasing interest rate on CD's show the scope of CD's in Nepalese money market.

Repurchase Agreement is another emerging instrument that NRB uses to control economic activities. If the market has high liquidity NRB mop up funds issuing or selling securities with the agreement of repurchase after maturity. And if, shortage of funds in economy NRB purchase securities from market. Most of the money market instruments issue on discount at par, but Certificate of Deposit is found to be issuing on simple interest yield basis.

Trading procedure of Treasury bills are; Fix the price or interest rate and this has been replaced by sale of treasury bills at a discount price, sale on monthly and bi-monthly basis earlier and now selling treasury bills on a weekly basis, auction called on every Monday and sold the issue on every Tuesday, specify the payment period and make clear of all terms and conditions. Notice the bid to be opened on every Thursday, submit the bid every Monday in loan Debt Department's main office, branches and sub-branches. Fill the bid firm starting the bid price and issue of treasury bills on a discounted basis. Trading procedure of Repurchase Agreement is Nepal Rastra Bank auctions the quantities of Repo/Reverse repo transactions and interested commercial banks take part in the auction. The interest rates on these transactions are determined by the market. The auction is based on multiple-price format. Commercial banks submit sealed bids where no one has any information on the bids of other participants. Under repo transactions bids are ranked and bidders with the highest interest rates are awarded first, followed by the next highest, until the entire allocation is awarded. Successful bidders have to pay different interest rates they quote.

5.3 Recommendations

Analysis of data, findings and conclusions make clear vision about the money market practice in Nepal. From the analysis and findings, some recommend points are here;

- Nepal Rastra Bank and Nepal Government must give attention towards significance role of money market and make applicable environment for other money market instruments.
- Since only non-negotiable CDs are in practice, NRB should make provisions for the trading of negotiable CDs.
- An organized market for money market instruments should be established and must increase individual & other institution participation through creating awareness.
- Due to lack of national level rating agency, all institutions are ranked together which resists the customers to believe on one to accept the low risk securities like Commercial Paper and negotiable Certificate of Deposits.
- Currently there is the provision that for repurchase agreement, NRB should be the one party of transaction but it should be amended and provisions about the inter-institutional repurchase agreement should be made.

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Appendix-1

Interest Rate of 7 Days of Certificate of Deposit

BANKS	2006	2007	2008	2009	2010	2011
BOK	2	1.25	1.5	1.50	2.00	2
NCCB	2.5	-	-	-	-	-
MBL	2	2.25	-	-	-	-
LAXMI	2.5	-	-	-	-	-
SIDHARTHA	1.5	1.5	1.5	1.50	1.50	-
CITIZENS	-	-	-	-	2.00	-
Average Rate	2.1	1.67	1.50	1.50	1.83	2.00

Interest Rate of 14 Days of Certificate of deposit						
BANKS	2006	2007	2008	2009	2010	2011
NABIL	1.75	1.75	2.5	1.75	3.00	-
NIB	3	1.21	1.25	1.25	1.25	1.25
SCBL	1	1	1	1	1	1
HBL	2.3	1.75	1.75	1.75	2	2.5
EBL	3	2.25	-	-	-	-
BOK	2.5	1.75	2	2	2.5	2.5
NCCB	3	-	-	-	-	-
NICB	2.75	1.75	1.75	-	2.75	2.75
MBL	2.5	-	-	-	-	-
KBL	2.5	2	2	2	2	2
LAXMI	3	2	-	-	-	-
SIDHARTHA	2.5	2.5	2.5	2.5	2.5	-
GLOBAL	-	-	-	-	2.5	2.5
CITIZENS	-	-	-	-	3	-
SUNRISE	-	-	-	-	2.5	2.5
Average Rate	2.48	1.80	1.84	1.75	2.27	2.13

Interest rate of 1 month of certificate of deposit						
BANKS	2006	2007	2008	2009	2010	2011
NBL	2.5	2.5	2.75	2	2	2
NABIL	2.25	2.25	3	2	3.5	4
NIB	4	1.75	1.75	1.75	1.75	1.75
SCBL	-	1.5	1.5	1.5	1.5	1.5
HBL	3.3	2	2	2	2.25	3.25
NSBI	2.75	2.75	2.75	2.75	2.75	2.75
NBB	3.5	3.5	3.5	3.5	3.5	3.25
EBL	3.5	2.25	-	2.75	-	-
BOK	3	2.25	2.5	2.50	3	3
NCCB	3.5	-	-	-	-	-
NICB	3.5	2.25	2.25	-	3.25	3.25
MBL	3	3.25	-	-	-	-
KBL	3	2.5	2.5	2.5	2.5	2.5
LAXMI	3.5	2.5	2.5	2.5	3	4.5
SIDHARTHA	3	2.75	2.75	2.75	2.75	3
ADBL	2.5	2	2.25	2.25	2	3.5
GLOBAL	-	-	-	-	3.5	3.5
CITIZENS	-	-	-	-	3.75	-
SUNRISE	-	-	-	-	3	-
BANK OF ASIA	-	-	-	-	2.75	3
NMB	-	-	-	-	-	5.25
Average Rate	3.12	2.40	2.46	2.37	2.75	3.12

Interest Rate of 2 month Certificate of Deposit						
BANKS	2006	2007	2008	2009	2010	2011
NBL	2.75	-	-	-	-	-
SCBL	-	1.5	1.5	1.5	1.5	1.5
EBL	-	-	-	2.75	-	-
CITIZENS	-	-	-	-	4	4
Average Rate	2.75	1.5	1.5	2.13	2.75	2.75

Interest Rate of 3 Month Certificate Of Deposit						
BANKS	2006	2007	2008	2009	2010	2011
NBL	3	2.75	3	2.25	2.25	2.25
RBB	3	2.25	2.25	2.25	2.25	2.25
NABIL	2.75	2.5	3.25	2.75	6.75	5
NIB	5	2.75	2.75	2.75	2.75	2.75
SCBL	1.5	1.5	1.5	1.5	1.5	1.5
HBL	3.75	2.5	2.5	2.5	2.5	3.75
NSBI	3.25	3.25	3.25	3.25	3.25	3.25
NBB	4	4	4	4	4	4
EBL	4	2.5	3	3	3	3
BOK	3.5	2.75	3	3	3.5	3.5
NCCB	5	4	4	4	4.5	4.5
LBL	-	-	4	4	4	4
NICB	4.5	2.75	2.75	2.5	3.5	3.5
MBL	4	3.75	3	3	3.5	3.5
KBL	3.5	3	3	3	3	3
LAXMI	4.5	3	3	3	4.25	5.75

SIDHARTHA	4	3	3.25	3.25	3.25	3.25
ADBL	3	2.5	2.75	2.75	2.5	4
GLOBAL	-	-	-	-	3.75	3.75
CITIZENS	-	-	-	-	4.25	4.25
SUNRISE	-	-	-	-	3.50	3.5
BANK OF ASIA	-	-	-	-	3	4
NMB	-	-	-	-	-	5.5
Average Rate	3.66	2.87	3.01	2.93	3.40	3.64

Interest Rate of 6 Month Certificate Of Deposit						
BANKS	2006	2007	2008	2009	2010	2011
NBL	3.5	3	3.25	2.5	2.5	2.5
RBB	3	2.5	2.5	2.5	2.5	2.5
NABIL	3	2.75	3.5	3	6.75	6
NIB	5.5	3	3	3	3	3
SCBL	-	1.75	1.75	1.75	1.75	1.75
HBL	4	3	3	3	3.25	4.5
NSBI	3.75	3.75	3.75	3.75	4.5	4.5
NBB	4.5	4.5	4.5	4.5	4.5	4.5
EBL	5	3	3.5	3.50	3.50	3.5
BOK	4	3.25	3.5	3.25	4	4
NCCB	5.5	4.5	4.5	4.5	5	5
LBL	4.25	4.25	4.5	4.5	4.5	4.5
NICB	5	3	3.75	3.25	4.75	4.75
MBL	4.5	-	4	3.5	4.5	4.5
KBL	3.75	3.5	4	3.25	3.5	4

LAXMI	5	3.5	3.5	3.5	4.75	6.25
SIDHARTHA	4.5	3.5	3.5	3.5	3.5	5
ADBL	3.5	3	3.25	3.25	3	4.5
GLOBAL	-	-	-	-	4.5	4.5
CITIZENS	-	-	-	-	4.5	4.5
SUNRISE	-	-	-	-	4	4
BANK OF ASIA	-	-	-	-	4	5
NMB	-	-	-	-	-	5.75
Average Rate	4.25	3.28	3.51	3.33	3.94	4.30

Interest Rate of 1 Year Certificate Of Deposit						
BANKS	2006	2007	2008	2009	2010	2011
NBL	4	3.5	3.75	3	3.5	3.5
RBB	3.75	3.25	3.5	3.5	3.5	5
NABIL	3.5	3.25	4	3.5	5	7.5
NIB	6.5	3.75	3.75	3.75	5	7.5
SCBL	2.25	2.25	2.25	2.25	2.5	2.5
HBL	5.25	3.75	3.75	3.75	5.5	6.5
NSBI	4	4	4.5	4	4.75	4.75
NBB	4.75	4.75	4.75	4.75	4.75	4.75
EBL	5.5	3.5	4	4	5	5
BOK	4.5	3.75	4.5	3.75	5	5
NCCB	6.5	5	5	5	5.5	5.5
LBL	4.75	4.75	5	5	5	5
NICB	6	3.75	4.5	4.25	5.25	5.25

MBL	5.75	4.25	4.75	4	5.25	6
KBL	4.5	4.5	4.5	4	5.5	6.5
LAXMI	5.5	4.5	5	5	6	7.5
SIDHARTHA	5	4.25	4.5	4.5	4.5	6
ADBL	4.75	3.5	4.25	4.25	3.5	7
GLOBAL	-	-	-	-	5	5
CITIZENS	-	-	-	-	4.75	6
SUNRISE	-	-	-	-	4.75	4.75
BANK OF ASIA	-	-	-	-	5.75	7.25
PRIME	-	-	-	-	6	6.75
NMB	-	-	-	-	-	7
Average Rate	4.82	3.90	4.24	4.01	4.86	5.68

APPENDIX-II

Nepal Rastra Bank, Public Debt Management Department

Repo Auction

Fiscal Year 2009/10

S.N.	Pur. Date	Avg. Rate	Total Days	Total Rs
1	2009/10/18	4.1047	27	200,000,000.00
2	2008/10/15	7.3908	27	200,000,000.00
3	2008/10/18	7.3970	20	200,000,000.00
4	2008/10/28	7.623	17	100,000,000.00
5	2008/11/09	7.3079	21	200,000,000.00
Total				900,000,000.00

Nepal Rastra Bank, Public Debt Management Department

Repo Auction

Fiscal Year 2010/11

S.N.	Pur. Date	Avg. Rate	Days	Totals
1	2010/11/08	7.0939	15	2,000,000,000.00
2	2010/11/15	7.1952	17	2,000,000,000.00
3	2009/11/13	7.1949	8	5,000,000,000.00
Total				900,000,000.00

Nepal Rastra Bank, Public Debt Management Department

Repo Auction

Fiscal Year 2011/12

S.N.	Pur. date	Avg. rate	Total days	Total Rs
1	2010/02/04	7.49	3	2,000,000,000.00
2	2010/07/10	7.46	15	2,000,000,000.00
3	2010/09/14	7.32	28	7,000,000,000.00
4	2010/09/23	6.49	28	3,000,000,000.00
5	2010/09/27	5.98	28	10,000,000,000.00
6	2010/10/14	7.22	28	9,500,000,000.00
7	2010/10/21	7.11	28	6,000,000,000.00
8	2010/10/25	8.11	17	6,000,000,000.00
9	2011/12/13	7.98	28	1,495,000,000.00
10	2011/12/20	7.19	28	6,000,000,000.00
11	2066/12/03	7.10	22	3,000,000,000.00
12	2010/12/10	6.08	28	9,250,000,000.00
13	2010/12/19	6.98	28	6,000,000,000.00
14	2010/12/25	7.45	28	3,000,000,000.00
15	2010/12/27	7.82	40	5,000,000,000.00
16	2010/01/09	5.89	42	4,000,000,000.00
17	2010/01/16	6.71	27	5,000,000,000.00
18	2010/01/24	6.61	34	3,000,000,000.00
19	2010/02/04	7.35	29	3,960,000,000.00
20	2010/02/12	7.49	29	5,000,000,000.00
21	2010/02/19	7.56	28	4,000,000,000.00
22	2010/02/27	6.83	28	3,000,000,000.00
23	2010/03/03	6.78	21	2,140,000,000.00

24	2010/03/10	8.41	21	5,000,000,000.00
25	2010/03/17	8.15	14	5,000,000,000.00
26	2010/03/24	7.24	28	1,000,000,000.00
27	2010/03/31	6.88	28	5,000,000,000.00
28	2010/06/26	5.98	21	3,000,000,000.00
29	2010/10/26	5.94	28	5,000,000,000.00
30	2011/12/04	6.85	28	5,000,000,000.00
31	2011/12/12	7.65	26	5,000,000,000.00
32	2011/12/25	8.15	28	5,000,000,000.00
33	2010/12/02	8.31	21	5,000,000,000.00
34	2010/12/08	7.22	28	4,000,000,000.00
35	2010/12/23	6.59	28	5,000,000,000.00
36	2010/12/27	7.41	28	5,000,000,000.00
Total				180,800,000,000.00

Appendix III

Nepal Rastra Bank, Public Debt Management Department

Reverse Repo Auction

Fiscal Year 2010/11

S.N.	Date	Amount	Average Rate	Days
1	2009/05/20	1,000,000,000.00	1.6961	5
2	2009/06/02	620,000,000.00	2.4011	5
3	2009/06/10	2,060,000,000.00	3.1350	5
4	2009/06/16	1,500,000,000.00	3.4132	5
5	2009/06/23	390,000,000.00	3.2624	5
6	2009/12/13	1,000,000,000.00	2.6975	6
Total		6,570,000,000.00		

Nepal Rastra Bank, Public Debt Management Department

Reverse Repo Auction

Fiscal Year 2010/11

S.N	Date	Amount	Average Rate	Days
1	2010/04/30	2,000,000,000.00	3.1071	21
2	2010/05/01	2,000,000,000.00	2.7738	26
3	2010/05/18	1,520,000,000.00	3.3752	14
4	2010/08/18	1,500,000,000.00	3.6569	21
5	2010/08/25	2,000,000,000.00	3.8302	25
6	2010/09/09	2,000,000,000.00	3.7301	19
7	2010/09/17	1,240,000,000.00	4.2646	18
8	2010/09/22	1,000,000,000.00	5.9854	28
Total		13,260,000,000.00		

Nepal Rastra Bank, Public Debt Management Department

Reverse Repo Auction

Fiscal Year 2011/12

S.N.	Date	Amount	Average rate	Days
1	2011/05/23	1,000,000,000.00	4.38	28
2	2011/04/11	5,000,000,000.00	5.29	15
3	2011/04/18	3,000,000,000.00	4.38	15
4	2011/04/25	4,000,000,000.00	4.52	23
5	2011/05/01	3,000,000,000.00	6.22	21
6	2011/05/10	2,000,000,000.00	6.31	19
7	2011/05/29	2,000,000,000.00	5.98	15
Total		20,000,000,000.00		