

Chapter - 1

INTRODUCTION

1.1 General Background

“Life in abundance” is probably one of the greatest desires of mankind. In business, people strive to manage their assets (and liabilities for that matter) to obtain maximum advantage, which they believe, would eventually lead to true joy. Even the astronomers look toward the heavens to try and find explanations that would enhance our life on earth. The business world can almost be described with the same philosophy with which Arno A. Penzias, Nobel prize winner in physics, has described the universe: “Astronomy leads us to a unique event, a universe which was created out of nothing, and the business world of today is also delicately balanced with numerous determinants playing a part in trying to enhance human life”.

So, the business world of today is delicately balanced to provide exactly the conditions required to support our life.

The basic function of any economy is to allocate scarce resources (land, labour, management skills, and capital) to produce the goods and services needed by society. The economy generates the flow of production in return to the flow of payments.

In most economies around the world, markets are used to carry out this complex task of allocating resources and producing goods and services. Market is an institution set up by society to allocate the resources that are scarce relative 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;

1. Factor market
2. Product market and
3. Financial market

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 being traded and the needs of different investors. 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.

1.1.1 Money Market

In finance, the money market is the global financial market for short-term borrowing and lending. It provides short-term liquid funding for the global financial system. The money market is where short-term obligations such as treasury bills, commercial paper and bankers' acceptances etc. are bought and sold.

The 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 instruments and other financial instruments that are issued with maturity of one year or less. In the financial market, money market provides very

significant role. Money market instrument cover short-term, marketable, liquid, low risk debt securities. Sometimes money market instruments are called just cash-equivalents.

The money market is designed for the making of short-term loans. It is an institution through which individuals and other institutions 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 principles functions of the money market is to finance the working capital needs of corporations and to provide government with short-term fund in lieu of Tax collection. The money market also supplies funds for speculative buying of securities and commodities.

Thus money market can be considered in following perspective.

1. Market for short-term securities
2. Use of money market instrument that cover short-term and marketable securities as well as liquid and low –risk based debt securities.
3. Just cash-equivalents used in money market.
4. 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 a country. The financial institution or overall financial market which has been able to manage the money market effectively seems stepping forward. Many researchers have

conducted various researches on this subject in national as well as international level. After being the member of WTO, Nepal has to change its various system and policy however money market also take part to change the economic condition of Nepal. As being the part of financial market, money market is the area where only few researches have been made. And what have been found as findings seems quite irrelevant in the context of Nepal since the research includes the data and information of developed countries. As being the research of developed country, an attempt has been made here to address the money market, its instrument, role, procedure and method.

Nepalese money market is not well developed in terms of securities dealt with and 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 the 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.

1.1.2 Money Market Instruments

) Treasury- Bill

A Treasury bill is one of the popular money market instrument issued on a discount yield basis. T-bills is obligation of the government that are issued in money market very frequently or weekly or bi-monthly with a maturity varying from 91 to 182 days. In our country, NRB issues T-bills on a discount yield basis to help government to meet the budget deficit or cover temporary government need for funds.

) **Commercial Paper**

A commercial paper is a short-term, unsecured promissory note issued by only the largest and most financially secured firms. The issues of commercial paper by the reputed firms are in greater demand for investment to the general investors. Commercial paper consists of different maturity periods that have somewhat different yields. It is issued at a discount by stronger credit worthy firms. In our country, commercial firms have not yet developed good money market instrument.

) **Banker Acceptance**

A banker acceptance is another popular money market instrument priced on a discount yield basis. It is used exclusively to serve the purpose of financing international trade. A bankers' acceptance is a draft against a bank ordering the bank to repay a specified amount at a future date. The creation of bankers' acceptance means that the bank is committed to making the specified amount even if the importing firms for whom the acceptance was created defaults. These acceptances consist of different maturity periods with different rates. In our country, commercial banks use bankers' acceptance as one of the sources on generating income in providing short-term loans.

Certificate of Deposit (CDs)

Certificate deposit is one of the important forms of bank borrowing. Commercial bank can obtain funds by issuing CD that may be either negotiable or non-negotiable. Small CD held by individuals is not usually negotiable. But large CDs are negotiable and constitute an integral part of the money market ingenerating size of business grater than T-bills. This kind of instrument is still not coming in the country's money market although commercial banks provide loan on the collateral of such CDs.

Repurchase Agreement (Repos)

Repurchase agreement is very often called repos that arise when party sells a security to another party with an agreement to buy it back at a specified time and at a specified price. The same security can be sold at different prices at different settlement dates. It helps to support the purpose of meeting short-term financing. The maturity of repos may one day, which is called overnight Repos. However, Repos for longer terms are called term-repos. Most of the securities used as collateral in repos market are government securities. In the context about country NRB is providing T-bills repurchase facility as a part of development repurchase agreement.

Eurodollars

Eurodollars are also used in money market to serve the purpose of money market transaction. A Eurodollars is dollar dominated bank deposit held in a bank outside the United States. It is dollar dominated certificate of deposit issued by a bank outside the United States. Many investors and fund managers prefer more Eurodollars certificate of deposit than the domestic certificate of deposit. They are less risky and also provide higher return.

Central Bank Fund

Central bank fund is the provided to commercial through borrowing with central bank. The commercial bank and other financial institution are required to put certain reserves or fund in central bank as a matter of statutory requirements. In United States is such fund are called federal fund or in short fed fund. Even in our country, Nepal Rastra Bank has made it a statutory obligation to maintain certain cash reserves in the cash vaults of the central bank. Due to lack of

security, the interest rate on fed funds is higher than the rate on repurchase agreement.

1.2 Focus of the Study

The purposed research will discuss about the money market in the financial system as well as the finding the good scope of money market instrument which are not much applied. Moreover, it can be expected that, the purposed research will able to address present phenomenon of money market practice and importance of money market instrument in Nepalese financial system. As a whole the focus of paper would be the exploration of the interrelation between money market and interest rate, effect of money market to government and other financial and non financial institution and study of the present situation of the money market practice on individual phenomena.

1.3 Objective of Study

Basic objective of the research is to explore the overall state of money market practice on money market economy and to identify the scope of money market. Considering above objective the research would also consider the following specific objectives.

1. To identify the various money market instruments and participators in Nepalese money market
2. To examine the yield concept and trading procedure of money market instruments.

3. To analysis the role of money market to control the economic activities in the country.
4. To provide suggestion on the basis of findings.

1.4 Importance of the Study

Financial market mainly categorized by money market and capital market. Money market play vital role in financial market. Before taking any decision about money market or money market instrument all individual & institution need full information must be well-known about the money market, its instrument, its importance in economy. This research may help researcher & other individual to explore their career in money market, measurement tool of money market.

1.5 Limitation of Study

Besides the above discussed strength and procedures the research also carries the limitation. While studying anything we need real data but there is hard to get data & perfect information from institution. Money market is in initial phase in Nepal. Limited information and other boundaries like cost, time, also affect to study.

1. Data collection technique: however the research topic is suitable for secondary data, some primary data will also be used in research analysis but attempts will be made to collect most recent one.
2. Weight of the study: however the study is short and complex too, it also could be lemmatize as the small weight which doesn't well motivate the researchers to complete the research report in a full-forced manner since.

3. Area of the research: since there are so many organizations with differentiation in product, geography, objective etc., only few organizations of a particular sector will be taken as sample.

1.6 Methodology

Nature of this research is an exploratory as well descriptive type of research. Main focus will be given to explore the many practice and scope of money market instrument. Various method and techniques have used to collect data and to analyze them. Focuses have given towards primary data collection techniques. However if ever it becomes possible to have resent data for secondary source, these also will be taken into consideration. To gather the data and information, personal interview and questionnaire system will be used. Diagrammatical representation, tabulation and various statistical techniques have used to analyze the collect data.

Chapter - 2

LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 *The Financial System*

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:

1. The supply of an item or service where there is
2. 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.”

2.1.1.1 Function of Financial Market

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

2.1.1.2 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.

2.1.1.3 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 institutions want 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.100000000/- for a period of at least 10 years to erect new power lines
-) Kumari bank has Rs.50000000/- it wants to invest for 7 years
-) Mohan has Rs.50000000/- 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.1000000/- on 1 June 2008 and interest of 11.00% per annum on Rs.1000000/- up to 1 June 2008 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.

2.1.2 The Money Market

All transaction carried out in the financial market seems to be basically the same: borrowers issue securities (financial assets) that lenders purchase. When the loan is repaid, the borrower retrieves the securities and returns funds to the lenders. The purpose for money market is borrowed with in the financial system very greatly from person to person and transaction to transaction. And the different purpose for which money is borrowed result in the creation of different kinds of financial assets, having different maturities, risks, and other features.

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 lending possible.

2.1.2.1 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.¹

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

¹ Shrestha, Manohar Krishna (2007) financial market and institution, 2nd ed. Asmita publication, Bhotahity, Kathmandu, Nepal PP 79

are marketable, affordable and risk free. The security attached to the treasury bills comes at the cost of very low returns.

Treasury bills (T-bills) are short-term notes issued by the 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.

) **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.

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.²

) **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.

Commercial paper refers to unsecured short-term promissory notes issued by financial and nonfinancial corporations. Commercial paper has maturities of up to 270 days. 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.³

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

² Brealy, R. A., & Stewart C, M. (2005, June 15). *Money Market Instrument*. Retrieved from www.answer.com.

³ Nayar, N., & Michael, R. S. (1994). Commercial Paper and the cost of Capital, Rating and Equity Returns. *Journal of Finance* , 98.

cutting out the intermediary, major companies are able to borrow at rates that may be 1 to 1½ percent below the prime rate charged by banks," 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.⁴

) **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.

A banker's acceptance begins life as a written demand for the bank to pay a given sum at a future date. 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.⁵

) **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

⁴ Brealy, R. A., & Stewart C, M. (2005, June 15). *Money Market Instrument*. Retrieved from www.answer.com.

⁵ Brealy, R. A., & Stewart C, M. (2005, June 15). *Money Market Instrument*. Retrieved from www.answer.com.

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.

) **Repurchase Agreement**

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. 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.⁶

2.1.2.2 Need of Money Market

The need of 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.

⁶ Fleming, M. J., & Kenneth, D. G. (2003). The Repurchase agreement Refined: GCF Repo. *Current issues in Economics and Finance* , vol. 9, P. 186-187.

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 through out 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 nonfinancial 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.

2.1.3. Money Market in Nepal

The money market is founded on the large amount 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. ⁷

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

⁷ Shrestha M. k.,poudel R. B., Bhandari D.B. (2003), Fundamentals of Investments, 1st ed. Buddha academic publishers and distributors Pvt. Ltd. Kathmandu, Nepal pp 40-41.

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.⁸

⁸ Shrestha, M. K., (2007) Financial Markets and Institutions, 2nd ed. Buddha Academic Publishers & Distributers Pvt. Ltd. Kathmandu, Nepal pp 75-76

2.1.4 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 flushed 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.⁹

2.1.5 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,

⁹ Shrestha, M. K., (2007) Financial Markets and Institutions, 2nd ed. Buddha Academic Publishers & Distributers Pvt. Ltd. Kathmandu, Nepal pp 85-86

commercial paper, banker's 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.

2.1.6 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 the 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 tend 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.

2.1.7 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.¹⁰

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.

2.1.8 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

¹⁰ Shrestha, M. K., (2007) Financial Markets and Institutions, 2nd ed. Buddha Academic Publishers & Distributers Pvt. Ltd. Kathmandu, Nepal pp 84-85

discount below its par value. It is also called Zero coupon-bond since it has no coupon rate given.

2.1.8.1 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.

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

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.

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

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)

2.1.8.2 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.

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

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

Annual equivalent yield of Certificate of Deposit,

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

Where as, IR = Annual Equivalent yield

2.1.8.3 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.

The bank discount rate DR on bills is given by the following formula.

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

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,

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

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

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

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

2.1.8.4 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;

The bank discount rate DR on bills is given by the following formula.

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

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,

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

Where as, IR= Annual Equivalent yield

2.1.8.5 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.

The bank discount rate DR on bills is given by the following formula.

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

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

Where as, DR = Bank Discount Rate

Annual equivalent yield of Eurodollars

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

Where as, IR= Annual Equivalent yield

2.1.8.6 Yield Calculation on Repurchase Agreement

Yields to the investor are calculated by the bank discount method just like Treasury bills. As in the case of T-bills, most Repurchase agreement 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.

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

Where as, DR = Bank Discount Rate

Annual equivalent yield of Repurchase Agreement

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

Where as, IR= Annual Equivalent yield

2.1.9 Money Market Issue in Nepal

) Treasury bill issue (T-bills)

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

Generally, short-term debt means instruments having one year or less maturity period. Among the short term instruments, Treasury bill accepted as highly liquid able and highly marketable instrument. Treasury bill helps to control demand & supply of money market. Treasury bills also 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, however, weekly auction has taken place since Poush 2028 B.S. 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 Treasury bills.

) **Repurchase Agreement issue (Repo)**

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 (CDs)**

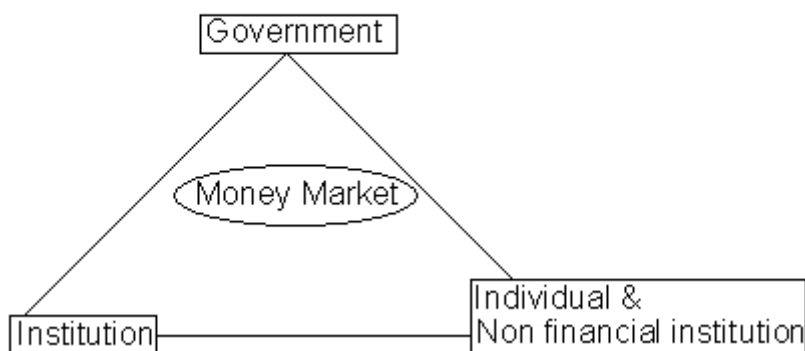
Only negotiable CDs are traded in money market. In Nepal none of the banks have issued the negotiable CDs. Though, the non-negotiable CDs are not traded in the secondary market but some commercial banks have issued it. The following commercial banks have issued non-negotiable CDs: Nepal Bank Ltd.,

Rastriya Banijya Bank, Nabil Bank Ltd., Nepal Investment Bank., Standard Chartered 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 Ltd., Citizens Bank Ltd., Sunrise Bank Ltd., Bank of Asia Ltd., Prime Commercial Bank Ltd., DCBL Bank Ltd. and NMB Bank Ltd.

2.1.10 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 being traded. T-bills are issued by Nepal Rastra Bank for maintain short term cash deficit. Larger volumes of T-bills are purchased by financial institutions and the rest of T-bills are purchased by individual & nonfinancial institutions. Though there is several money market instruments available, one and only T-bills have domination in Nepal. Others are used hardly.

Money Market Participators



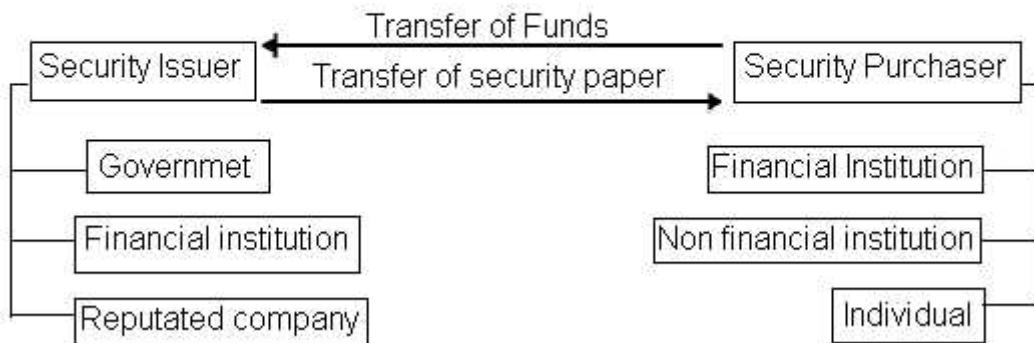
Main function of money market participator is to transfer fund from lender to borrower and to transfer security from fund borrower to lender. The issuer issues security to borrow fund from lender and generally, Government, issues T-bills with the help of Central Bank. Security purchasers invest their money taking security as collateral. If we classified the participators according to group, we find them as follow:

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

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

Function of Money Market Participators



2.1.11. 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 bye 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 form stating the bid price.
7. Issue of treasury bills on a discounted basis.

2.1.12. The Use of Repo 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.¹¹

2.1.11.1 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.

¹¹

Feming, M. J., & Kenneth, D. G. (2003). The Repurchase agreement Refined: GCF Repo. Current issues in Economics and Finance , vol. 9, P. 186-187.

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 monetary operations along with their implications on the system's liquidity are summarized below.

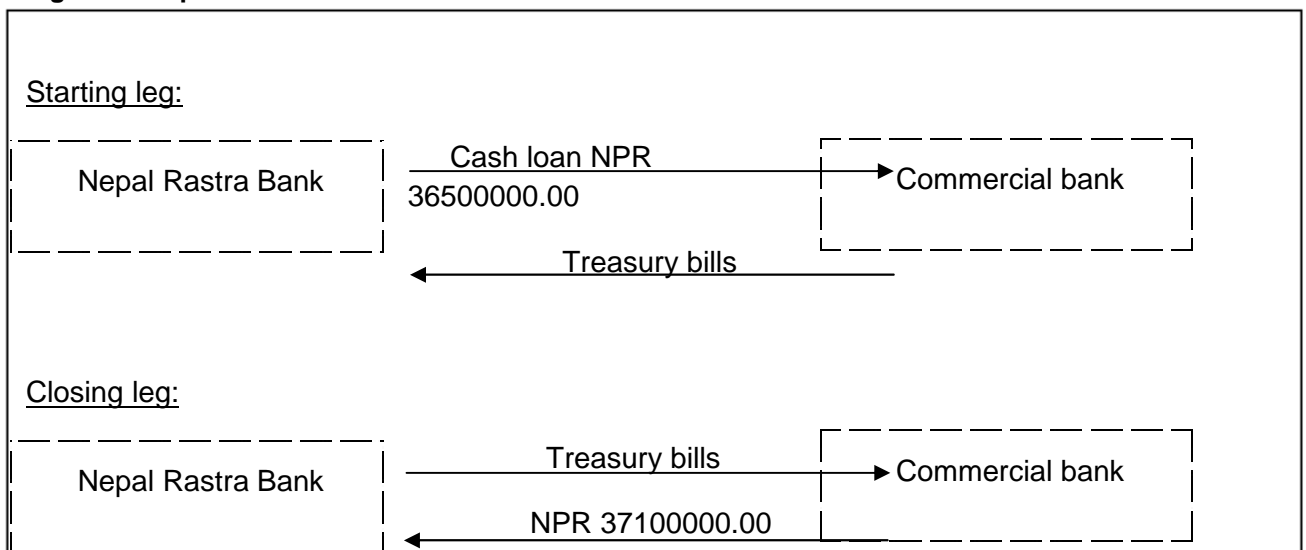
Figure: 1 Monetary Action by Nepal Rastra Bank

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 Repo Transactions

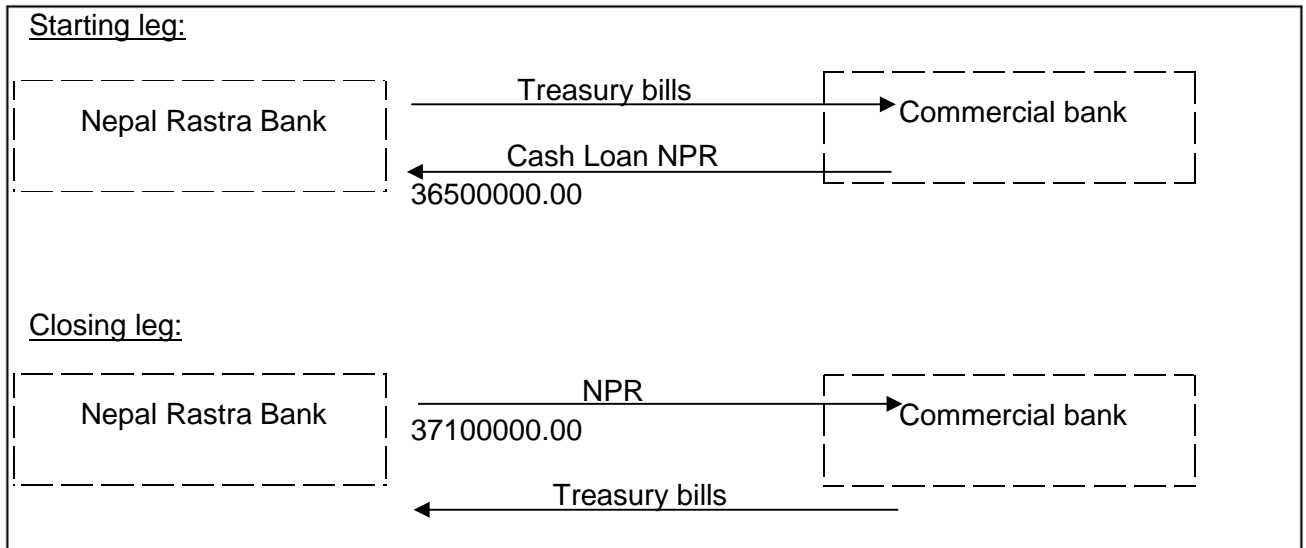


In the starting leg of the transaction, Nepal Rastra Bank exchanges reserves for the security, thus adding liquidity in the system. The process is reversed in the closing leg of the transaction.

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: 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 maximize 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 a 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 banks 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 the e government of Nepal are the only eligible securities under these 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 compliance 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 with in 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 Studies

Mr. Rajendra Bahadur Chand in his thesis paper entitle “Investment on Risk free assets by Nepalese commercial banks” has made effort to measure the investment practice of commercial bank on risk free assets. He had made conclude that commercial banks interest to invest in risk free assets. The banks are more interest to invest in risk free assets rater than long-term risk free assets. The commercial bank have invest around 21.36% of total deposit in risk free assets and also conclude that each of the banks under study have invested only on treasury bills among the different types of short term investment instrument.

Mr. Jiwan Kumar Chalise in his thesis paper entitle “Investment on Treasury bills in commercial banks” has made effort to measure the liquid assets & Treasury bills of the larger banks and smaller banks and also notified that liquid assets and profitability of commercial banks. He has clearly measure the relation between Treasury bills and total liabilities of the larger and smaller commercial banks.

Mr. Mahesh Raj Joshi has prepared thesis report on “Structure of Public Debt in Nepal” in 1982; in his study, he examined the structure of public debt in Nepal and importance of public debt in financial development. He research on the conclusion that system of public debt is one of the best ways of financing development expenditure of the government, which helps to control inflation in the country and it has helped to mobilize the internal financial resources in the production sector of the economy.

Mr. R.D. Singh has mentioned in his thesis titled “A Study on the Impact of Internal Borrowing in Nepal” (1963) analyzed the trend of revenue, expenditure and deficit and effect of under borrowing money supply, inflation and impact. He has also analyzed the structure of internal debt and impact of it on the economy. He has found the most inflationary nature of internal borrowing to increase inflation in the economy.

Mr. Roshan Kumar Yadhav in thesis paper entitle “An Analysis on Public Debt” (2009) has made effort to measure the trend of government borrowing and affect of public debt on national GDP. He has explored the burden of public debt and problem of debt servicing. He analyzes the size, magnitude, composition and disbursement of Nepal’s debt. His study help to analyze and promote the economic activities through well manage internal borrowing mechanism to support the deficit budget and to assess the impacts of public debt servicing and outstanding government loan of Nepal on the GDP growth of the economy.

Chapter - 3

RESEARCH METHODOLOGY

Research methodology, a science and framework of overall study, shows how research has been conducted. This chapter looks into the research design, nature and source of data, data collection procedure and tools & technique of analysis. For the purpose of achieving the objectives of the study, the applied methodologies are used. The research methodologies used in the present study is briefly mentioned below.

3.1 Research Design

Design is the overall plan or the road map of any proposed activity. The design of the research projects guides how to conduct the study. The research design implies procedures, techniques and tasks which guide to evaluate the objective of the study and propounds ways for research viability. It is the overall plan of a proposed study to specify the appropriate research methods and procedures for obtaining specific findings validity, objectivity, and accuracy and economically as possible. The research design is Qualitative which has followed exploratory and analytical research design which intends to explore the present practice of money market instrument in Nepal in terms of directives and prescription lay down by Nepal Rastra Bank. It is based on analytical case study of money market instrument that traded in Nepal.

3.2 Population and Sample

Among the existing and operating financial institutions of Nepal, NRB and other banking and nonbanking institutions are taken as the population of the study. The state of money market is in initial phase so all the participants and traders of the money market instruments are taken as sample to avoid the sampling error. So it is the study of overall population.

3.3 Nature and Sources of Data

To fulfill the objectives of the study, mostly, secondary data are used. 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 Nepal Rastra Bank and Journal published by Debt management department are the main sources of data. Main source of literature review are the National debt newsletter published by department of debt management (NRB) to regulate & monitor the treasury bills & Repurchase Agreement. Secondary data are taken mainly from NRB's publication, annual reports, economic survey etc. Beside this, the required data are collected from internet websites, relevant books and publication of Central Bureau of Statistics. The data of 5 fiscal years from F/Y 2061/62 to F/Y 2065/66 has been taken for the purpose of study.

3.4 Means of Presentation and Demonstration the Data

To acquire and disclose the fact and outcome of study, collected data are needed to be presented in systematic manner. For the purpose, collected data

are presented in the various dimensional tabular forms. Outcomes of the research are also presented in the diagrammatical way as well as comparative bar diagrams to obtain more concrete and reasonable outcome. 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.

) **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,

\bar{x} = Arithmetic mean

Σx = 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 their 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,

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

Where as,

σ = Standard deviation

n = Number of observations

\bar{x} = Arithmetic mean

) **Weighted Arithmetic Mean:**

Simple average method assumes that all the 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 variable and the weighted average is to be computed

The weighted arithmetic mean is computed by:

$$\bar{X}_w = \frac{W_1X_1 + W_2X_2 + W_3X_3 \dots \dots \dots W_nX_n}{W_1 + W_2 + W_3 \dots \dots \dots + W_n} = \frac{\sum Wx}{\sum W}$$

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:

$$P\% = \frac{X}{n} \times 100$$

) **Diagrams:**

Diagrams are the effective way of presenting and analysis data. Diagrams can be of various types 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 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 - 4

PRESENTATION AND ANALYSIS OF DATA

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 2018/19 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: 1 Analysis of Yields on T-bills with Different Maturities

year	Maturity Period of T-bills			
	28 Days	91 Days	182 Days	364 Days
2061/62	2.35%	2.88%	3.36%	3.73%
2062/63	2.67%	3.16%	3.74%	4.29%
2063/64	2.90%	3.66%	4.10%	4.90%
2064/65	3.91%	3.97%	4.53%	5.05%
2065/66	4.16%	4.18%	4.60%	5.22%

Table 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 4.16 in 2065/66 which is highest and 2.35 in 2061/62 is the lowest. Similarly, the discount rate of

91 days T-bills is 4.18 in 2061/62 which is highest and 2.88 in 2061/62 is the lowest. In the same way, 182 days T-bill is 4.60 in 2065/66 which is highest and 4.60 in 2061/62 is the lowest, the yield of 364 days maturities period T-bill is 5.22 in 2065/66 which is highest and 3.73 in 2061/62.

Figure: 4 Comparison of Yield on T-bills with Different Maturities

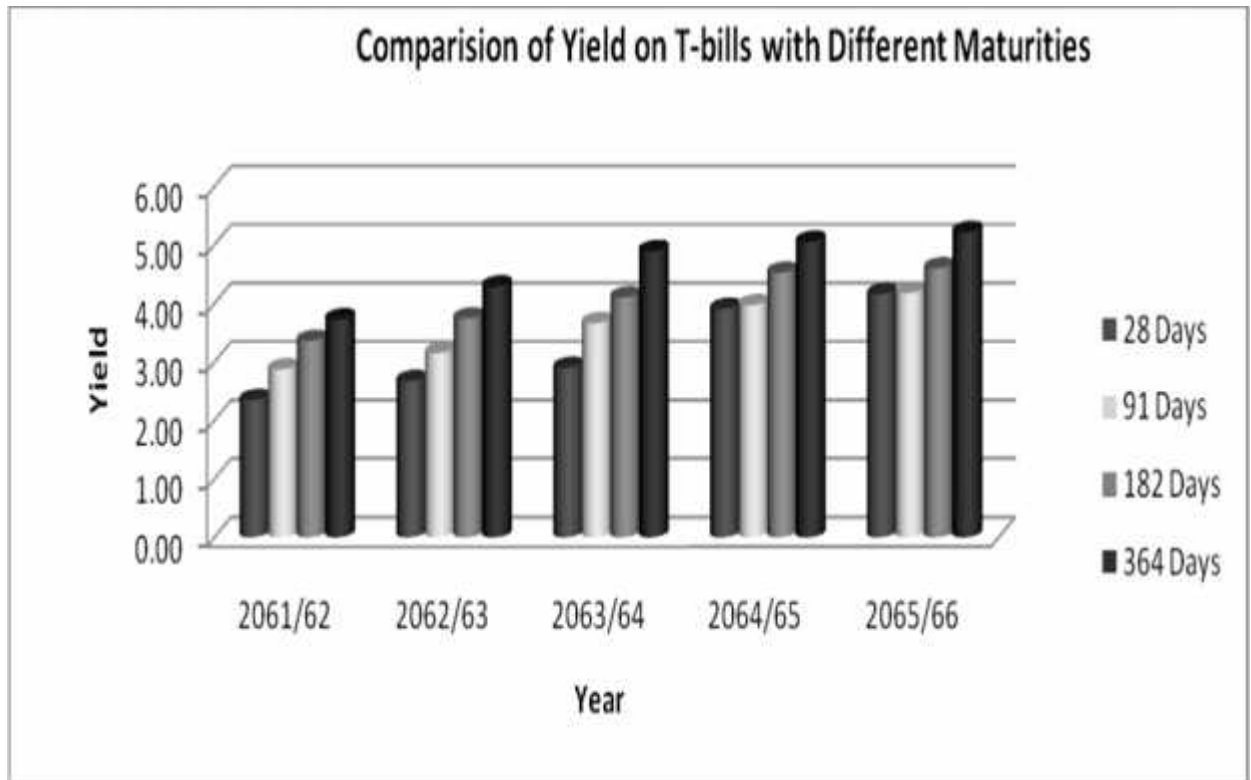


Figure 4 shows the yield of T-bill with different maturity period is increasing trend, yield on maturity of 28 days, 91days, 182 days and 364 days is also in increasing trend on same year. Yield of 364 days T-bills in 2065/66 is greatest and yield of 28 days T-bills in 2061/62 is lowest.

Table: 2 Discount Yields of 28 Days Treasury Bills

Discount yield of 28 Days Treasury Bills				
Year	Yield (%)	Growth rate (%)	Average yield (%)	standard deviation
2061/62	2.35		3.20	0.79
2062/63	2.67	13.75		
2063/64	2.90	8.53		
2064/65	3.91	34.70		
2065/66	4.16	6.48		

Table 2 shows the discount yield on T-bill during five years time at different maturity periods. The growth rate of yield of 28 days T-bills in 2062/63 is 13.75 %, 8.53 % in 2063/64, 34.70 % in 2064/65 and 6.48 % in 2065/66. Growth rate of yield from 2063/64 to 2064/65 is very high that is 34.70 %. Similarly, the average yield 3.20 represents the mean yield during the year 2061/62 and the deviation or fluctuation on yield is 0.97.

Figure: 5 Discount Yields of 28 Days Treasury Bills



Figure 5 show the yield rate of 28 days T-bills is increasing trend. It is increasing year by year but the increasing rate in the year 2064/65 is greater than other year. Growth rate of yield in the 2061/62, 2062/63, 2063/64 and 2065/66 is slower than 2064/65.

Table: 3 Discount Yields of 91 Days Treasury Bills

Discount yield of 91 Days Treasury Bills				
Year	Yield (%)	Growth Rate (%)	Average yield (%)	standard deviation
2061/62	2.88		3.57	0.55
2062/63	3.16	9.75		
2063/64	3.66	16.10		
2064/65	3.97	8.41		
2065/66	4.18	5.28		

Table 3 shows the growth rate of yield of 91 days T-bills in 2062/63 is 9.75 %, 16.10 % in 2063/64, 8.41 % in 2064/65 and 5.28 % in 2065/66. Growth rate of yield from 2063/64 to 2064/65 is very high that is 16.10 %. The fluctuation rate of yield on average yield is 0.55. The yield of 91 days T-bill has been present in figure 6. It shows that the yield on 91 days T-bills is increasing trend.

Figure: 6 Discount Yields of 91 Days Treasury Bills

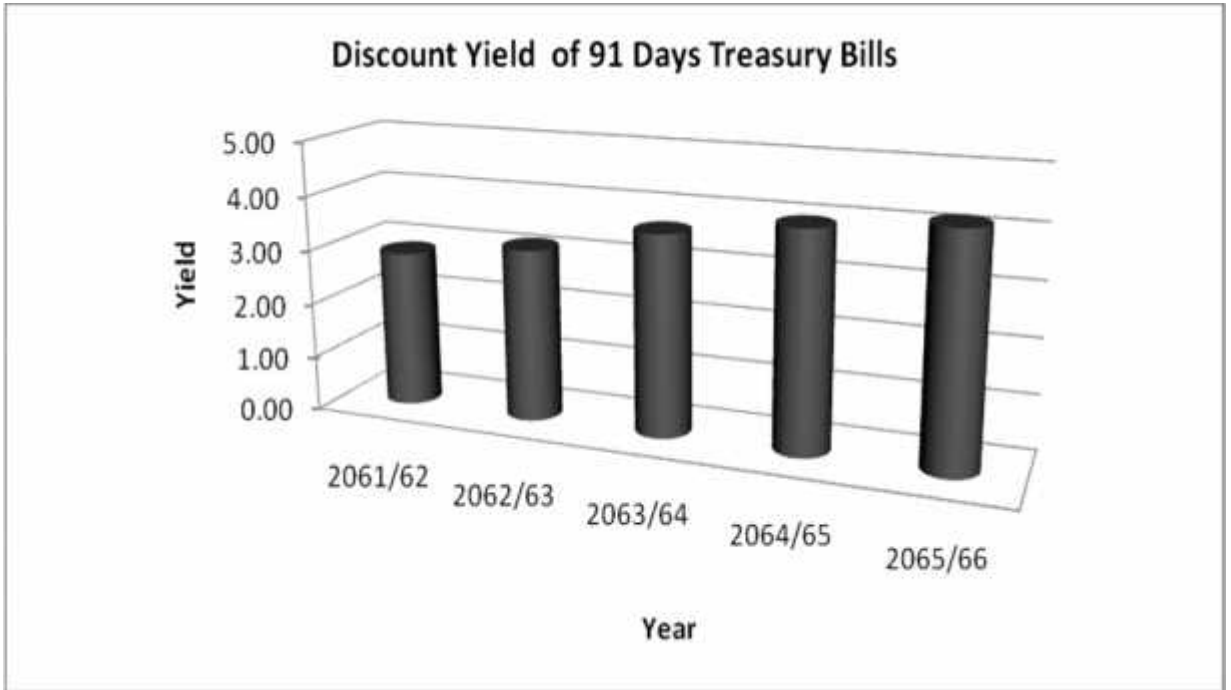


Table: 4 Discount Yields of 182 Days Treasury Bills

Discount Yield of 182 Days Treasury Bills				
Year	Yield (%)	Growth Rate (%)	Average yield (%)	standard deviation
2061/62	3.36		4.07	0.52
2062/63	3.74	11.34		
2063/64	4.10	9.63		
2064/65	4.53	10.34		
2065/66	4.60	1.66		

Table 4 shows the growth rate of yield of 182 days T-bills in 2062/63 is 9.75 %, 16.10 % in 2063/64, 8.41 % in 2064/65 and 5.28 % in 2065/66. Growth rate of yield of 182 days T-bills highly increase in the year 2062/63 and very little increase in yield in the year 2065/66. The fluctuation rate of T-bill 182 days yield is 0.52 from their average mean.

Figure: 7 Discount Yields of 182 Days Treasury Bills

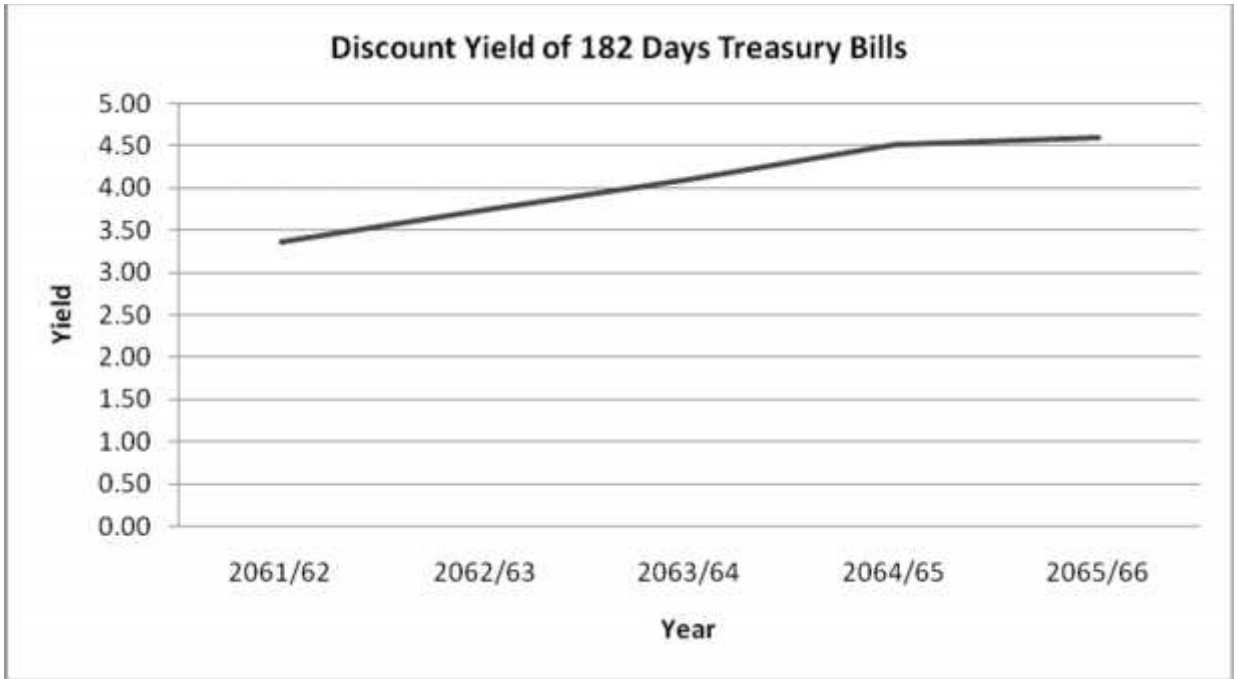


Figure 7 shows the yield rate of 182 days T-bills is increasing trend. It is increasing year by year but the increasing rate in the year 2065/66 is very smooth than other year. Growth rate of yield in the, 2062/63, 2063/64, 2064/65 is higher than 2065/66.

Table: 5 Discount Yields of 364 Days Treasury Bills

Discount yield of 364 Days Treasury Bills				
Year	Yield (%)	Growth Rate (%)	Average Yield (%)	standard deviation
2061/62	3.73		4.64	0.62
2062/63	4.29	15.05		
2063/64	4.90	14.18		
2064/65	5.05	3.23		
2065/66	5.22	3.28		

Table 5 shows the growth rate of yield of 364 days T-bills in 2062/63 is 15.05 %, 14.18 % in 2063/64, 3.23 % in 2064/65 and 3.28 % in 2065/66. Growth

rate of yield of 364 days T-bills highly increase in the year 2062/63 and very little increase in yield in the year 2065/66. Similarly, the variability on yield of 364 days T-bills on different year is 0.62 with average yield 4.64.

Figure: 8 Discount Yields of 364 Days Treasury Bills

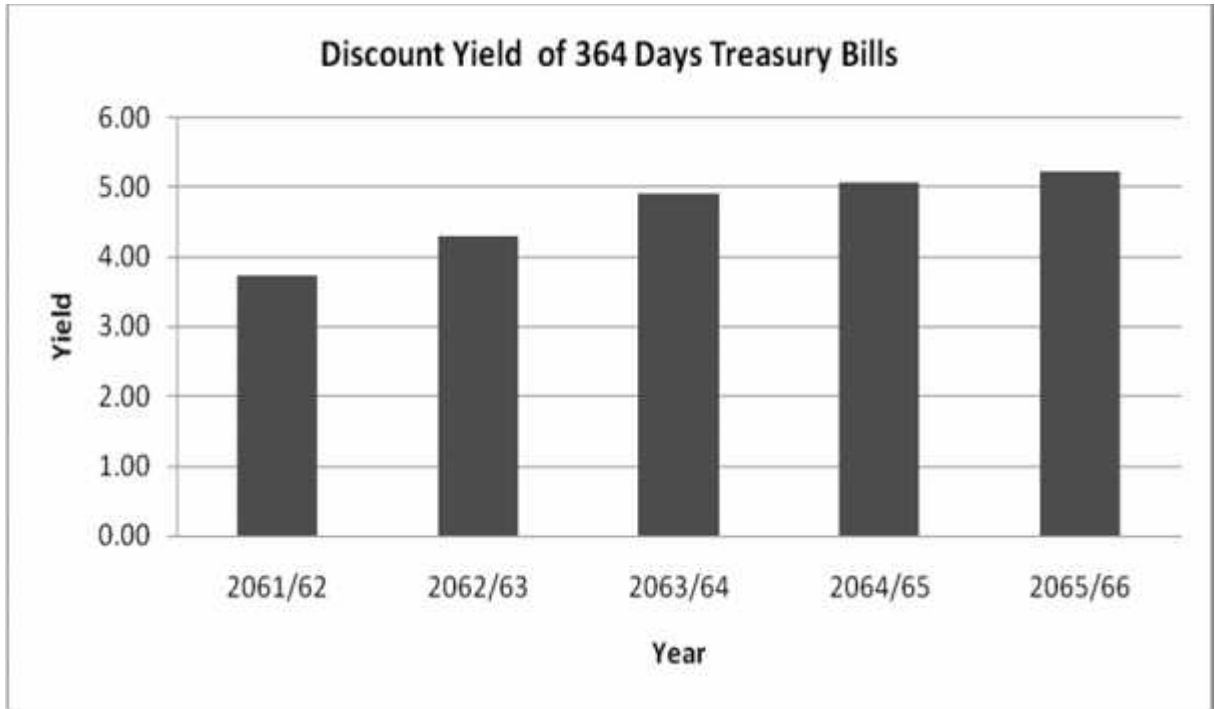


Figure 8 shows the yield rate of 364 days T-bills is increasing trend. It is increasing year by year but the increasing rate in the year 2063/64, 2064/65 and 2065/66 is very smooth than other two year. Growth rate of yield in the year 2062/63 is higher than other year.

4.2 Certificate of Deposit (CDs)

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

Annex A shows 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 of CDs continuously since 2061vs. The highest interest rate on 7 days CDs is 2.5% and 1.25% is lowest interest rate. Similarly, Annex A shows the interest rate of 14 days CDs. BOK and NIB have been issuing 14 days CDs since 2061 continuously. Citizen bank has issue14 days CDs only one time during the data period. Highest interest rate is 3% and 1% is lowest. Annex B shows the interest rate of CDs of 1 month maturity period. NBL, Nabil, NIBL, HBL, NSBI, NBB, BOK, KBL, LAXMI, SIDDHARTHA, ADBL have been issuing CDs of 1month continuously. Similarly, Annex B shows few financial institution have issued CDs having maturity of 2 month. SCBL has issued more time than other institution. 4% highest interest rate given by citizen bank and lowest interest i.e. 1.5% is given by SCBL. Most of bank have issued 3 month, 6 month and 1 year CDs during the data period. NMB started to issue CDs from 2066vs.

Table: 6 Average Rates of CDs with Different Maturities

Average Rate of CDs with Different Maturities							
Year	7 Days	14 Days	1 Month	2 Month	3 Month	6 Month	1 Year
2061	2.1%	2.48%	3.12%	2.75%	3.66%	4.25%	4.82%
2062	1.67%	1.8%	2.4%	1.5%	2.87%	3.28%	3.9%
2063	1.5%	1.84%	2.46%	1.5%	3.01%	3.51%	4.24%
2064	1.5%	1.75%	2.37%	2.13%	2.93%	3.33%	4.01%
2065	1.83%	2.27%	2.75%	2.75%	3.4%	3.94%	4.86%
2066	2%	2.13%	3.12%	2.75%	3.64%	4.3%	5.68%

Table 6 shows the average interest rate of Certificate of Deposit (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 is 5.68.

Figure: 9 Average Interest Rates of CDs with Different Maturities

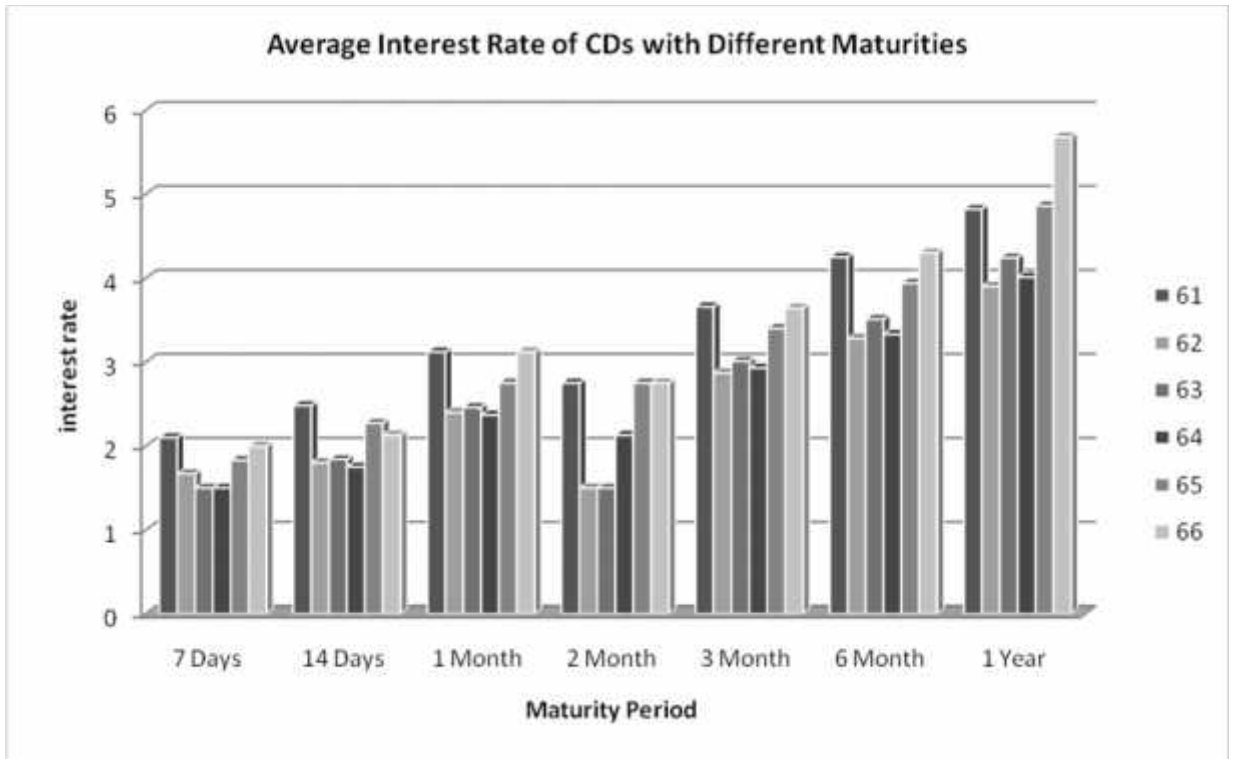


Figure 9 clearly shows that the rate of interest of different maturity of Certificate of Deposit slightly increasing one after another. Interest rate of 2 month of certificate of deposit is decrease after 2061 and increased after 2064. Similarly, in the year 2061 all the CDs pay higher interest rate than other year only one year maturity CDs pay highest in 2065.

4.3 Repurchase Agreement (Repo)

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. In this regard Nepal Rastra Bank uses the Repo transaction with commercial bank. NRB have issued Repo since 2064vs. Due to the initial phase of issuing Repo here we have only 2 year 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 up money from commercial bank giving T-bills as collateral.

Table: 7 Weighted Average Interest Rate of Repurchase Agreement (Repo) in 2064/65

Repo Auction 2064/65				
S.N.	Amount	Average Rate	Weight	Weight x Average Rate
1	200,000,000.00	4.1	0.22	0.91
2	200,000,000.00	7.39	0.22	1.64
3	200,000,000.00	7.4	0.22	1.64
4	100,000,000.00	7.6	0.11	0.84
5	200,000,000.00	7.31	0.22	1.62
	900,000,000.00		1.00	6.67

Table 7 shows the weighted average rate of Repo in the year 2064/65. In this fiscal year NRB used Repo transaction for 5 times. In this period, interest rate highly increased in first issue and constantly run after that. Higher interest rate is 7.6 and 4.1 is lowest interest rate. The trend of interest ate 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. same attitude shown on Table 8.

Table: 8 Weighted Average Interest Rate of Repurchase Agreement (Repo) in 2065/66

Repo Auction 2065/66				
S.N.	Amount	Average Rate	Weight	Weight x Average Rate
1	2,000,000,000.00	7.09	0.22	1.58
2	2,000,000,000.00	7.19	0.22	1.60
3	5,000,000,000.00	7.2	0.56	4.00
	9,000,000,000.00		1.00	7.17

Table 8 shows the weighted average rate of Repo in the year 2065/66. In this fiscal year NRB uses Repo transaction for 3 times. Average rate of Repo slightly change over this period.

Table: 9 Weighted Average Interest Rate of Reverse Repo in 2064/65

Reverse Repo Auction 2064/65				
S.N.	Amount	Average Rate	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%

Table 9 shows weighted average interest rate of Reverse Repo in 2064/65. 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 4th 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: 10 Weighted Average Interest Rate of Reverse Repo in 2065/66

Reverse Repo Auction 2065/66				
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

Table 10 shows weighted average interest rate of Reverse Repo in 2065/66. 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 moping up cash from the commercial bank for control the liquidation position of market.

4.4 Findings

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

-) There are varieties of money market instruments such as Treasury Bills, Commercial Bills, Repurchase Agreement, Certificate of Deposit, Eurodollar, etc., but in Nepal many popular money market instruments are still absent and only Treasury bill, Repurchase Agreement, non-negotiable CDs are in practice in Nepal.
-) Entire money market in Nepal is dominated by the Treasury bills in Nepal that the CDs are non-negotiable and whole repurchase agreement also constitutes the trading of Treasury bills.

-) Treasury bill rates have found to increase 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 in 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 controlling 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 treated as one of the best instrument used by NRB to mop up and spared money in market.
-) Very few banks have found to use non-negotiable CDs as short term source 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 in 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 infancy 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 – 5

SUMMARY, CONCLUSION & RECOMENDATION

5.1 Summary

This study has been conducted in partial fulfillment of the requirement of the degree of Master of Business Studies (MBS). The study is altogether related with the money market practice in Nepalese financial market. As the first step in 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 market in economy, value of the money market in market, general information of the money market, types of money market instrument and other introductory part of the study. After general information about the money market & its instrument, area or focus of the study has been presented which is prepared by gathering the existing informations about the money market instruments. The study with out the objectives is like the journey without destination, So, objective of the study along with limitation as well as impotence are presented in successive pages. In the same chapter, Importance of the study has been shown to provide information about how this thesis helps new researcher & individual to know about money market instrument. Due to the lack of time, cost, technique 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 first phase of second chapter,

conceptual review help 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 instrument, participator of money market instrument, trading procedure of money market instrument in Nepal. Likewise, in the second phase of this chapter, we can find various journals & articles that previous researchers already studied.

The overall study framework and roadmap of the study has been presented in next chapter called research methodology. This chapter is basically prepared to disclose the designed and format used to present the informations in systematic way. The disclosure 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 same chapter.

Using the tools, as mention in research methodology, presentation has been made about the Treasury bills, Certificate of Deposit and Repurchase Agreement in chapter four. Analysis has been shown from various dimensions and sides of available data and informations which have helped to fulfill the objectives of study. The disclosure about the yield rates and the growth rate of use of money market instruments are shown in the same chapter which shows non constant and volatile structure of yield. 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 lack of data, only 2 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 next chapter. It is prepared including the major conclusions drawn from the study along with the summary of the study. Moreover, as

recommendations, some suggestions to the participants of the Nepalese financial market were provided which was derived from the result of the study.

5.2 Conclusion

From various data analysis and presentation, conclusion of the study can be point out in this way;

-) 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 fund as well as investment for 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 investment, 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 & regulation, lack of secondary market and provision of NRB. Commercial banks are using CDs day by day limiting only on non negotiable Certificate of Deposit to meet short term

cash deficit. Increasing interest rate on CDs show the scope of CDs 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 Deposits 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 discounted 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 form stating 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 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.

5.3 Recommendations

Analysis of data, findings and conclusion 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 instrument should be established and must increase individual & other institution participation through creating awareness.
-) Due to the 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 Papers and negotiable Certificates 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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Annex A

Interest Rate of 7 Days Certificate of Deposit						
BANKS	2061	2062	2063	2064	2065	2066
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	1.70	1.25	1.50	1.50	1.83	2.00

Interest Rate of 14 Days Certificate of Deposit						
BANKS	2061	2062	2063	2064	2065	2066
NABIL	1.75	1.75	2.5	1.75	3.00	-
NIB	3	1.25	1.25	1.25	1.25	1.25
SCBL	1	1	1	1.00	1.00	1
HBL	2.3	1.75	1.75	1.75	2.00	2.5
EBL	3	2.25	-	-	-	-
BOK	2.5	1.75	2	2.00	2.50	2.5
NCCB	3	-	-	-	-	-
NICB	2.75	1.75	1.75	-	2.75	2.75
MBL	2.5	-	-	-	-	-
KBL	2.5	2	2	2.00	2.00	2
LAXMI	3	2	-	-	-	-
SIDHARTHA	2.5	2.5	2.5	2.50	2.50	-
GLOBAL	-	-	-	-	2.50	2.5
CITIZENS	-	-	-	-	3.00	-
SUNRISE	-	-	-	-	2.50	2.5
Average rate	2.48	1.80	1.84	1.75	2.27	2.13

Annex B

Interest Rate of 1 Month Certificate of Deposit						
BANKS	2061	2062	2063	2064	2065	2066
NBL	2.5	2.5	2.75	2.00	2.00	2
NABIL	2.25	2.25	3	2.00	3.50	4
NIB	4	1.75	1.75	1.75	1.75	1.75
SCBL	-	1.5	1.5	1.50	1.50	1.5
HBL	3.3	2	2	2.00	2.25	3.25
NSBI	2.75	2.75	2.75	2.75	2.75	2.75
NBB	3.5	3.5	3.5	3.50	3.50	3.25
EBL	3.5	2.25	-	2.75	-	-
BOK	3	2.25	2.5	2.50	3.00	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	2.50	2.50	2.5
LAXMI	3.5	2.5	2.5	2.50	3.00	4.5
SIDHARTHA	3	2.75	2.75	2.75	2.75	3
ADBL	2.5	2	2.25	2.25	2.00	3.5
GLOBAL	-	-	-	-	3.50	3.5
CITIZENS	-	-	-	-	3.75	-
SUNRISE	-	-	-	-	3.00	3
BANK 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	2061	2062	2063	2064	2065	2066
NBL	2.75	-	-	-	-	-

SCBL	-	1.5	1.5	1.50	1.50	1.5
EBL	-	-	-	2.75	-	-
CITIZENS	-	-	-	-	4.00	4
Average Rate	2.75	1.5	1.5	2.13	2.75	2.75

Annex C

Interest Rate of 3 Month Certificate of Deposit						
BANKS	2061	2062	2063	2064	2065	2066
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	1.50	1.50	1.5
HBL	3.75	2.5	2.5	2.50	2.50	3.75
NSBI	3.25	3.25	3.25	3.25	3.25	3.25
NBB	4	4	4	4.00	4.00	4
EBL	4	2.5	3	3.00	3.00	3
BOK	3.5	2.75	3	3.00	3.50	3.5
NCCB	5	4	4	4.00	4.50	4.5
LBL	-	-	4	4.00	4.00	4
NICB	4.5	2.75	2.75	2.50	3.50	3.5
MBL	4	3.75	3	3.00	3.50	3.5
KBL	3.5	3	3	3.00	3.00	3
LAXMI	4.5	3	3	3.00	4.25	5.75
SIDHARTHA	4	3	3.25	3.25	3.25	3.25
ADBL	3	2.5	2.75	2.75	2.50	4
GLOBAL	-	-	-	-	3.75	3.75
CITIZENS	-	-	-	-	4.25	4.25
SUNRISE	-	-	-	-	3.50	3.5
BANK ASIA	-	-	-	-	3.00	4
NMB	-	-	-	-	-	5.5
Average Rate	3.66	2.87	3.01	2.93	3.40	3.64

Annex D

Interest Rate of 6 Month Certificate of Deposit						
BANKS	2061	2062	2063	2064	2065	2066
NBL	3.5	3	3.25	2.50	2.50	2.5
RBB	3	2.5	2.5	2.50	2.50	2.5
NABIL	3	2.75	3.5	3.00	6.75	6
NIB	5.5	3	3	3.00	3.00	3
SCBL	-	1.75	1.75	1.75	1.75	1.75
HBL	4	3	3	3.00	3.25	4.5
NSBI	3.75	3.75	3.75	3.75	4.50	4.5
NBB	4.5	4.5	4.5	4.50	4.50	4.5
EBL	5	3	3.5	3.50	3.50	3.5
BOK	4	3.25	3.5	3.25	4.00	4
NCCB	5.5	4.5	4.5	4.50	5.00	5
LBL	4.25	4.25	4.5	4.50	4.50	4.5
NICB	5	3	3.75	3.25	4.75	4.75
MBL	4.5	-	4	3.50	4.50	4.5
KBL	3.75	3.5	4	3.25	3.50	4
LAXMI	5	3.5	3.5	3.50	4.75	6.25
SIDHARTHA	4.5	3.5	3.5	3.50	3.50	5
ADBL	3.5	3	3.25	3.25	3.00	4.5
GLOBAL	-	-	-	-	4.50	4.5
CITIZENS	-	-	-	-	4.50	4.5
SUNRISE	-	-	-	-	4.00	4
BANK ASIA	-	-	-	-	4.00	5
NMB	-	-	-	-	-	5.75
Average Rate	4.25	3.28	3.51	3.33	3.94	4.30

Annex E

Interest Rate of 1 Year Certificate of Deposit						
BANKS	2061	2062	2063	2064	2065	2066
NBL	4	3.5	3.75	3.00	3.50	3.5
RBB	3.75	3.25	3.5	3.50	3.50	5
NABIL	3.5	3.25	4	3.50	5.00	7.5
NIB	6.5	3.75	3.75	3.75	5.50	5.5
SCBL	2.25	2.25	2.25	2.25	2.50	2.5
HBL	5.25	3.75	3.75	3.75	5.50	6.5
NSBI	4	4	4.5	4.00	4.75	5.5
NBB	4.75	4.75	4.75	4.75	4.75	4.75
EBL	5.5	3.5	4	4.00	5.00	5
BOK	4.5	3.75	4.5	3.75	5.00	5
NCCB	6.5	5	5	5.00	5.50	5.5
LBL	4.75	4.75	5	5.00	5.00	5
NICB	6	3.75	4.5	4.25	5.25	5.25
MBL	5.75	4.25	4.75	4.00	5.25	6
KBL	4.5	4.5	4.5	4.00	5.50	6.5
LAXMI	5.5	4.5	5	5.00	6.00	7.5
SIDHARTHA	5	4.25	4.5	4.50	4.50	6
ADBL	4.75	3.5	4.25	4.25	3.50	7
GLOBAL	-	-	-	-	5.00	5
CITIZENS	-	-	-	-	4.75	6
SUNRISE	-	-	-	-	4.75	4.75
BANK ASIA	-	-	-	-	5.75	7.25
PRIME	-	-	-	-	6.00	6.75
NMB	-	-	-	-	-	7
Average Rate	4.82	3.90	4.24	4.01	4.86	5.68

Annex F

Nepal Rastra Bank, Public Debt Management Department
Repo Auction
Fiscal Year 2064/065

S.N.	Pur.Date	Avg. Rate	Total Days	
1	2064.9.18	4.1047	27	200,000,000.00
2	2064.10.15	7.3908	27	200,000,000.00
3	2064.10.18	7.3970	20	200,000,000.00
4	2064.10.28	7.623	17	100,000,000.00
5	2064.11.09	7.3079	21	200,000,000.00
Total				900,000,000.00

Nepal Rastra Bank, Public Debt Management Department
Repo Auction

Fiscal Year 2065/066

S.N.	Pur.Date	Avg. Rate	Days	Total Rs.
1	2065.10.08	7.0939	15	2,000,000,000.00
2	2065.10.17	7.1949	17	2,000,000,000.00
3	2065.10.15	7.1952	8	5,000,000,000.00
Total				9,000,000,000.00

Annex G

Nepal Rastra Bank, Public Debt Management Department				
Reverse Repo Auction				
Fiscal Year 2064/65				
S.N.	Date	Amount	Average Rate	Days
1	2064.05.20	1,000,000,000.00	1.6961	5
2	2064.06.02	620,000,000.00	2.4011	5
3	2064.06.10	2,060,000,000.00	3.1350	5
4	2064.06.16	1,500,000,000.00	3.4132	5
5	2064.06.23	390,000,000.00	3.2624	5
6	2064.12.13	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 2065/66				
S.N.	Date	Amount	Average Rate	Days
1	2065.04.30	2,000,000,000.00	3.1071	21
2	2065.05.01	2,000,000,000.00	2.7738	26
3	2065.05.18	1,520,000,000.00	3.3752	14
4	2065.08.18	1,500,000,000.00	3.6569	21
5	2065.08.25	2,000,000,000.00	3.8302	25
6	2065.09.09	2,000,000,000.00	3.7301	19
7	2065.09.17	1,240,000,000.00	4.2646	18
8	2065.09.22	1,000,000,000.00	5.9854	28
	Total	13,260,000,000.00		

Bibliography

Books

Baye, M. R., & Jansen, D. W. (1996). *Money Banking and Financial Money market; An Economic Approach*. AITBS Publications, India.

Brealey, R. A., & Stewart C, M. (1991). *Principles of Corporate Finance* (4th ed.). New York: Mc Graw-Hill.

Feming, M. J., & Kenneth, D. G. (2003). *The Repurchase agreement Refined: GCF Repo. Current issues in Economics and Finance*, vol. 9, P. 186-187.

Gupta, S. C. (1992). *Fundamental of Statistics*. Bombay: Himalayan Publishing House.

Joshi, P. R. (2001). *Research Methodology* (2nd ed.). Kathmandu Nepal: Buddha Academic Publishers & Distributors Pvt. Ltd.

Kerlinger, F. N. (2002). *Financial Institutions and Markets*. New Delhi: Tata McGraw Hill Publishing Co. Ltd.

Kohn, M. (1999). ***Financial Institution and Markets***. New Delhi: Tata McGraw Hill Publishing Co. Ltd.

Kothari, C. R. (1994). ***Research Methodology; Methods and Techniques***. New Delhi: Vikas Publication.

Nayar, N., & Michael, R. S. (1994). **Commercial Paper and the cost of Capital, Rating and Equity Returns. *Journal of Finance*** , 98.

Shrestha, M. K. (2007). ***Financial Market and Institution*** (2nd ed.). Bhotahity, Kathmandu, Nepal: Asmita Publication.

Sthapit, A. B., Gautam, H., Joshi, P. R., & Dangol, P. M. (2003). ***Statistical Methods*** (1st ed.). Kathmandu: Buddha Academic Publisher and Distributer Pvt.Ltd.

Wolf, H., & Pant, P. R. (2002). ***A Hand Book for Social Science Research and Thesis Writing*** (3rd ed.). Kathmandu: Buddha Academic Publisher and Distributer Pvt. Ltd.

Report & Thesis

Annual Report . (2005). *Public Debt Newsletter* .

Annual Report . (2007). *Public Debt Newsletter* .

Annual Report. (2006). *Public Debt Newsletter* .

Annual Report. (2008). *Public Debt Newsletter* .

Annual Report. (2009). *public Debt Newsletter* .

Chalise, J. K. (2008). ***Investment on Treasury bills in Commercial Bank***. An unpublished MBS Thesis, T.U.

Chand, R. B. (2009). ***Investment on Risk Free Assets by Neplease Commercial Banks***. Unpublished MBS Thesis, T.U.

Joshi, M. R. (1982). ***Structure of Public Debt in Nepal***. An unpublished MBS Thesis, T.U.

Singh, R. D. (1963). ***A Study on the Impact of Internal Borrowing in Nepal***. An unpublished MBS Thesis, T.U.

Yadhav, R. K. (2009). ***An Analysis on Public Debt*** . An Unpublished Thesis, T.U.

Internet Journal

(2008). Retrieved from www.eagletrade.com.

(2009). Retrieved from www.nrb.org.np.

(2009). Retrieved from www.investopedia.com.

(2009). Retrieved from www.google.com.

(2009). Retrieved from www.en.wikipedia.org.

(2009, June 20). Retrieved from www.answer.com.

Brealey, R. A., & Stewart C, M. (2005, June 15). *Money Market Instrument*. Retrieved from www.answer.com.