

# **Chapter –1**

## **Introduction**

### **1.1 Background of the study**

In many countries, most economic decisions are resolved through the market. Who solves the three fundamental questions-“what, how and for whom” in a market economy? A market economy is an elaborate mechanism for coordinating people, activities, and businesses through a system of prices and markets. It is a communication device for pooling the knowledge and actions of millions of diverse individuals. In a general sense, markets are places where buyers and sellers interact to set prices and exchange goods and services. In other words, it is a mechanism created to facilitate the exchange of financial and real assets. However, market need not necessarily have a physical location. The necessity is the fair interaction between buyers and sellers and their communication regarding the relevant aspect of purchase and sale. A market may be centralized, like the stock market. It may be decentralized, as in the case of labor or it may exist only electronically, as is increasingly the case with “e-commerce” on the internet. Among the different types of market, capital market is one of the most important financial market, where trading of securities are held.

The capital market is place or mechanism in which various types of financial instruments are issued. These are then transferred from one person/ parties to another by different means of trading mechanism. This allows people who have excess fund to utilize their fund in productive sectors and the parties who need fund to run their enterprise can also do the same with ease. Thus a capital market plays a major role in the healthy economy of a country.

The major components of a capital market are stock market, debt securities, mutual funds, government treasury bills etc. Thus capital market plays an important role in mobilizing a continuous flow of savings and channeling these financial resources for expanding productive capacity in the economy. Among these securities, debt securities play an

important role as it provides a strong base for implementing monetary and debt management procedures.

A debt instrument is a long term contract under which a borrower agrees to make payments of interest and principal on a specific date to the holder of the bond. In other words, debt securities represent a piece of paper as a financial claim. Debt securities get the utmost preference at the time of payback as the interest on bonds and debentures are paid from the total earning of a company before paying the dividends to the share holders. On the other hand, the issuing companies are not liable to pay dividends to its common stock holders if it is suffering loss. However the interest on debentures and bonds must be paid in time regardless of the company going in loss or profit.

The mentioned topic is entirely related to debt securities market with reference to the Nepalese securities market. A debt securities market is that type of market in which financial instruments (mainly bonds & debentures) dealing in outstanding debts are bought or sold. There are different debenture securities markets. They may be Primary market, Secondary market, Over the Counter (OTC) market, Third and Fourth market. All securities, whether in money or capital markets, are initially issued in the primary market. This is the only market in which the company or Government is directly involved in the transaction and receives direct benefits from an issue i.e., the company actually receives the proceeds from the sale of securities. In the secondary market, investors usually purchase securities by calling securities brokers. In this market, issuer never gets any cash flow from the trader. In case of Nepal, the Securities Exchange Centre (SEC) was involved in the transaction of the Government debt securities. But when it was converted into NEPSE, the transaction of the Government debt securities had not been done through it. The secondary transaction for the debt security is held more through the OTC or Third or Fourth market rather than the Stock Exchange.

## **1.2 A brief History of Debt Securities in Nepal:**

In order to assist in the economic development of the country, it is very essential to develop a healthy debt securities market. Nepal is known as capital scarce country as revenue surplus is

not enough for financing development expenditure; foreign grant as well as foreign loan and internal borrowing are used to bridge this gap (Economic survey: 2000/01: 141). The institutional set up of Securities market began along with the establishment of security exchange centre in 1977. The stock market of Nepal is quite young. Accordingly debt securities market yet not reached its maturity stage. Therefore there is not a proper exercise of debt securities market in Nepal. Debt securities have a very short history in Nepalese securities market. HMG government of that time issued debt securities for the first time in 1962 A.D. After this, the government has been issuing these bonds regularly to meet its financial needs. The public debt act 2059 was brought into regulation from 2059 B.S and this act has been regulating the debt market presently. NIDC capital markets and Bottlers Nepal were two of the first organizations to issue debt securities. The transaction of Debt securities was take place in Security Exchange Centre, which was later converted into Nepal Stock Exchange under Security Exchange Act 2040. Since then, the transaction of the government bonds is not done from the Nepal Stock Exchange.

Generally, debt has face value of Rs.1000 and holder of debt securities gets interest at either annual or semi annual basis on the amount invested. The procedure for payment of interest and principal is stated on the bond indenture. It is the legal document that spells out the rights and obligations of the issuer and the investor. In it, the collateral is specified, protective covenants such as limits on executive salary, additional debt and payment dates are set forth. In addition, provisions are stipulated for default, call and sinking funds. Investing in the debt security is less risky because they have a virtually guaranteed return of principal. Even if the company suffers loss or turns bankrupt, there is certainty of getting interest. The debt security can be issued in various forms. In case of Nepal, the issuance of debt security is based on the decision of the Securities' Board of Nepal and prevailing laws.

The present Debt securities market in Nepal can be classified into two types namely:

- I. Government debt securities market**
- II. Corporate debt securities market**

### **1.2.1 Government debt securities market:**

This is the debt market which deals in the debt securities issued by the government. The government from time to time issues certain bonds, treasury bills etc. to meet its financial needs promising to pay a certain rate of interest regularly. This works as an effective tool to meet the deficit budget in a certain financial year. The different types of government debt securities include Treasury bills, national saving certificate, special bonds, citizen savings certificate, etc. In Nepal, Nepal Rastra Bank has been actively issuing different types of debt securities in order to compensate the deficit in the national budget by collecting funds from the general public from these securities. Some of these various debt securities issued by Nepal Rastra Bank are discussed below.

#### **i) Treasury Bills:**

Treasury bill, which was sold for the first time in 1962, is the most important money market instrument in Nepal. Treasury bills are the short term fund collecting instrument of the government. Normally, a treasury bond has a maturity period of 91 days. This maturity period can vary up to 365 days. Therefore treasury bills are the short term fund raising instrument of the government. Treasury bills are sold to different bidders after issuance.

The Government of Nepal initiated the process of selling treasury bills to different commercial banks, financial institutions and individuals since 2018 B.S. After that it initiated the auction process in 2045 B.S. Till the second quarter of 2007/08, the total amount of Treasury bills outstanding is 85,033 million Rupees. (Quarterly economic Bulletin- mid June 2008).

#### **ii) Development bonds:**

This type of bonds is normally issued to meet the budget deficit to perform development works. It is a long term government bond and has a maturity period of 5 years or more. It can be used as collateral, if the holder needs to take loan. The holders normally gets 90 percent amount of the total value if he keeps them on collateral. It has fixed and minimal interest rate and is paid normally in semiannual basis. The interest earned on this type of bond is taxable. Government of Nepal initiated the process of selling development bonds since 2020 B.S. Till

the second quarter of 2007/08, the total value of the development bonds outstanding is 21,735.40 million Rupees. (Quarterly economic Bulletin- mid June 2008).

**iii) National savings certificate:**

It is also a long term bond having a maturity period of normally 5 years. It has a fixed interest rate and the interest on this bond is paid on a semiannual basis. The interest on these bonds is higher than the market interest rate and is tax free income. It can be purchased as a promissory note. The holder gets principal after a certain maturity period. Due to high rate of interest, the national savings bonds have large trading in the market. As its main focus is on general public; therefore the majority of bondholders are the general public. But the financial institution can also purchase this kind of bond. The government initiated the process of issuing National Savings Certificate since 2040 B.S. Till the second quarter of 2007/2008, the total amount of National savings certificate outstanding is 1,116.90 million Rupees. (Quarterly economic Bulletin- mid June 2008).

**iv) Special bonds:**

As the name suggests, this type of bonds are issued only on special occasions. This instrument is used for paying off liabilities of Government. Instead of paying cash, the government issues these special bonds to the parties in turn can use as collaterals to fulfill their fund needs. The government issued special bonds for the first time in 2023 B.S. Till the second quarter of 2007/08, the total amount of special bond outstanding is 339.40million Rupees. (Quarterly economic Bulletin- mid June 2008).

**v) Citizen Savings Certificate:**

Citizen savings certificate is also a long term debt instrument of the government having a maturity period of 5 years. It has the same characteristics as other government bonds except that it cannot be used as collateral. It also has a fixed interest rate and the interest is normally payable semiannually. It can be purchased only by the Nepalese citizens. The interest earned on this type of bond is taxable. Nepal government initiated the process of offering national saving certificate since 2059 B.S. Till the second quarter of 2007/08 the total amount of

national savings certificate outstanding is 3014.40 million Rupees. (Quarterly economic Bulletin- mid June 2008).

### **1.2.2) Corporate debt securities market:**

The market that deals with the debt securities issued by the corporation is known as debt securities market. In this market, various kind variable income debt securities and fixed income debt securities are traded. Securities whose income varies year to year or quarter to quarter are called variable income debt security. As, the corporate debt securities market is in a very initial stage in Nepal, hence the history of corporate debt securities in Nepal is not so old. The first instance of bond issue was by Bottlers Nepal Ltd, when it issued 18% coupon rate bond worth Rs 5 million in 1986/87 and was redeemed at maturity. In 1992/93, Jyoti Spinning Mills Ltd issued 14% coupon rate bond. Similarly Shree Ram Sugar Mills Ltd (SRSML) issued debenture worth Rs 93 million in fiscal year 1997/98. It was convertible in nature and paid annual coupon interest of 14%. However due to inadequate response it failed to reach its target and had to be terminated by refunding before maturity Himalayan Bank Ltd, after the eleventh year of its establishment in the year 2003, issued 360,000 bonds with a price of Rs. 1000 each paying 8.5% interest per year payable semi annually until the year 2010. In the year 2010 B.S., the bank will repay the principal to the bond holder. The issuance of HBL bond and its listing in the secondary market with separate trading system became a milestone in this regard. Before the listing of HBL's bond, SRSML's convertible bond was also listed in the exchange but no separate trading system was followed. Very few of these debentures were traded. Thus, SRSML bond was delisted and redeemed in the fiscal year 2001/02. Then, nearly one and a half year after HBL bond, another big Nepali bank, Nepal Invested Bank Ltd (NIBL) has issued Rs. 300 million Nepal Investment Bank bond 2010 with 7.5% coupon interest with semi annual payment. Everest Bank Ltd. had issued debentures worth Rs. 300 million in the FY 2004/05. It had issued 300000 debentures with a par value of Rs. 1000 paying 6% coupon interest for 7 years payable semi annually. Then in FY 2005/06, nearly one and a half year after EBL Bond. Bank of Kathmandu Ltd. (BOKL) issued 200000 debentures with a par value of Rs.1000 each with 6.0 % coupon interest paying semi annually for 7 years. In the FY 2005/06, Nepal Investment Bank Ltd. (NIBL2) for the second time issued 250000 NIB Bond 2070 with 6% coupon interest paid semiannually. The

Maturity period of the bond is 7 years. Nepal Industrial and Commercial Bank (NIC) in the FY 2005/06 issued Rs. 200 million NIC Bond 2067 with 6% coupon interest paid semiannually. The bond is redeemable after 7 years. Then after, Nepal SBI Bank Ltd (NSBIBL) issued Rs. 200 million Nepal SBI Bank Debenture 2070 with 6% coupon interest paid semiannually for 7 years in the FY 2005/06. In FY 2007/08 Kumari Bank for the first time issued Rs.400 million “KBL bond 2070”with 8% coupon interest paid semiannually. Likewise in the FY 2007/08 NABIL bank which is also the biggest bank of Nepal had issued debenture on august 2008 with 8.5% coupon interest having maturity of ten years.

In the due course of evolving with the debt securities market, the government has made some important legislative provisions which are directly or indirectly involved in regulating the debt securities market in Nepal. Some of these legislations are listed below:

- Securities exchange act, 1983
- Securities exchange regulations, 1993
- Security allotment guidelines, 1994
- Issue management guidelines, 1994
- Membership of stock exchange and bye laws, 1998
- Securities regulation and issue approval guidelines, 2000 etc.

### **1.3 Statement of problems:**

A bond market can be defined as a mechanism for bringing together buyers and sellers of bond in order to facilitate trading. Bond issuing companies, issue managers (investment bankers, brokers etc), investors and regulators of the markets are the constituents of bond markets. Bond markets can be classified in several ways. One way of classifying them is as primary markets and secondary markets. When companies issue bonds and investors buy them the trading is said to have taken place in primary market. But when two investors trade bonds (one buys and other sells) the trading is said to have taken place in secondary market. Thus the initial trade of the bond takes place in primary market and the subsequent trade takes place in secondary market (Shrestha, 2003:65). In developed countries Corporate bonds are traded primarily in the “over the counter” market.

Debt securities are assumed least risky securities. There is fixed regular interest income in these securities and a very few chances of losing the principal even in case of the liquidation of the firm. On the other hand it is a very effective tool in increasing the value of the firm. Government and other local securities also receive the required fund to carry out and meet the deficit budget for development purposes. Therefore, this study is mainly concerned in analyzing the present status of the debt securities market in Nepal and the problems faced by this market. Nepalese economy is in an underdeveloped stage. There is a lack of appropriate investment opportunities, due to which an investor cannot find a proper place to invest his funds. On the other hand, the most of the government debt securities are held by institutional investors rather than individual investors.

Investors who invest in debt securities and hold deposits in commercial banks are the same group of individuals as both of them get a fixed interest. While studying the trend of average interest rate of commercial banks we can see that it has been decreasing gradually. Although debt securities pay much higher interest rate than the bank deposits, these investors are still not seemed to be concerned with the debt securities.

Thus the major problem with the debt securities market is that there is not much of exchange of information between the prospective investors and the issuing party. On the other hand there are a very few issuance of debt securities in the Nepalese securities market except for the Government debt securities.

Therefore we can conclude that the development of the debt securities market in Nepal is not influenced by a single factor but by a number of different factors that affect the debt market directly or indirectly.

#### **1.4 Research questions:**

As this research is being conducted to analyze the certain problems faced by the Nepalese debt securities market, the following questions were prepared to fulfill the objective of this research.

- What is the contribution of Debt securities market in the structure of Nepalese securities market?
- What is the contribution of government and the corporate sector in the debt securities market in Nepal?
- Who are the key investors in the Nepalese debt securities market and the features of Nepalese corporate debt securities?
- What is the major problem of the existing debt securities market in Nepal?

What can be done for the systematic growth of the Nepalese debt securities market?

### **1.5 Objectives of the study:**

As discussed above the Nepalese debt securities market is in a very initial stage. The present study is focused on the problems and trend of the prevailing debt securities market in Nepal with reference to the government bonds and corporate bonds. The main objective of this study can be summarized in the following points.

- To study the current status of the debt securities market in Nepal
- To examine key features of Nepalese Corporate Debt Security market
- To identify the major problems faced by the prevailing debt securities market in Nepal
- To analyze the future prospect of the debt market in Nepal.

### **1.6 Significance of the study:**

This study is concerned with the prevailing situation of the Nepalese debt securities market. Debt securities market is a major factor in any security market. However in context of Nepalese security market, debt security market has not been able to make its mark. Thus this study is an attempt to analyze the problems faced by the debt securities market in Nepal and to work out a suggestion for its better growth.

All industries require fund to enhance the value of their firm. Debt securities are a very efficient tool for raising fund for any industry. Hence this study has its own significance as it deals with the possible ways to improve the debt securities market in Nepal. Therefore this study will be conducted with a view to provide a helpful outlook on the debt securities

market with regards to different sectors of the economy such as the investors, government, students, brokers, prospective market makers, etc.

### **1.7 A brief survey of related literature:**

In the Nepalese securities market debt securities can play a major role. However not much of research has been done in this context. Some previous researches were conducted related to the above topic, but few researches have been able to identify the problems faced by the current debt securities market in Nepal.

Koirala, H K (1997) conducted a research named “Public Debt in Nepal”. It deals with the status of public debt in the Nepalese socio economic sector. However it does not clearly deal with the role of Debt securities in the Nepalese securities market. Similarly a thesis report of Mainali, S K (2003) “Problems and prospects of Debenture market Growth in Nepal” deals with the problems faced by debenture market in Nepalese securities market. However it does not deal with the overall debt securities market inclusive of the government sector. This report has suggested some probable features that could help to make the current debt market more effective. However it has not included all the aspects of the Debt security market and is centered towards the debenture market as suggested by the title of the study.

Similarly, there were other few researches conducted in this field but only few have actually included all the aspects of a debt security market.

Hence this research is an attempt to put forward a clear picture regarding the current status of the debt securities market in Nepal. As it includes the debt security market as a whole, it is hoped that the end result of this research will be helpful for many individuals to better understand the prevailing situation of the Nepalese debt securities market.

### **1.8 Limitation of the study:**

While performing any research, there are various constraints that have to be crossed. Similarly, this research is not an exception. There are various limitations to this study as well. Some of these limitations are listed below.

- The present study is purely an attempt to analyze the debt securities market only. Hence it does not cover other type of debts such as bank loans, receivables, overdraft, etc.
- In Nepal, data collection is a major problem. The concerned institutions are not so cooperative and at times adequate data are not available. There is no systematic database to provide all the required data for the above study. Hence collection of data is another limitation associated with this study.
- The data for this study is of both secondary and primary nature. The secondary data might be with reporting error on the other hand primary data might not be as accurate due to the various types of respondents involved. And as many respondents are reluctant to divulge any information however basic they might be.
- Other limitations associated with this research are time constraint, financial constraint and research experience.

## **1.9 Organization of the study:**

This analysis has been divided into five different chapters as shown below.

- Chapter 1: Introduction
- Chapter 2: Literature Review
- Chapter 3: Research Methodology
- Chapter 4: Data Presentation and Analysis
- Chapter 5: Summary, conclusion and Recommendation

**Chapter 1- Introduction**, deals with the introduction of the study as a whole. It provides a preview about how the study has been conducted and provides a background on the components of this study. It provides a brief introduction of the present debt securities market in Nepal. Thereby, giving a picture of the problems faced by the debt securities market in Nepal, it also gives a brief description about the significance of this study.

**Chapter 2- Literature Review** deals with the analysis of related literature. This chapter has been further divided into two sub chapters namely conceptual frame work of the study and the review of related studies to this analysis.

**Chapter 3- Research Methodology** deals with the different methods that have been used in this study to analyze the available data concerning the debt securities in Nepal. Basically this chapter has been designed to identify the proper data analysis methods to analyze the available concerned data to meet the end conclusion of the study.

**Chapter 4- Data presentation and analysis,** deals with the actual analysis of the available data using different statistical tools. Hence, this chapter is the most important one as it provides with the actual conclusion of the whole study.

**Chapter 5- Summary, Conclusion, and Recommendation,** this chapter deals with the presentation of the final conclusion of the study. This chapter also provides with the conclusion and recommendations for proper management of debt securities market.

## **Chapter -2**

### **Review of Literature**

#### **2.1 Introduction**

The literal meaning of "Review of Literature" is reviewing research studies or other relevant proposition with reference to the past studies in similar fields which are relevant to the present study. In this chapter a brief analysis of the past studies and progress on the similar field has been considered. All those studies related to this study, "*A Study on Debt Securities in Nepal* ", are categorized into two parts namely – "conceptual framework" which covers the area of the research work and theoretical concepts which are developed by various scholars and writers. The second part is referred as "review of related studies". It includes review of relevant Journals and review of related thesis and other reports. Some of these most relevant literatures have been reviewed as presented below:

#### **2.2 Conceptual Framework:**

##### **2.2.1 Debt Securities Market:**

A market is a medium where buyers and sellers are brought together to aid in transfer of goods and services. Among the different types of market, financial market is one of the important market, where trading of financial assets are held.

It helps to divide financial market into two general types – the money market and the capital market. The money markets are the markets for debt securities, which pay off in the short-term, where as capital markets are the markets for long-term debt and equity shares. Furthermore, financial markets can be divided into primary and secondary markets. Primary market is for initially (newly) issued (sold) securities. Similarly, secondary markets are for trading debt securities after they are originally sold. Again, the financial market also can be divided as securities market and non securities market. Securities market implies mobilization of funds through the issuance of the securities: shares, bonds and debenture by corporate sectors and bonds, bills and debentures by government sector. A security market

can be defined as a mechanism for bringing together buyers and sellers of financial assets traded in them were issued to same previous point in time. One of their main function is “Price discovery” that is to cause prices to reflect currently available information. Non securities market refers to the mobilization of financial resources by the financial institutions in the form of deposit and loans.(Sharpe,2001)

Debts securities market is an important securities market where trading of debt securities are held. It may be short-term, intermediate term and long term. Debt security market provides a variety of securities for investment propose, which in turn is issued by any organization and government. So, debt securities market in the country can be divided into two forms, corporate and government market. (Bhattarai, 2005:7)

### **2.2.1.1 Government Debt Securities Market:**

The market that deals on securities issued by government in order to collect fund from the public to meet its financial need is known as Government debt securities market. Government mainly uses two sources to raise the funds; internal and external. Internally, the government can borrow from individuals, commercial banks, financial institutions, charitable trusts and the Central bank in a country. Externally, the government can borrow from individuals, banks, International financial institutions and foreign government (Paul, 1999:112-120). In case of borrowing from individuals, when individuals purchase government bonds they are diverting funds from the private use to the government use. In such a case, there is a little direct effect in curtailing either consumption or business investment. In other words, individuals may be able to subscribe the government bonds either through curtailment of current consumption or through diversion of funds meant for one’s own business or diverting funds into government bonds from securities. Generally, sale of government bonds to individuals should not curtail either consumption or business expansion. To a greater extent, these bonds will be absorbed out of the funds that would have been lying idle or would have been used to buy other securities. (Lekhi, 2000:342-357).

In Nepal, the systematic debt market began after enforcement of Public Debt Act 1960. To raise funds from the local market, government uses short term and long term debt instruments. Treasury bills are the main short term debt instruments of the government of

Nepal. Besides treasury bills, there are other debt instruments of the government that are useful in raising the long term debt for the government.

- J) **Treasury Bills:** Treasury bill, which was sold for the first time in 1962, is the most important money market instrument in Nepal. Normally, treasury bills may be issued for any maturity less than one year but NRB at present issues 91 days to 364 days treasury bills. Ninety days treasury bills are auctioned weekly on each Monday by NRB on behalf of Nepal government. Nepal government initiated the process of selling treasury bills by auction system to banks, financial institutions and individuals since fiscal year 1988/89. Treasury bills are sold to the bidders in the order that one who bids with the expectation of lower rate of interest and the rate is fixed on an average. The government has been collecting huge amount of fund through sale of Treasury bills every year to fulfill the deficit budgetary system of the country. NRB maintains the registry to record the ownership of the treasury bills. The minimum subscription amount is Rs. 25000. The bills are sold at discount and redeemed at par value at maturity, and the difference represents the interest which fluctuates widely due to liquidity/illiquidity in the banking system (NRB: 1998).
  
- J) **Development Bond:** It is a long term government bond which is issued to perform the development works. Normally, its maturity period is five years or more. It can be used as collateral, if the holder needs to take loan. The holder normally gets 90 percent amount of the total value if he keeps them on collateral. It has a fixed and minimum interest rate. The payment of interest is paid on semi-annual basis. The income from development bond is taxable. The main investors of the development bonds are the institutional investors. NRB has been issuing these bonds in the market on behalf of the government.(NRB:1998)
  
- J) **National Saving Bond:** The main holders of the National Saving Bonds are the general public because it is focused to the individual investors. So, the issuance of this kind of bond was initiated in order to mobilize saving from the non banking sectors. It is also a long term government bond and it normally bears the maturity period of five years. It has fixed interest rate payable semi-annually. It can be

purchased as a promissory note. The holder gets principal after a certain maturity period. These bonds are tax free bonds and have high interest rate which is paid in semi-annual basis. Due to high rate of interest, the National Saving Bonds have large trading in the market.(NRB:1998)

- J) **Special Bond:** This bond is issued when the government falls short of funds. The government issues special bonds to those parties to whom the government has to make payment. Instead of paying cash, the government issues special bonds as a substitute of cash repayment and extends the period of payments. The holder of this bond can use it as collateral to fulfill their funds needs. The holder receives 50% amount of the total value when the bond is placed as collateral. (NRB:1998)
  
- J) **Citizen Saving Certificate:** It is a long term debt instrument of the government. It normally has the maturity period of five years. The citizens saving certificates are same as other long term bonds that are issued by the government. The difference is that it cannot be used as collateral. It has a fixed interest rate and the interest amount is paid on a semi annual basis. It is also taxable government bond. (NRB:1998)

### **2.2.1.2 Corporate Debt Securities Market:**

In meeting its need for long term finance, the firm has a choice between debt and equity source one of the most important debt financial securities is bond. According to T.T Hampton, a corporate bond is a security resending long – term promise to pay a certain sum of money at a certain sum of money at a certain time over the course of the loan with the fixed rate of interest payable to the holder of the bond.

Corporate bonds come in several different forms. The basic classification includes collateralized (secured) and uncollateralized (unsecured), senior and junior, callable and convertible bonds. Business firms issue many types of bonds. However, smaller firms deal directly with lenders such as Banks, Insurance Companies. Firms can obtain long-term debt financing privately or through public offering. Private debt includes several types of debt that

consists of direct loans from banks and institutions. While public offering debt includes issuance of bonds and debentures. ( Caks, John.: 1988).

Long-term bonds have been issued for centuries and they remain extremely common financial instruments. It is natural to suppose that bonds have been popular; they meet the needs of investor clientele. The holders of the company's long-term debt, of course, are creditors. Generally, they can not exercise control over the company and do not have a voice in management. In liquidation claim of debt holders is before that of preferred and common stock holders. Corporate debt securities market has to be developed according to the same way with the other components of capital market within country. (Marsh Paul: 1992)

### **2.2.2 Interest Rate:**

Interest is the cost of using money over time. From the lenders view point, interest is the excess money that is received over the amount that was loaned. From the borrowers view point, interest is excess money that was borrowed. Interest expenses (or interest revenue) equals the interest rate times the carrying value of liability (or receivable) at the beginning of the period. Interest rate features are stated in terms of the par values of related obligation. The contact value is directly related to interest rates. The bond market is driven by interest rates. In fact, the behavior of interest rate is the single most important force in the bond market. These rates determine not only the amount of current income that the investor will make, but also the amount of capital gain (or loss) the bond holders will incur. It is not surprising, therefore, that interest rates also so closely followed by market participants, and the bond market performance is general portrayed in terms of interest rates. Different theories of interest are explained differently. Expectation theory deals with long-term interest rate are a geometric average of short term interest rates while liquid preference theory explained that, on average, long term interest rates are higher than short-term interest rates because investors demand a liquid premium for lending long-term funds. Similarly, Market Segmentation theory says, the interest that is determined by supply and demand conditions in each market. In a free market economy, interest rates will adjust until the total amount of capital demanded by producers equal the amount that the owners of wealth are willing to supply. (Agrawal Deepak: 2001)

### **2.2.3 Stock exchange: its roles and its trading procedure**

Securities Exchange Centre was established with an objective of facilitating and promoting the growth of capital markets. Before its conversion into Nepal Stock Exchange, it was only capital market institution undertaking the job of brokering, underwriting, managing public issue, market making for government bonds and other financial services. Nepal Government, under a programme initiated to reform capital markets converted Securities Exchange Centre into Nepal Stock Exchange in 1993. NEPSE is a non profit organization operating under Securities Exchange Act, 1983. It opened its trading floor on 13 January, 1994 and had adopted Open-Cry system in past but now adopted Computer system for transaction of securities. (Bhattarai, 2005:19)

NEPSE is the centralized and visible institution where already issued securities are bought and sold for investment and speculative purpose. It provides facilities of trading of listed financial securities. It does not directly buy or sell securities; rather they provide trading floors on which a continuous auction market is conducted. To transact business on the trading floor of an exchange, an individual must be a member i.e. a seat on the exchange must be purchased. Individual or institutional investors who place orders to buy or sell the securities listed on an exchange need not be present when their orders are executed. Rather they must transmit their orders to an exchange member usually a commission broker who sees that they are carried out. (Ghimire, 2002)

The basic objective of NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transactions in its trading floor through members, market intermediaries, such as brokers, market makers etc. One of the most important role performed by a stock exchange is to maintain active trading i.e., it facilitates the immediate buying and selling of securities by the investors and provides liquidity to the assets. Moreover, it also facilitates the price discovery process, which is possible through the demand and supply of securities from the investors. Besides that, it aids new financing indirectly by providing facility to resell the securities.

This institution plays a notable part in the economic life of the country acting as a free market for securities, where prices are determined by demand and supply. The function of a stock exchange is not only to provide a market for securities but also assist in raising capital for government companies and industries. Thus, free and active market in stock and shares has become a pre requisite for the mobilization and distribution of a nation's saving so as to support modern business.

A broker acts as an agent for an investor and is compensated via commission. When buying or selling the common stock the investors place orders to the brokers. The order may be either a "round lot" or "odd lot" or "both". Generally, a round lot means the order is for 10 shares of Rs.100 par and 100 shares of Rs.10 par value in Nepal and 100 shares in the USA or a multiple of 10 and 100 shares respectively. An odd lot orders generally are for 1-9 shares of Rs.100 par value and 1-99 for Rs.10 par value shares in Nepal and 1-99 in the USA. The orders for more than 10 or 100 but not in multiple are viewed as a mixture of round and odd lots. For example an order of 15 shares should be viewed as an order for 1 round lot and an odd lot of five shares in Nepal for shares having a face value of Rs.100. Before a buy or sell order can be executed, the security broker must have explicit trading orders from the customers. Trading lots of securities listed in the NEPSE are fixed on the basis of the face value of securities. If the listed securities or shares or other than shares in this case the board lot is fixed on the basis of the face value of securities. The securities other than shares having the face value of Rs 1000 must be traded in number of 1 and in the multiple of the same. If the listed securities are debentures or bonds, the minimum tradable lot is fixed on the basis of face value of the securities. If the face value is Rs 100 the tradable lot is 100 and if its Rs 1000 the tradable lot is 10, in both the cases any number of securities more than stated above can be traded. It's to be notified that no securities can be traded in fraction.

NEPSE has brought about a change in price quoting rules since the fiscal year 2003 / 2004. The percentage for the fixation of an opening price has been reduced from 10 % to 5%. The opening price of any day shall not be more or less than 5% of the previous trading day's closing price, once the transaction are done within this range the price can be changed within a limit of 2% in each consecutive transaction. In the same way, the opening price of the

corporate bond shall be quoted within the range of 0.2% of the previous day's closing price and once the transaction is done the price can be changed within the range of 0.1% of the previous traded price. The price can be changed either at Rs 0.1 or a multiple of it.

For the procedure of clearing and settlement system of traded security, NEPSE adopted a T+5 systems. The existing system of settlement has been changed from T+5 to T+3. The changed system has been implemented since 17 July 2003. Under the prevailing system the transactions done on the trading floor need to be settled within 3 working days excluding the transaction date. Settlement will be carried out on the paper-versus-payment basis. As per the rules, the rate of brokerage commission on equity transactions ranges from 1% to 1.5% depending on the traded amount. The rate of brokerage commission on debenture ranges from 0.15% to 0.75%, which is presented in the table shown below:

**Table 2.1**  
**Commission on Corporate Bond Transaction**

<b>Traded Amount</b>	<b>Rate Of Commission</b>
Upto Rs. 100,000.00	0.75%
Rs. 100,001 To Rs. 500,000	0.60%
Rs. 500,001 To Rs. 10,00,000	0.45%
Rs. 10,00,000 To Rs. 50,00,000	0.30%
Above Rs. 50,00,000	0.15%

Pertaining to ordering system of securities in Nepalese Secondary Market, Stock Exchange Membership and Transaction by Law (1998) specifies three alternatives to the investors to state the price while placing an order to the brokers. The three alternative prices are fixed price, maximum and minimum price and an appropriate price perceived by the brokers. A study was conducted dividing the three alternatives into two types of orders; limit order (fixed price, maximum and minimum price) and market order (appropriate price perceived by the broker). The study showed that 62% orders were market orders and 38% limit orders. This concluded that most of the Nepalese investors place market orders and they are highly dependant upon the brokers. (Bhattarai 2005:28-29)

**2.2.4 Duration of the Bond:**

According to Macaulay, duration is directly related to the time and is inversely related to coupon and yield to maturity. Duration is defined as the weighted average number of years that cash flow occurs. Cash flow includes both coupon and principal payments. The weights are the present value of each cash flow as a percentage of the total present value of all cash flows.(Van Horne,2000)

According to Sharpe, duration is a measure of average time prior to the receipt of the payments obtained by calculating bond duration. This is simply weighted average of the lengths of time prior to the payments using the relative present values of the payments as weights. According to Cheney and Moses, duration is a function of term, coupon, maturity value and yield to maturity. Bonds with low coupons and ‘long’ terms will have durations greater than bonds with higher coupons and ‘short’ terms. Also, as yield to maturity increases; duration will decrease. (Sharpe, Alexander, Gordon& Bailey, 2001)

**2.2.5 Valuation of Bond:**

According to Surendra Pradhan, in his book “Basic of Financial Management”, the value of bond is sum of present value of the periodical interest payments and the par value that is due at the end of bond life. Investing in the bonds requires computation of their value to identify the mis-pricing and the construction of portfolio. The value represents the real price or a fair price of a bond. The following basic model is used to value a bond:

$$V_0 = \frac{CF_1}{(1+K)^1} + \frac{CF_2}{(1+K)^2} + \dots + \frac{CF_n}{(1+K)^n}$$

Where,

$V_0$  = Value of bond

CF = Cash flow that will be received from the bond

K = Discount rate, market interest rate

N = Maturity period

Alternatively,

$$V_0 = \frac{I}{r} \left[ 1 - \frac{1}{(1+r)^n} \right] + \frac{M}{(1+r)^n}$$

Where, I= coupon interest in rupees

PVIFA=present value interest factor of an annuity

PVIF= present value interest factor

M=Maturity value of principal

### **Redeemable coupon interest bond:**

It is a bond which has certain maturity date and pays coupon interest each year / period during its maturity periods and principal at its maturity. The following model is used to value Present value:

$$V_0 = \frac{I}{r} \left[ 1 - \frac{1}{(1+r)^n} \right] + \frac{M}{(1+r)^n}$$

### **Semi-annual coupon bond:**

Under a semi annual coupon bond, interest is paid semiannually i.e. in every six months. To value such bonds the following procedures are followed:

$$V_0 = \frac{I}{2r} \left[ 1 - \frac{1}{(1+r/2)^{2n}} \right] + \frac{M}{(1+r/2)^{2n}}$$

### **Discount (Zero Coupon) bond:**

It is a bond that has a certain maturity period but does not pay any coupon interest during its maturity after the issuance, but it is used on discount (less than par value) and repaid a face value at its maturity. The difference between a face value and an initial selling price becomes the return to the investor. Its value is calculated as under:

$$\text{Present Value} = \frac{M}{(1+r)^n}$$

### **Perpetual Bond:**

It is a bond that has no maturity period (infinite period) but pays periodic interest (coupon). Its value is calculated as under:

$$\text{Present Value } V_0 = \frac{I}{K}$$

Where,

I = Interest payment each year

K = the appropriate interest rate bond

### 2.2.6 Yield to maturity(YTM):

The YTM is the discount rate that equates the present value of the bond's expected future cash flows with the current market price of bond.

#### YTM for the perpetual bond:

$$K = \text{YTM} = \frac{I}{V_0}$$

#### YTM for the discount bond:

$$K = \text{YTM} = \frac{M}{V_0} \left( \frac{I}{M} \right)^{\frac{1}{n}}$$

#### Redeemable Coupon interest bond:

**Step 1:** Calculate the approximate yield to maturity (AYTM)

$$\text{AYTM} = \frac{I + \frac{M - V_0}{n}}{\frac{M + V_0}{2}}$$

Where,

I = Coupon interest

M = Maturity value of bond

$V_0$  = Present value of bond

n = year to maturity

**Step 2:** Calculate the present value of the bond using discount rate higher than AYTm and lower than AYTm. The present value must either equal to  $V_0$  or the two present values must be smaller and greater than  $V_0$ .

**Step 3:** Calculate the actual YTM using the following equation:

$$YTM = LR \Gamma \frac{PV_{LR} Z V_0}{PV_{LR} Z PV_{HR}} \mid f_{HR} Z LR^A$$

Where,

LR=Lower Rate

HR=Higher Rate

### 2.2.7 Yield to call (YTC)

The issuer may have put a convent in its indenture that the bond can be called at any time before maturity when the company feels necessary. This means that the bond can be redeemed any time before the maturity date. This is known as the call of bond and such bonds are called callable bond. The procedure for calculating YTC is similar to YTM but we put call price in the place of maturity value (M). (Van Horne, James. C: 2000)

$$YTC = I \Gamma \frac{\frac{C Z V_0}{C \Gamma 2 V_0}}{3}$$

Where,

C =Call price

$V_0$  = Present value of bond

### 2.2.8 Yield Spreads:

Spreads are the differences. The yield spreads denote the difference between the interest rates on any two bonds. Usually, the spread means the difference between the yield of risky bond and that of a default risk free bond. But this concept applies between the risky bonds also. For e.g., yield spread between the Himalayan Bank's bonds and the Investment Bank's bond is 1% (8.5%-7.5%). Yield spread in risky and risk less bonds can be written as follows:

Yield spread (t) = [yield on risky bond] t-[yield on risk less bond] t

The spread in the above equation is also called a risk premium. Yield spreads move with the business cycle and are the highest at the economic troughs of the business cycle. (Van Horne, James. C: 2000)

### 2.2.9 Key characteristics of Debt Securities:

One of the most important debt financing securities is bond. Bond is a special form of contract, which is written or printed evidence of debt owed by a company, local or central government. Bonds are long term debt instruments used by businesses and governments to raise large sums of money, typically from a diverse group of lenders. They are an important investment alternative to an individual investor as well as an institutional investor. A bond bears the statement that the issuer promises to return to the bondholder the principle, the sum borrowed when the bond matures, or becomes due. Most bonds pay a fixed rate of interest at regular intervals or when the bond matures. Debt securities do not have the same contractual features. Although all bonds have some common features which are:

- ) **Par value:** The par value is stated face value of the bond generally it is assumed that the par value is Rs. 1000. The par value generally represents the amount of the firms borrowed sum and promises to repay on the maturity date. (Srivastava,1995:337)
- ) **Coupon interest rate:** Coupon is specified number of dollars interest paid each period, generally each six months. This payment which is fixed at the time the bond is issued, remains in force during the life of the bond. Typically at the time a bond is issued, its coupon payment is set at a level that will enable the bond to be issued at or near its par value. In case of zero coupon bond, a bond that pays no annual interest but it is sold at discount below par, thus providing compensation to investors in the form of capital appreciation. (Srivastava,1995:337)
- ) **Maturity date:** Bonds generally have a specified maturity date on which the par value must be repaid. Most of the bonds have original maturities (the maturity at the time the bond is issued) ranging from 10 to 40 years, but any maturity is legally permissible.(Srivastava,1995:337)

- ) **Call provision:** Most corporate bond contains a call provision, which gives the issuing corporation the right to call the bonds for redemption. The call provision generally states that the company must pay the bond holders an amount greater than the par value if they are called. The additional sum is termed as a call premium. (Van Horne, 2000:510).
- ) **Sinking Funds:** Bonds can be repaid at maturity at which time the bond holder will receive the state, or face value of the bond, or they maybe repaid in part or in entirely before maturity. Early repayment in some form is more typical and is often handled through a sinking fund. A sinking fund is an account managed by the bond- trustee for the purpose of repaying the bonds. The company makes annual payments to the trustee, who then uses the funds to retire a portion of the debt. The trustee does this by either buying up some of the bonds in the market or calling in a fraction of the outstanding bonds. (Van Horne, 2000:510).
- ) **Trustee:** A company issuing bonds to the public designates a qualified trustee to represent the interest of the bondholders. The trustee's responsibilities are to authenticate the bond issues legality at the time of issuance to watch over the financial condition and behavior of the borrower to make sure all contractual obligations are carried out, and to initiate appropriate actions if the borrower does not meet any of these obligations. The trustee is compensated directly by the corporation. (Van Horne, 2000:510).
- ) **Indenture:** The legal agreement between the corporation issuing the bonds and the trustee, who represents the bond holders, is defined in the indenture. The indenture contains the terms of the bond issue as well as the restrictions, known as protective covenants are very similar to those contained in a term loan agreement. The terms contained in the indenture are established jointly by the borrower and the underwriter along with the trustee. If the corporation defaults under any of the provisions of the indenture the trustee, on behalf of the bondholder, can take action to correct the situation. If not satisfied the trustee can call for the immediate payment of all outstanding bonds (Jordan, 2002:213).
- ) **Other features:** Several other features are convertible bond (a bond that is exchangeable, at the option of the holder, for common stock of the issuing firm),

warrant (a long-term option to buy a stated number of common stock at a specified price) income bond (a bond that pay interest only if earned) and indexed bond (a bond that has interest payments based on an inflation index so as to protect the holder from inflation). (Jordan, 2002:213).

### 2.2.10 Types of debt instruments financing:

A long- term debt instrument includes various kinds such as:

- ) **Debentures:** The term debenture usually applies to the insecure bonds of a corporation because these general credit bonds are not secured by specific property, in the event of liquidation the holder becomes a general creditor. Although the bonds are unsecured, debenture holders are protected by the restrictions imposed on the indenture, particularly the negative its assets to other creditors. This provision safeguards the investor in that the borrower's assets will not be impaired in the future because debenture holders must look to the general credit of the borrower to meet principal and interest payments, only well-established and credit worthy companies are able to issue debentures.(Bhattarai,2005)
  
- ) **Sub-ordinate debentures:** Subordinated debentures represent debt that ranks behind debt senior to these debentures with respect to the claim on assets. In the event of liquidation, subordinated debenture holders usually receive settlement only if all senior holders, because senior holders are able to assume the claims of the subordinated holders. To illustrate: A corporation liquidated Rs.6000000. It had Rs.4000000 in straight debenture outstanding, Rs.4000000 in subordinated debentures outstanding, and Rs.4000000 in obligations owed to general creditors. One might suppose that the straight debenture holders and the general creditors would have an equal and prior claim in liquidation, that each would receive Rs.3000000. The fact is the straight debenture holders are entitled to the subordinated debenture holder's claims, giving then Rs.8000000 in total claims. As a result, they are entitled to two-thirds of the liquidating value or Rs.4000000, whereas general creditors are entitled to only one-third, or Rs.2000000. Because of the nature of the claim, a

straight subordinated debenture issue has to provide yield higher than a regular debenture issue in order to be attractive to investors.(Marsh,Paul:1992:126)

- J) **Mortgage bond:** A mortgage bond issue is secured by a lien on specific assets of the corporation usually fixed assets. The specific property securing the bonds is described in detail in the mortgage, which is the legal document giving the bondholder a lien on the property. As with other secured lending arrangements, the market value of the collateral should exceed the amount of the bond issue by a reasonable margin of safety. If the corporation defaults in any of the provisions of the bond indenture, the trustee, on behalf of the bondholders, has the power to foreclose. In a foreclosure, the trustee takes over the property and sells it, using the proceeds to pay the bonds. If the proceeds are less than the amount of the issue outstanding, the bondholders become general creditors for the residual amount.(Marsh,Paul:1992:126)
  
- J) **Income bond:** A Company is obligated to pay interest on an income bond only when it is earned. There may be a cumulative feature in the issue where unpaid interest in a particular year accumulates. If the company does generate earning, it will have to pay the cumulative interest to the extent that earnings permit. However, the cumulative obligation usually is limited to no more than three years. As should be evident, this type of security offers the investor a rather weak promise of a fixed return. Nevertheless, the income bond is still senior to preferred and common stock, as well as to any subordinated debt. Unlike preferred stock dividends, the interest payment is deductible for tax purposes. Because income bonds are not popular with investors, they have been used principally in reorganizations.(Bhattarai,2005)
  
- J) **Equity-linked debt:** Sometimes the investor in the debt instrument of a company is given an option on common stock. With debt warrants, the debt holder has an option to purchase the common stock of the company and he or she continues to hold the debt instrument. The warrant is an 'equity sweetener' to make the instrument more attractive. A convertible bond is one that may be exchanged, at the option of the holder, into a certain number of shares of common stock of the corporation. The

number of share into which the bond is convertible is specified in the bond indenture, and these shares remain unissued until actual conversion. In case of Nepal only the bonds of SRSML were issued with the features of conversion..(Bhattarai,2005)

- ) **Treasury bills:** It is a money market instrument especially of government. Treasury bill is the short-term, common stock used by government debt securities. Treasury bills are issued on a discount basis, with maturities of up to 52 weeks. All bills are issued in book entry form, where the buyer receives a receipt all time of purchase and the bill's face value at maturity. ( Sharpe, William F., Alexander, Gordon J. and Bailey, Jeffery V:2001)

According to Sharpe although treasury bills are sold at discount, their rupees yield (i.e. difference between the purchase price and the face value if bill is held to maturity) is treated as interest income for tax purpose.

### **2.2.11 Reasons for Issuing Bonds**

Bond is a legal document containing an acknowledgement of indebtedness by a company. It contains a promise to pay a stated rate of interest for a defined period and then to repay the principal at a given date of maturity. In short, a debenture/ bond is a formal legal evidence of debt and is termed as the senior securities of a company. The position of a bondholder contrasts sharply with that of an equity-holder. Whereas the former are creditors, the latter are the ultimate owners of a company (Bhalla, 2004:12). Bond holders assume risk but comparatively lower than the equity holders in the same organization. Government has no choice but to borrow when they are unable to meet their expenses from current revenue. Corporations, on the other hand, have a wider choice in the matter of financing their operations. Example: retained earnings, new equity issues etc. But they still prefer to go for borrowings because of following reasons:

- ) **To reduce the cost of capital:** Bonds are cheapest source of financing. A corporation is willing to incur the risk of borrowing in order to reduce the cost of capital by financing a portion of its assets with securities bearing a fixed rate of return in the hope of increasing the ultimate return to the equity holder. Component

cost of capital comprises using costs and issuing costs (flotation costs). Since, the cost of floating a debt is generally less than the cost of floating equity; it may persuade the corporations to raise debt financing. (Bhalla, 2004:12)

- J) **To gain the benefit of leverage:** The preference of debt/preference shares in the company's financial structure means that it is using financial leverage. When financial leverage is used, changes in earning before interest and tax (EBIT) translate into the larger changes in EPS. However, leverage is two-edged sword as EBIT can rise or fall. If it falls, and financial leverage is used, the equity holders endure negative changes in EPS that are larger than the relative decline in EBIT. For example, if a company can borrow at 10% and put the funds to work to earn more than 10%, the earning on the equity holders increases and vice versa. (Bhalla, 2004:12)
- J) **To widen the sources of funds:** By issuing bonds, the corporation can attract funds from individual investors and especially from those investing institution which are reluctant or not permitted to purchase equity shares. (Bhalla, 2004:12)
- J) **To maintain control:** Control power is one of the most concerned parts for the management. Management always wants to maintain control over the firm. The debt structure involves maximum risk of loss of control of the company. Issue of excess equity shares to new investors may bring threats to the control by existing manager. Since an increase in debt does not diminish the voting power of present owners as bonds ordinarily carry no voting rights, they can maintain control over the company.(Bhalla, 2004:12)

### **2.2.12 Debt plus Option Characteristics**

There are three types of options employed by business firms in their financing- the warrant, the convertible security and the exchangeable security. These are the options under which the holder can obtain common stock. The conversion or the exchange feature enables the investor to transfer a debt instrument into common stock whereas a warrant attached to a bond enables a holder to purchase a specified number of shares at a specified time. With a warrant, the exercise of the option does not result in the elimination of the bond.

**Warrants:** A warrant is an option to purchase a specified number of shares of common stock at a stated price. When holders exercise options, they surrender the warrants. Warrants are often employed as “sweeteners” to public issue of bonds or debt that is privately placed. As a result, the company should be able to obtain a lower interest than it would otherwise. For companies that at marginal credit risk, the use of warrant may make the difference between being able and not being able to raise funds through a debt issue.

The warrant itself contains the provision of the option. It states the number of shares the holder can buy for each warrant. Frequently, a warrant will provide the option to purchase one share of common stock for each warrant held, but it might be two shares, three shares or 2.54 shares. Another important provision is the price at which the warrant is exercisable, such as Rs. 12 a share. This means that in order to buy one share, the warrant holder must put up Rs. 12. This exercise price may be either fixed or “stepped up” over time. For example, the exercise price might increase from Rs. 12 to Rs. 13 after 3 years and to Rs. 14 after another 3 years. The warrant must specify the date the option expires, unless it is perpetual, having no expiration date. Because the warrant is only an option to purchase stock, warrant holders are not entitled to any cash dividends paid on the common stock, nor do they have voting power. When holders exercise warrants, they surrender the warrants. After their exercise, warrants convert into shares of the issuing company and the total number of shares outstanding also increases (Van Horne, 2000).

Warrants may be negotiable or non negotiable. Negotiable warrants are the detachable warrants which can be bought and sold without buying or selling the underlying securities, but non negotiable warrants are non detachable warrants which cannot be bought or sold without buying or selling the underlying securities.

The theoretical value of a warrant can be determined by:

$$TV_w = [\text{Max} (V_s - E, 0)] N$$

Where,

$TV_w$  = theoretical value of a warrant

Max= maximum

E= exercise price of a warrant

VS= Value of a stock

N= Exercise ratio

O= zero

**Convertible securities:** A convertible security is a bond or a share of preferred stock that can be converted at the option of the holder into common stock of the same corporation. They are such financial instruments which can be converted into a stated number of common stocks of the issuing company on or before the expiration date. These are the hybrid securities including the feature of bond or preferred stock. Convertible securities are issued by companies to raise long term funds. The interest rate or dividend rate on such convertibles will be lower than that of the non-convertible because of its conversion feature. By doing so, the issuing company reduces its cost of financing as well as makes the security easily salable in the market.(Gautam & Thapa 2006:6-4)

**Features of convertibles:**

**i) Conversion ratio:** The ratio of exchange between the convertible security and the common stock can be stated in terms of conversion ratio. It explains the number of shares into which a convertible can be converted. If a conversion ratio is 10 of a Rs. 1000 par value bond, then the bond can be converted into 10 shares of the common stock of the issuing company.

The conversion ratio (CR) is determined by dividing the face value of convertible securities by the conversion price i.e.

$$CR \times \frac{\text{Face value of convertible}}{\text{Conversion price per share}}$$

**ii) Conversion price:** It is the price per share that is paid after the conversion of the convertible into common stock.

$$CP \times \frac{\text{Face value of convertible}}{\text{Conversion ratio}}$$

**iii) Conversion value and premium:** The conversion value of a convertible security is the conversion ratio of the security times the market price per share of the common stock.

At the time of issuance, the convertible security will be priced higher than its conversion price. The differential is known as conversion premium.

$$CV = \text{Conversion ratio} \times \text{current market price per share}$$

**Exchangeable Debt:** An exchangeable bond is like a convertible bond, but the common stock involved is that of another corporation like the conversion price and conversion ratio for a convertible security, the exchange price and exchange ratio must be set at the time of issuance. Exchangeable bond issues usually occur only when the issuer owns common stock in the company in which the bonds can be exchanged. Like the convertible, interest cost is lower because of the option value of the instrument. The valuation of an exchangeable security is identical in most respect to that of a convertible security. Exchangeable debt can be viewed as:

$$\text{Debt} + \text{Call option} = \text{Exchangeable debt}$$

Where the call option is on the stock of the company in which the debt is exchangeable. Therefore, the investor must analyze and track the bond of one company and the stock of another. (Sharpe, Alexander, Gordon, Bailey & Jeffery, 2001).

## **2.3 Review of related studies:**

### **2.3.1 Review from Journals:**

Due to lack of sufficient publication regarding corporate debt market in Nepal, study of finance journals published from abroad are taken as reference to understand present corporate debt market and to compare the international corporate debt market with present Nepalese corporate debt market. These journals have really provided much more update treatment to current questions in debt market than books possibly can.

**Shree Prasad Poudel** in his article, “Government Securities Markets: Rational and Development in Nepal” has stated that, security markets are centre of the financial system. Private corporations and government can issue debt securities. If securities can not be traded

in secondary market, those are call non marketable securities. Special bonds issued by NRB are such types of securities. Holders of debt securities receive interest payment at predetermined dates and principal payment at the maturity of the debt instruments. Periodic interest payments and capital gains are the incentives in bond investments. Debt securities market in Nepal is highly dominated by government debt securities. Corporate debt securities in Nepal are extremely limited. Government is less developed country usually borrows at lower rate than the market rate of interest on the one hand while on the other hand securities are exchanged in the face value even if their value appreciated in the market. Moreover, international loan use to substitute bonds in emerging markets. In Nepal, international loan use to substitute the domestic debt securities market of the government. Bonds price should be determined competitively in market, which is lacking for government debt so that so there may be problem of corporative and sovereign bond market development. The market paved the way for debt security market development. When market interest rate goes down price of previously issued bonds at higher coupon rate goes up and investors receive capital gains. While government interest rates sometimes provide real return on government debt, security is negative at a time when coupon rate is lower than inflation rate. Risk associated with bond investment reduces the value of bond. Issuing and exchange of corporate bonds is virtually absent in Nepal. Market makers facilitate the secondary market transaction of marketable securities. Settlement of payments is made through NRB. NEPSE has not started transacting government securities in its floor. Buy and sell can not be placed through electronics means and exchange of government securities is hindered by the fixed price of the securing. Securitized government debt, as percentage of GDP is low. Marketable government securities are lower than the non-marketable securities. All these factors are the impediments of developing cheep and vibrant debt securities market in Nepal. Further he has given that NRB and commercial banks are main holder of government bonds. Higher Proportion of ownership of government security needs to be transferred to the household sectors for secondary market development.

**Shiva Raj Shrestha** in his article “Effective Domestic Debt Management in Nepal” has explained consequences of excessive government borrowing. According to him, an excessive government borrowing could have a number of bad effects as illustrated below.

- ) If the cost of servicing the debt accounts for large part of the government revenue, the scope for public spending on desirable items such as health, education and infrastructure is correspondingly diminished.
- ) If the government preempts a large part of saving of its residents, it may reduce the amount the private sector can borrow or raise in the capital market, thus crowding-up private investment.
- ) Excessive borrowing can also increase interest rates deterring investment by making it more expensive.
- ) If government finances its deficit by borrowing too much from central bank, through money creation, it stokes up inflation.
- ) The building up of excessive debt today entails higher servicing costs on future generation who suffer higher taxation.
- ) Excessive domestic debt can affect a country's credit rating and therefore increase the cost of its future borrowing.

**John Caks (1978)** presented a paper "Corporate debt decision: A new analytical framework". In this paper, a new approach has been provided that avoids the problems caused by using yields to maturity as discount rates. It demonstrates that "interest saving" is not a valid reason to refund bonds, the tax deductibility of interest payments implies high coupon bonds shouldn't be refunded, and that it is only the special tax subsidies/penalties granted to firms repurchasing their own bonds that justifies the corporate practice of refunding high coupon bonds and not refunding low coupon bonds. The usefulness of the approach is not confined to analysis of bond refunding. It allows for a straight forward solution to the "optimal coupon" problem and it has interesting implications regarding convertible and callable bonds as financing instruments.

Unless otherwise noted, he has considered only noncallable bonds with no special features such as convertibility into common shares etc. He further restricts his analysis by assuming all bonds will mature  $N$  periods hence he assumes that the capital markets are efficient and will not consider speculative motives for bond transactions. He ignores transactions costs, although recognizing their importance in any practical application of his analysis. Throughout the following analysis, the total market value of its securities. Since he has

constrained the market value of debt to be constant, maximizing the value of equity maximizes the value of the firm.

**Elton, Grober, Agrawal and Maan (2001)** in their article “Explaining the rate spread on corporate bonds”, explains the spread between rates on corporate and government bonds. The purpose of this article is to examine and explain the differences in the rates offered on the corporate bonds and those offered on government bonds (spreads) and in particular to examine whether there is risk premium in corporate bonds spreads and if so, why it exists. They have shown that the spreads almost entirely be explained by three influences; the loss from the expected loss, state and local taxes which must be paid on corporate bond but not on government bonds and a premium required for bearing unsystematic risk.

**Rabindra Bhattarai (2004)** in his article “Debentures are Welcome” has stated “Bond in Nepal is very lean. Very few companies have issued bond in the market. However, since last few years, some positive signals can be seen in the Nepali capital market. Though the government bonds are not available in the stock exchange floor, corporate bonds are being made available.” According to him, due to oversubscription in the recently issued corporate bonds, it can be predicted that more of the corporate bonds will be expected to issue in the future, particularly from the banks to meet their higher capital requirement under NRB directive.

### **2.3.2 Review of Thesis:**

**Koirala (1997)**, in his study on “Public Debt in Nepal” concluded that “the internal borrowing mobilization for development purpose has been fluctuating and the banking sector has dominated the total internal borrowing. Government should initiate policies to attract maximum borrowing from non banking sector. It is the most non-inflationary source of internal borrowing since it is simply transfer of idle saving from people to government for development purpose.”

**Sharma (1998)**, in his thesis “Burden of Public Debt in Nepal” stated “there is similar return on the bonds and securities as well as the rates of return on the fixed deposits of commercial banks. To attract the investors towards the debt securities, initially, the tax should be exempted, which will help to increase the return and also will help to attract some more investors”. According to him, the basic function of debt securities market is to provide and allocate funds to firms with profitable investment opportunities and to offer an avenue of liquidity for individuals to invest current income or borrow against future income thereby achieve their preferred time pattern of consumption. Because investing involves uncertainty, capital markets also provide a means of transferring risk among the parties to these transactions.

**Khanal (2000)**, in his study “ Public Debt in Nepal: A study of its structure and burden from 1974/75 to 1997/98” summarized that internal public debt has played a significant role in financial resources for development expenditures as well as growth of money and capital markets, and it facilitates the effective implementation of monetary policy. He further concluded that the system of public debt as one of the best ways of financing development expenditures of government which helps control inflation and to mobilize inter-financial resources in the productive sector of the country’s economy. He recommended that the government should try to maximize the mobilization of internal resources for development purpose and excessive dependency upon foreign assistance for the development programme should be continued to the desired extent.

**Sharma (2001)**, had performed his research on “Public Debt System and Practice in Nepal”. His objective was to overview the system and practice of public debt in Nepal, to understand the attitude of investors towards the government securities. The study found that the interest of investors towards government securities and their educational background is completely independent to each other. Both educated and uneducated people are equally interested on government securities. The study also concluded that both poor and rich people are interested towards government securities. This means that the government is efficacious to draw the attention of poor and rich, educated and uneducated people whom the government sells its securities, which are the means of borrowing the loan internally. The study verified the

general statement that the people in urban areas are more aware to the government securities. The study also draws the conclusion that the people who have insufficient time to run the private enterprise and who are not dexterous to grab the opportunity in the market are interested on government securities. He also concluded that the person with academic background of economics, finance and management are more aware to the government securities.

**Poudel (2002)**, in his thesis “A study on government securities practice in Nepal” summarized that the government securities is issued to meet short-term and long-term financial requirement. The government expenditure through public debt is quite beneficial to nation if used productively. But a large public debt may create problems in the economy in future. Further, Nepal has been suffering capital shortage since the first budget speech. Most people use their idle funds on government securities rather than behaving as investors. Among them majority are service holders and very few of them are retired people. The people of rural area are less aware to government securities. Poor as well as rich, and educated as well as uneducated people are interested towards government securities. He concluded that the Nepalese investors are attracted towards government securities. Most of the investors of Nepal are risk averters and they need less risky investments. Lastly he recommended that, people pride themselves on their financial contribution to the nation, if there are suitable debt securities to them. There fore, government should develop various methods to influence the business and private individuals to buy more and more government securities.

**Kafle (2003)**, in his “Problem and prospect of debt market growth in Nepal” has summarized, “capital market of Nepal is in infant stage and debt securities market of corporate bodies is limited in existence. The government debt securities market is growing below expectation. The heavy reliance of government in foreign debt has created huge problem in debt securities market growth in Nepal”. According to him, in Nepal, investment made in impulse rather than thorough market study or credit ratings, he found that national saving bond and development bond were more preferred by investors than other government bonds. He has also concluded that due to over supply of deposits by customers in commercial

banks; they do not issue debt securities. On the other hand top-tier corporate bodies could get loan easily from banks at lower cost so they are not required to issue debt instruments for raising the funds. Low-tier firm have been facing the problem in raising the fund from bank and market as well. Tedious and lengthy process of issuing the debt securities is another problem with debt securities market growth.

**Mainali (2004)**, in his study “Problem and Prospect of debenture Market growth in Nepal” stated that Nepalese debenture market has been suffering from uncertainty of subscription and there is lack of market makers in creation of debenture market. There are bureaucratic procedures as well as lack of co-operation and proper co-ordination among control mechanism. Moreover, recommendations have been given to make existing inadequate legislation adequate. He further accounted that Company Register Office (ROC) should be transparent and open with modern technology. Bureaucratic procedures must be quick and prospectus should be approved strictly reviewing all economic and technical aspects of company. Provisions relating to debenture with warrant issue must be added in Company Act.

**Amatya (2005)**, conducted a study on “Present Status of Nepalese Debt Securities Market”. He found various issues related to debt securities market. From the analysis, it is found that major portion of securities market is covered by debt securities, most of them are government debt securities. Corporate debt securities are not being issued regularly and only small portion of securities market is covered by it. In his study, he focused on participation of individual investors in purchasing debt securities. He recommended that issued debentures should be listed in NEPSE in order to provide secondary market. But he failed to give precise and clear positions and problems of Nepalese debt securities market.

**Pandey (2006)**, had performed his research on “Issue and Prospect of Development Corporate Debenture market in Nepal”. In this study, the researcher not only pointed out the issues or problems but also the prospects of the corporate debt securities market of Nepal. According to this study, most of the Nepalese investors want to invest in liquid assets, the debt securities are also liquid assets and so it can be expected that its market will grow in

future. Increment in debenture issue approvals position has found significant prospects of Nepalese debenture market. He further concluded that legislative inadequacy, political instability, lack of infrastructure, lack of stability of manufacturing and trading sectors are very serious problems of existing Nepalese corporate debenture market.

**Poudel (2008)** had performed her research on “Public debt management in Nepal”. In this study, the researcher not only pointed out the trend of public debt in Nepal but also the relationship between the govt revenue and public debt. According to this study govt debt is popular in terms of the secured investment for the investors. She concluded that issuing public debt leads to increase in govt revenue. As the annual rate of total expenditure and that of its revenue are not increasing in the same pace, to bridge such gap public debt is needed.

In this way, there are various studies conducted by different researchers. Nepal as an under-developed nation, industrialization of the nation is the main thing for the development of the nation. To direct the nation towards industrialization, it is necessary that the capital market should function well. That means its equity and debt market are well existed and functioning well. But in case of Nepal, the debt market of corporate bodies is limited in its existence. Therefore the present study is focused on the present status of Nepalese debt securities market.

## **2.4 Research Gap**

Although there are several research works in respect of Debt market growth in Nepal, but these researches try to focus either on Government debt securities Market or on corporate debt. This study is different from other previous studies because this study deals not only with problems and prospect of govt & corporate debt securities but has been able to deliver some of the present issues by analyzing the trading mechanism of debentures/bonds in NEPSE. The central focus of this study is to explain and illustrate the major factors influencing the growth of debt securities market of Nepal.

# Chapter -3

## Research Methodology

### 3.1 Introduction

Simply, '*Research*' refers to the search again and again. Research means to get new things, techniques and to verify existing tools, techniques by hypothesis and other relevant information. The research results in the formulation of new theories, discovery of new techniques, modification of old concepts or knocking- off of an existing theory, concept or technique. Research in management is broadly a systematic activity directed towards investigating managerial or business problems and results in an invention or discovery of management tools for problem solving and decision making. It gives a detailed investigation of the existing problems, practices or processes. The benefit of research knowledge to managers may help for identification of problem, and analyzing amount of risk in decision making etc. '*Methodology*' is the research method used to complete the study systematically and test the hypothesis. This chapter aims to familiarize the relevant techniques of data collection, analysis of data using statistical tools and techniques required for the preparation of research report and include research design, population and samples of the study, sources and data and research methods.

### 3.2 Research Design:

Research design refers to the entire process of planning and carrying out a research study. It is the outline of planning and carrying out a research study. It is outline of a good research employed for the investigation of the required result. This research study attempts to analyze the present status of Nepalese Debt Securities Market. Hence, to fulfill the objectives, it uses both primary as well as secondary data. To conduct the study, descriptive cum analytical research approach has been adopted. Descriptive approach has been utilized mainly for conceptualization of the associated problems of debt securities market in Nepal. Analytical approach has been followed mainly to examine ownership pattern and trend of the government debt securities. Various statistical tools such as time series analysis, curvilinear

model and chi- square test for testing hypothesis are applied to interpret and come to conclusion.

### **3.3 Population and Samples of the Study:**

This study is conducted to trace out the present status of the Nepalese debt securities market. So, it is obviously clear that the research covers vast area. On the other side this study comprises of all the listed companies which are the potential issuance company of debenture. There are 108 in number in fiscal year 2002/03. Likewise, all the holders of debt securities are also considering as population. Government bodies, concerned staffs and experts, the brokerage firms and market makers are considering as the population of this study from which, a questionnaire survey is conducted. In the other side, there are three practices of corporate debt securities and many government securities issuance practice are held from 1962 A.D. these all practices are also taken as population of the study.

### **3.4 Source of Data:**

Data is the fact, information, views etc collected systematically and presented formally for the purpose of reaching in the suitable decision. So, data is necessary for conducting the research work because without data we can not prove the reliability as well as can not support the research strongly. This study is based on both primary as well as secondary data. A set of questionnaire is developed in order to collect the primary data. These are allocated to the respective samples and collected after sometime. The main sources of primary data are as follows:

- 4 Listed companies.
- 5 Individual investors.
- 6 Brokers and market makers.
- 7 Other experts mainly staff of SEBO, NEPSE and NRB.

To examine the trend and the ownership pattern of Government securities, position and debt securities market in the structure of Nepalese securities market, key characteristics and key investors of the corporate debt securities, secondary data are also used. The main sources of secondary data are as follows:

1. *Nepal Rastra Bank:*
  - ) Various Quarterly Bulletins.
  - ) Rastra Rin Khabar Patra.
  - ) Various Economic Reports.
  - ) Various Budget Speeches etc.
2. *SEBO Nepal:*
  - ) Various Annual Reports.
  - ) Prospectus of SRSM.
  - ) Prospectus of NIBL.
  - ) Various Publication of NEPSE.
3. *Past researches and other aforementioned publications of the concerned bodies.*
4. *Academic and non academic books.*
5. *Prevailing laws and by laws.*

### **3.5 Research Methods:**

Since data analysis is based on the explanation and statistical analysis and interpretation. Separate techniques are utilized in order to analyze the data statistically and present them systematically. Hypothesis testing, time series analysis, curvilinear model etc analysis has been done in order to represent the reliability of data.

#### **3.5.1 Testing of Hypothesis:**

The Chi- Square test of the hypothesis is used to examine the problems of Nepalese debt securities market. The Chi- Square test is an important test among the several tests of significance developed by statisticians. For this test, 25 listed companies, 20 brokers and market makers, 35 individual investors and 20 other experts are taken as sample.

In this study, Chi-Square value is compared in order to test whether there is significant difference between expected and observed opinion regarding various matters. The expected frequencies are calculated by applying the formula:

$$\text{Expected frequencies} = \frac{\text{Row total} \times \text{column total}}{\text{Grand total}}$$

And the calculated values of  $\chi^2$  were calculated by the following formula:

$$\chi^2 = \frac{(O-E)^2}{E}$$

Where,

O = Observed Frequency

E = Expected Frequency

### 3.5.2 Time Series Analysis:

Time series analysis is utilized in order to find out the forecasted value of T- Bills, Development Bond, Special Bond and National Saving Bond for the year 2004 to 2008, with the help of equation:

$$Y = a + bx$$

Where,

y = total forecasted value

a = minimum value

b = change rate per period

x = difference between actual time and mid value (assumed) time

### 3.5.3 Curvilinear Model:

To examine the trend of government securities, curvilinear model has been used. With the help of this model, the forecasted amount of government securities is calculated for the next five years.

The equation of curvilinear model is as below:

$$y = a + bx + cx^2 \dots\dots\dots (i)$$

$$y = Na + b: x + c x^2 \dots\dots\dots (ii)$$

$$xy = a x + b x^2 + c x^3 \dots\dots\dots (iii)$$

$$x^2y = a x^2 + b x^3 + c x^4 \dots\dots\dots (iv)$$

By solving the above equations the value of a, b, c are calculated. The forecasted value can be calculated by using the following equation.

$$\hat{y} = a + bx + cx^2$$

## **Chapter -4**

### **Presentation and Analysis of Data**

#### **4.1 Introduction**

This chapter deals with the presentation and analysis of related data according to the research methodology of this study. To study the present availability of debt securities in the Nepalese stock market, an analysis of the debt securities of various institutions has been presented. This chapter is a combination of analysis of secondary and primary data to analyze the present debt securities market in Nepal. Therefore this chapter is a very important one as it contains the core analysis of the whole study.

#### **4.2 Analysis of secondary data:**

##### **4.2.1 Position of debt securities in the Nepalese securities market:**

Securities markets form the backbone of the capital market economy in both the developed and developing countries. Securities markets are built on some basic elements which can be summarized as- a number of issuers with financing needs, investors with a need to place savings or other liquid funds in securities, intermediaries that bring together the investors and issuers, and last but not the least an infrastructure that provides a conducive environment for securities and settlement of transactions. Types of securities available in Nepal are limited as compared to other developed countries and its capital market is in infant stage.

A comparative study of the trend of issue approval given by SEBON has been presented in the below table. We can see that the use of securities has been increasing by the year with issue approval being provided to new and old companies alike. Different types of securities and their trend of issuance has been shown below. The history of securities market in Nepal is very short. The below table shows a comparative chart of issue approval given by SEBON in the last 10 years.

**Table no: 4.1**  
**Issue Approval by SEBO/N (Instrument wise) and government securities** **in million Rs.**

Year	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Total
Instrument											
Ordinary Shares	148.00 (0.30%)	202.26 (0.37%)	278.70 (0.49%)	319.46 (0.43%)	394.30 (0.48%)	657.50 (0.75%)	377.48 (0.42%)	579.83 (0.63%)	380.30 (0.37%)	924.80 (0.78%)	4262.63
Right Shares	30 (0.06%)	124.60 (0.23%)	131.79 (0.22%)	621.87 (0.83%)	162.24 (0.19%)	70 (0.08%)	949.39 (1.06%)	1013.45 (1.10%)	1265.20 (1.25%)	3724.60 (3.13%)	8093.14
Preference Shares	80 (0.16%)	-	-	140 (0.19%)	-	-		-	400 (0.39%)	200 (0.17%)	820
Debentures	-	-	-	360 (0.48%)	-	300 (0.34%)	300 (0.33%)	850 (0.92%)	250 (0.25%)	2950 (2.48%)	5010
Government Securities	49669.7 (99.64%)	54357 (99.4%)	60043.80 (99.32%)	73621.00 (98.07%)	81148.30 (99.33%)	86133.70 (98.83%)	87564.30 (98.19%)	89954.90 (97.35%)	99303.80 (97.74%)	111239.10 (93.44%)	793035.6
Total	49928 (100%)	54683.86 (100%)	60454.29 (100%)	75062.33 (100%)	81704.84 (100%)	87161.20 (100%)	89191.12 (100%)	92398.18 (100%)	101599.30 (100%)	119038.50 (100%)	811221.4

Source: Annual report SEBO/N2007/2008 and quarterly economic bulletin NRB Mid July 2009

The above table shows the total capitalization of shares, bonds and government Securities. It is clear from the above data that the Nepalese securities market is dominated by the government securities market. We can also conclude from the above table that the corporate debt securities market in Nepal is in its initial or infant stage. If we look at the pattern of equity shares and debt securities, equity shares are getting more and more popular among the investors. The amount of securities issued in 2007/08 is Rs.924.8 Million as compared to the equity shares issued in 1998/99 which was just Rs.148 million. On the other hand preference shares and debentures are not yet so popular.

AS listed in SEBO/N, the first issue of debenture was made by Shree Ram Sugar Mills in 1997/98. From fiscal year 1997/98 to 2004/05, the total numbers of debentures issued were only 4. Among this, 3 were issued by banking sector i.e. Himalayan Bank, Investment Bank and Everest Bank. In the F/Y 2002/03, no debentures were issued. But in F/Y 2005/06, 4 debentures were issued. These debentures were issued by Bank of Kathmandu, Nepal Investment Bank, Nepal Industrial and Commercial Bank and Nepal SBI bank. Again in F/Y 2006/07 Nepal Investment Bank issue debenture worth Rs 250.million. In F/Y 2007/08, 5 debentures were issued. These were issued by Nepal Electricity Corporation, Kumari bank, Himalaya Bank Ltd, Nepal Investment bank and NABIL Bank. The total issued amount was worth Rs 2,950.00 million which is just 2.48% of the total of securities issued in FY 2007/08.

From the above table it is clear that debt securities are not as popular as equity share in the Nepalese stock market. In the period of 10 years from 1998/99 to 2007/08 the total amount of debentures issued in the corporate sector is just worth Rs. 5010 million. There are a number of reasons for debt securities not being able to grow in the Nepalese stock market. Some of these major reasons can be summarized as below;

- The population of corporate bodies capable of selling debt securities market in the Nepalese stock market is very less.
- Most of the listed companies belong to the banking sector. Hence they can mobilize the public fund for their financing and need not issue the debt securities.

- The remaining listed companies are either experiencing heavy loss or are not able to earn sufficient profit to sustain in the market.
- The another major reason is that, most of the corporate bodies in the Nepalese stock market heavily rely on bank loans and are reluctant in issuing debt securities.

As we can see that a major chunk of the debt securities market in Nepal is being held by the government bonds, it is necessary to study the ownership pattern of this bond and treasury bills.

#### **4.2.2 Ownership pattern of government securities and T-bills;**

Total bonds and T-bills of Nepalese government consist of Treasury bills, Development bonds, National saving bonds, special bonds and a newly started bond called citizen saving bond. In this portion an analysis of the ownership pattern of these government bonds by different individuals, institutions, and corporate sectors has been done.

Table no.4.2 shows that in the year 2000, NRB's total share in the purchase of government securities is Rs.20908.80 million which was 38.47% of the total ownership. However, up to year 2008 Rs.20908.0 million following an up and down trend. The ownership pattern of government has been in decreasing trend. The next substantial contributors in the purchase of government securities are the commercial banks. Their ownership of the government securities has grown from Rs.18,176.6 million in 1999/00 to Rs. 72140.60 million in 2008. Thus it is clear from the table that the participation of the commercial banks in the purchase of Government bonds is in the increasing trend.

However the contribution of other business sectors like financial companies and other private enterprises has not been very satisfactory. The participation of other individuals has been enthusiastic and in increasing trend. We can see from this trend that the NRB controls most of the debt securities issued by the government. There is a need to promote the involvement of other private sectors and individuals. The following table is more helpful in understanding the ownership pattern of debt securities in the Nepalese stock market.

**Table no: 4.2**  
**Ownership pattern of government securities and T-bills (Rs in million)**

<b>Year</b>										
<b>Owner's name</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
Nepal Rastra bank	22115.8	20908.8	17949.7	25504.2	26825.8	19138.7	17457.4	11049.2	15629.7	18917.9
commercial banks	12659.1	18176.6	25392.9	29361.3	35883.4	43796.3	48550.7	58861.4	65836.4	72140.6
Financial ins, ins co.,	4102.8	3735.1	3716.3	4756.7	4805.7	7501.9	8601.5	4780	8692.9	11573.5
Govt.bss.ent, priv.bss.ent	1404.2	1245.7	927.7	1079.1	1025.3	824.9	658.7	648.5	342.5	-
Individuals	3499.5	5101.9	6618.9	6240.4	5819.5	5999.20	6941.1	4550.2	1825.3	1228.6
others	5888.3	5188.9	5438.3	6679.3	6788.6	8872.7	5354.9	10065.6	6977	7378.5
Total	49669.7	54357.0	60043.8	73621.0	81148.3	86133.7	87564.3	89954.9	99303.8	111239.1

*Source: NRB Economic Bulletin 2009*

### 4.2.3 Trend and amount of Government securities issued in Nepal:

Since 1961, government of Nepal has been burrowing funds from the internal sources to fulfill the budgetary deficits by issuing various securities. During its initial years of practice it only issued T-bills to fulfill such budgetary deficits, but in the later years it has started to issue different types of debt securities such as development bonds, special bonds, national saving bonds, etc. The below table shows that there has been a substantial increment in the mobilization of government bonds and its subscription between the year 1989 to 2008. The trend in the below table shows that the mobilization of government bonds is increasing every year with a positive growth rate. Based on the available data it is observed that the total amount of government bond mobilized in the year 2008 is 111,239.10 million Rupees as compared to 12,887.90 million rupees of 1989.

The total amount of Government bonds issued every year from the year 1989 to 2008 has been tabulated below for trend analysis of the mobilization of government bonds.

**Table: 4.3**  
**Trend of total Government Securities from 1987-2006**

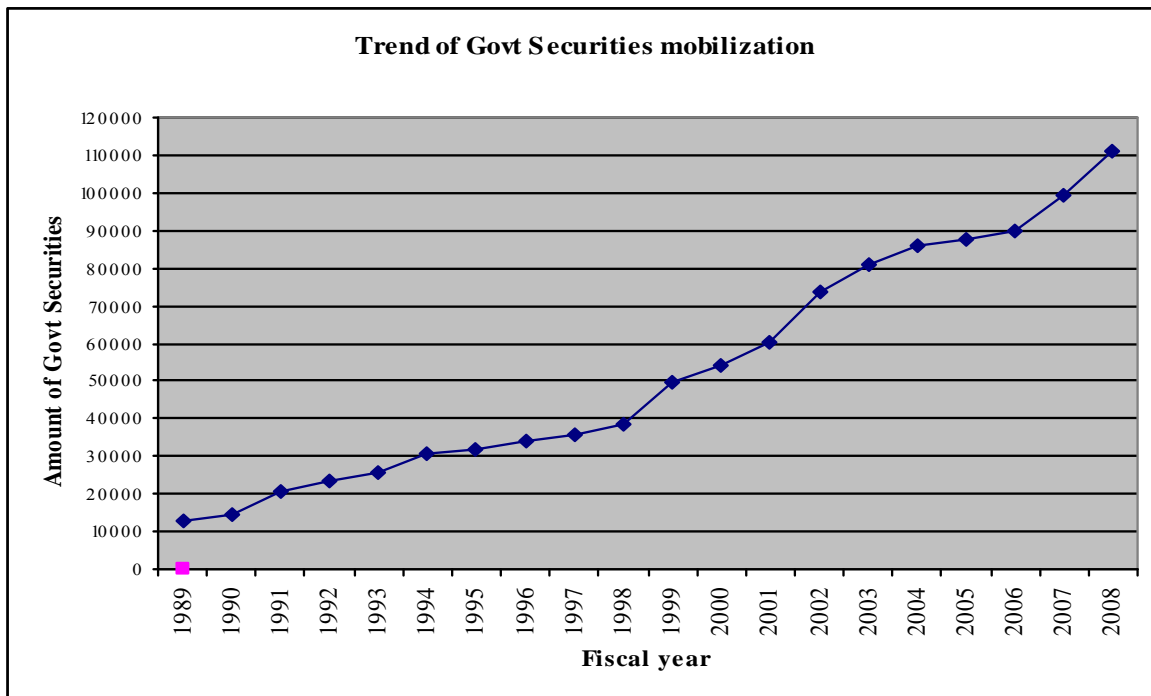
(In million Rs)

<b>Year</b>	<b>Total Amount of government securities</b>	<b>Growth rate (in %)</b>
<b>1989</b>	<b>12,887.90</b>	<b>-</b>
<b>1990</b>	<b>14,673.10</b>	<b>13.85%</b>
<b>1991</b>	<b>20,855.90</b>	<b>42.14%</b>
<b>1992</b>	<b>23,234.90</b>	<b>11.41%</b>
<b>1993</b>	<b>25,456.00</b>	<b>10%</b>
<b>1994</b>	<b>30,631.20</b>	<b>20.33%</b>
<b>1995</b>	<b>32,057.90</b>	<b>4.66%</b>
<b>1996</b>	<b>34,241.80</b>	<b>6.81%</b>
<b>1997</b>	<b>35,890.80</b>	<b>4.82%</b>
<b>1998</b>	<b>38,406.60</b>	<b>7%</b>

<b>1999</b>	<b>49,669.70</b>	<b>29.33%</b>
<b>2000</b>	<b>54,357.00</b>	<b>9.44%</b>
<b>2001</b>	<b>60,043.80</b>	<b>10.46%</b>
<b>2002</b>	<b>73,621.00</b>	<b>22.61%</b>
<b>2003</b>	<b>81,148.30</b>	<b>10.22%</b>
<b>2004</b>	<b>86,133.70</b>	<b>6.14%</b>
<b>2005</b>	<b>87,564.30</b>	<b>1.66%</b>
<b>2006</b>	<b>89,954.90</b>	<b>2.73%</b>
<b>2007</b>	<b>99,303.80</b>	<b>10.39%</b>
<b>2008</b>	<b>111,239.10</b>	<b>12.02%</b>
<b>Total</b>	<b>1,061,371.70</b>	

**Figure no: 4.1**

**Trend line of Government securities in the past 20 years**



We can see from the above trend line that the mobilizations of the government bonds are in positive growth rate. As the trend curve is upward sloping, a curvilinear model of forecasting

is used to forecast the amount of future government bonds. The growth trend of government securities is tabulated below for further analysis and forecasting purposes. The available data from 1989 till 2008 has been arranged in the below table to create a curvilinear equation.

**Table no: 4.4**

**Growth trends of Government securities in curvilinear model**

Year	x=no. of years	y=Amt. of govt.securities (Rs.)	Xy	x <sup>2</sup>	x <sup>3</sup>	x <sup>4</sup>	x <sup>2</sup> y
1989	1	12,887.90	12887.90	1	1	1	12887.9
1990	2	14,673.10	29346.20	4	8	16	58692.4
1991	3	20,855.90	62567.70	9	27	81	187703.1
1992	4	23,234.90	92939.60	16	64	256	371758.4
1993	5	25,456.00	127280.00	25	125	625	636400
1994	6	30,631.20	183787.20	36	216	1296	1102723.2
1995	7	32,057.90	22405.30	49	343	2401	1570837.1
1996	8	34,241.80	273934.40	64	512	4096	2191475.2
1997	9	35,890.80	323017.20	81	729	6561	2907154.8
1998	10	38,406.60	384066.00	100	1000	10000	3840660
1999	11	49,669.70	546366.70	121	1331	14641	6010033.7
2000	12	54,357.00	652284.00	144	1728	20736	7827408
2001	13	60,043.80	780569.40	169	2197	28561	10147402.2
2002	14	73,621.00	1030694.00	196	2744	38416	14429716
2003	15	81,148.30	1217225.00	225	3375	50625	18258367.5
2004	16	86,133.70	1378139.00	256	4096	65536	22050227.2
2005	17	87,564.30	1488593.00	289	4913	83521	25306082.7
2006	18	89,954.90	1619188.00	324	5832	104976	29145387.6
2007	19	99,303.80	1886772.00	361	6859	130321	3584671.8
2008	20	111,239.10	2224782.00	400	8000	160000	44495640
Total	210	1,061,371.70	1,453,8845.00	28702870	44100	722666	226399228.8

The equations of curvilinear model are as under;

$$y = a + bx + cx^2 \dots\dots\dots (i)$$

$$y = Na + b \ x + c \ x^2 \dots\dots\dots (ii)$$

$$xy = a \ x + b \ x^2 + c \ x^3 \dots\dots\dots (iii)$$

$$x^2y = a \ x^2 + b \ x^3 + c \ x^4 \dots\dots\dots (iv)$$

From the above table we have the following values:

$$x = 210$$

$$y = 1061371.70$$

$$x^2 = 2870$$

$$x^3 = 44100$$

$$x^4 = 722666$$

$$xy = 14538845$$

$$x^2y = 226399228.80$$

$$N = 20$$

Substituting the values in eq<sup>n</sup> (ii), (iii) and (IV), we get

$$1061371.70 = 20a + 210b + 2870c \dots\dots\dots (v)$$

$$14538845 = 210a + 2870b + 44100c \dots\dots\dots (vi)$$

$$226399228.80 = 2870a + 44100b + 722666c \dots\dots\dots (vii)$$

Solving the above eqns we get; (see annex 1)

Value of:

$$a = 11792.7613$$

$$b = 1744.2521$$

$$c = 160.0082$$

Now, substituting the above values in eqn 1 we get:

$$Y = 11792.7613 + 1744.2521X + 160.0082X^2$$

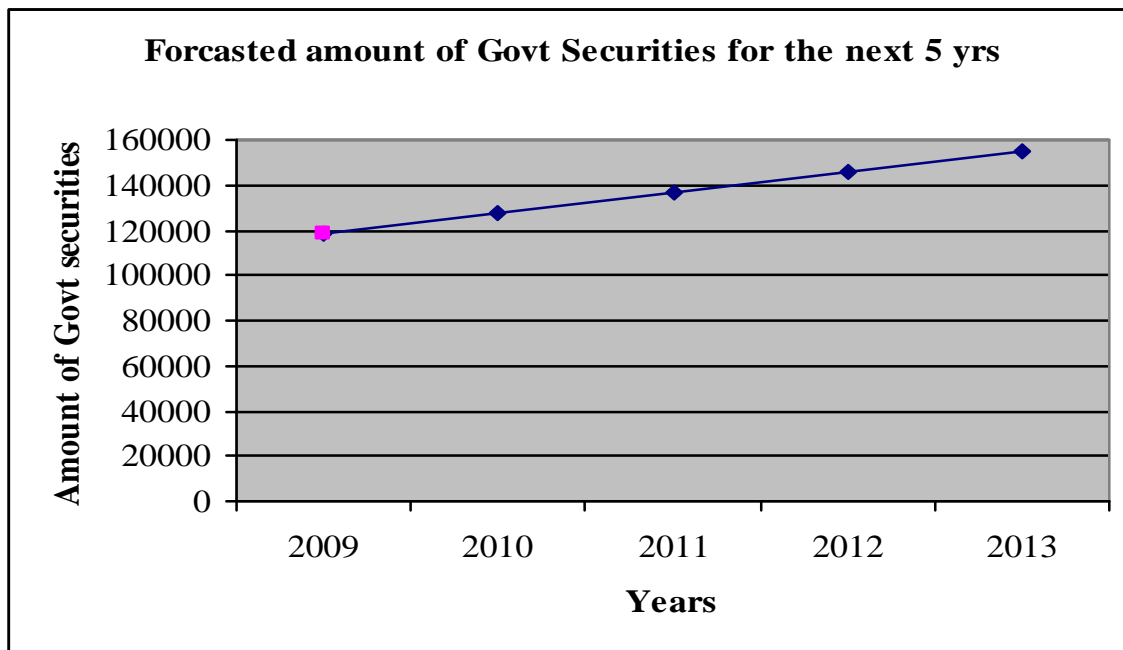
Now to forecast the value of government securities in the near future the above equation can be used. Therefore, the forecasted values for the year 2009, 2010, 2011, 2012, and 2013 will be as under:

**Table no: 4.5**  
**Forecasted value of government securities**

<b>Year</b>	<b>Total amount of government securities</b>
2009	118,985.67
2010	127,610.28
2011	136,554.90
2012	145,819.53
2013	155,404.19

The above data has been shown below in the form of a trend line.

**Figure 4.2: Forecast of Government securities for the next 5 years**



From the above figure we can see that the mobilization of government securities is in increasing trend and this trend is forecasted to increase positively even for the next 5 years. In the above figure this forecast is visible till the year 2013 and the trend line is upward sloping indicating the positive growth of government securities in the years to come.

### 4.2.3.1 Trend of treasury bills

The below table shows trend of T-bills mobilization in the past 20 years. The adjacent growth rate column in the table denotes the growth rate of T-bills mobilization as compared to previous year.

**Table no: 4.6**  
**Trend of T-bills (1989-2008)**

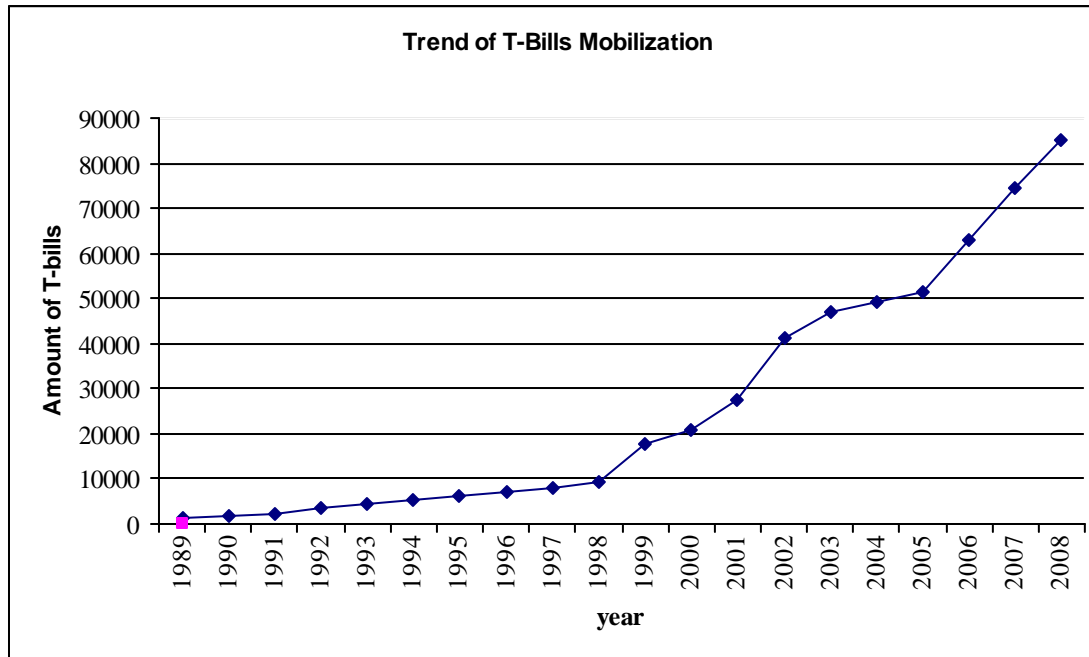
Year	Total amount of treasury bills	Growth rate
1989	1171	-
1990	1821	55.51%
1991	2351	29.10%
1992	3483.2	48.16%
1993	4403.2	26.41%
1994	5216.3	18.46%
1995	6392.5	22.55%
1996	7142.5	11.73%
1997	8092.5	13.30%
1998	9182.5	13.47%
1999	17586.9	91.53%
2000	21026.9	19.56%
2001	27610.8	31.31%
2002	41106.6	48.88%
2003	46844.9	13.96%
2004	49429.6	5.52%
2005	51383.1	3.95%
2006	62970.3	22.55%
2007	74445.3	18.22%
2008	85033.0	14.22%

(Growth rate calculated by taking previous year as base year)

*Source: NRB quarterly economic bulletin, 2009*

The above table is presented below in the form of a trend diagram.

**Figure 4.3: Trend line of T-bills mobilization**



The above table shows the amount of T-bills mobilized in the past 20 years. The rate of public borrowings through T-bills is seen to be increasing sharply. From the year 1999 there is a sharp increment in the mobilization of T-bills and this trend is seen to be continuous till the year 2003. However in the year 2004 the growth rate is not so sharp as compared to previous years. The major holders of treasury bills are the NRB and commercial banks. In the year 2008, 20.67% of the total treasury bills were held by NRB and 79.33% of the bills were held by commercial banks and other individuals.

#### **4.2.3.2 Trend of development bond:**

As discussed in the previous chapters, another major source of fund generation for the government has been development bonds. The below table shows the trend of development bonds mobilization by the government in the past 20 years. The same data has been later used to forecast the mobilization of development bonds for the next 5 years.

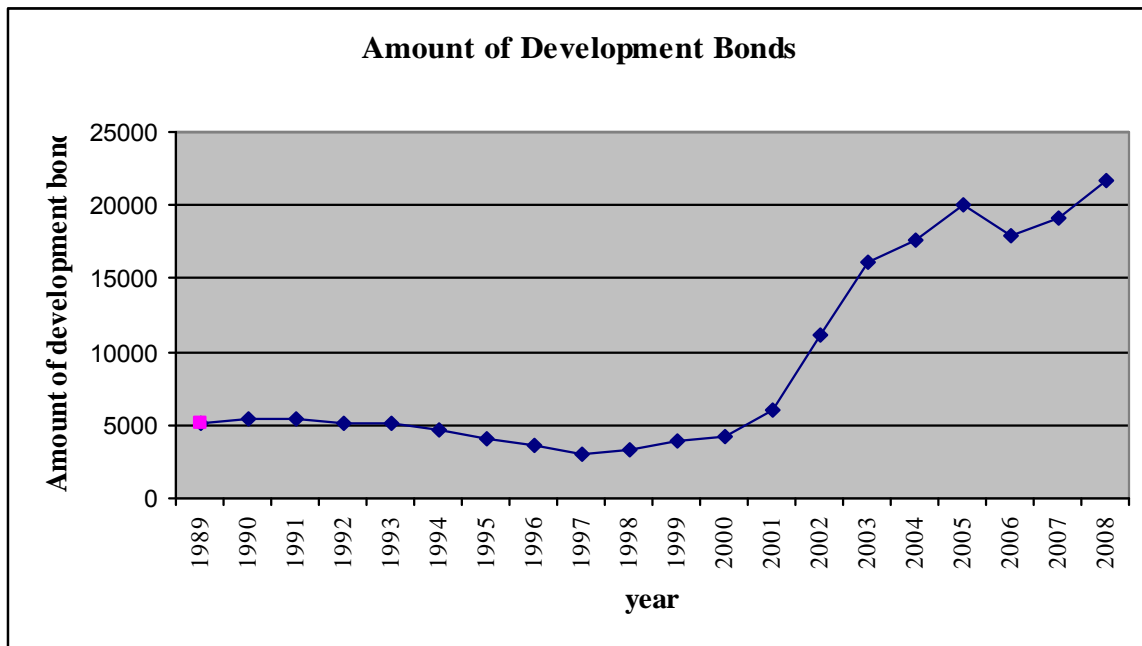
**Table no: 4.7****Development bond issued by the government in the past 20 years (1989-2008)****(In millions Rs)**

Year	Amount of Development bonds	Growth rate
1989	5088.6	-
1990	5388.6	6%
1991	5482.30	2%
1992	5132.20	-6%
1993	5132.20	0%
1994	4732.20	-8%
1995	4122.20	-13%
1996	3672.20	-11%
1997	3042.20	-17%
1998	3302.20	9%
1999	3872.20	17%
2000	4262.20	10%
2001	5962.30	40%
2002	11090.70	86%
2003	16059.20	45%
2004	17549.20	9%
2005	19999.20	14%
2006	17959.20	-10.20%
2007	19177.10	6.78%
2008	21735.40	13.34%

(Growth rate is calculated by taking the previous year as base year)

The above table can be presented in the form of a trend diagram as shown below.

**Fig 4.4: Trend line of development bonds**



The above table and figure replicate the trend of development bonds issued by the government in the past 20 years. We can see that initially the trend of development bonds is in increasing terms. This trend continues till the year 1991 when the development bonds reach 5482.3 million rupees. However, after that the mobilization of development bonds starts to decrease and in the year 1997 it reaches the minimum of Rs.3042.2 million. From then on the trend of development bonds mobilization again picks up and in the year 2008 it is observed at the maximum growth level at Rs.21735.40 million.

#### **4.2.3.3 Trend analysis of National saving Bond**

National saving bonds have also been a reliable source of fund generation for the government. In this section an analysis of the mobilization of National saving bonds by the government in the last 20 years has been conducted. The below table shows the trend of national saving bonds mobilization by the government in the last 20 years has been shown.

**Table no: 4.8**

**National saving bonds issued by the government in the last 20 years (1989-2008)**

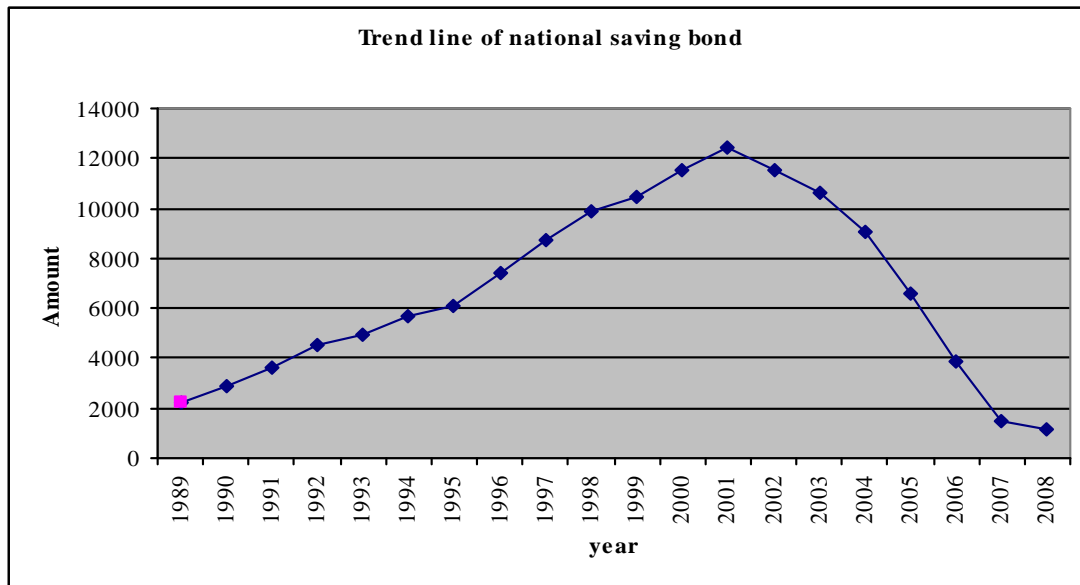
*(Rs. In Millions)*

<b>Year</b>	<b>Amount of National saving bonds issued</b>	<b>Growth rate (%)</b>
1989	2196.50	0%
1990	2896.5	32%
1991	3646.30	26%
1992	4546.30	25%
1993	4901.50	8%
1994	5691.50	16%
1995	6076.40	7%
1996	7376.50	21%
1997	8736.50	18%
1998	9886.40	13%
1999	10426.40	5%
2000	11526.50	11%
2001	12476.40	8%
2002	11536.50	-8%
2003	10659.9	-8%
2004	9029.8	-15%
2005	6576.8	-27%
2006	3876.8	-41%
2007	1516.9	-61%
2008	1116.9	-26%

The above figure can be presented in the form of a trend diagram as shown below.

**Figure no: 4.5**

**Trend of National Saving Bond in the past 20 years**



The above table and the trend line show the total amount of national saving bonds mobilized by the government in the past 20 years. We can see from the above analysis that the trend of utilizing the national saving bond is on increasing trend till the year 2001. Thereafter there has been a sharp decrement in the utilization of national saving bonds by the government. The national saving bonds experienced a maximum growth of 32% in the year 1990. From the year 2001 the utilization of national saving bonds for fund generation by the government has decreased significantly. This diminishing trend is still ongoing and in the year 2008 this trend persisted. As we can see the total amount of National saving bonds decreased from 3876.8 million rupees in 2006 to 1516.9 million rupees in the year 2007 (by -61%). This has been the greatest decrement in the past 20 years. The major stakeholders of the national saving bonds are the individuals like the citizens and other small business houses and financial institutions.

From the above trend analysis we can see that the mobilization of National saving bond is being more and more unpopular. Therefore its mobilization is in decreasing trend by the year. By the year 2011, there is a chance that the National Saving Bonds might not be mobilized at all.

#### 4.2.3.4 Trend analysis of special bond

Special bond has also been a reliable source of funds generation for the government in the past. The below table shows the amount of Special bond issued by the government in the past 20 years to generate the required fund.

**Table no: 4.9**

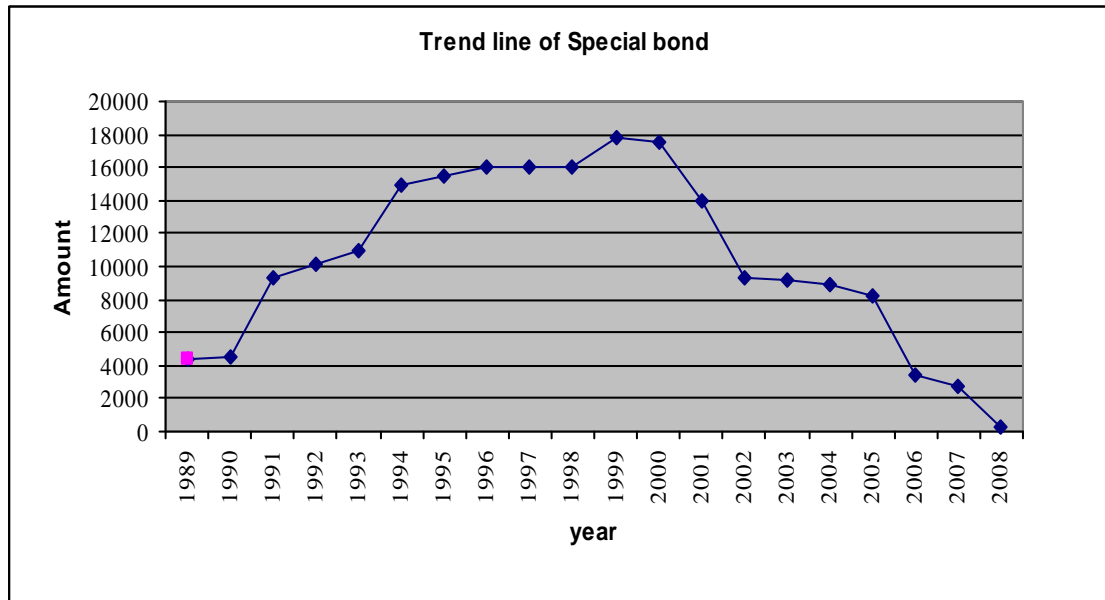
#### **Special Bond issued by the government in the past 20 years**

*(Rs. In millions)*

<b>Year</b>	<b>Amount of Special Bond issued</b>	<b>Growth rate (%)</b>
1989	4431.8	-
1990	4567	3%
1991	9376.1	105%
1992	10073.2	7%
1993	11019.1	9%
1994	14991.2	36%
1995	15466.8	3%
1996	16050.6	4%
1997	16019.6	-0.19%
1998	16035.5	0.10%
1999	17784.2	11%
2000	17541.4	-1%
2001	13994.3	-20%
2002	9259.3	-34%
2003	9164.5	-1%
2004	8946.2	-2%
2005	8176.3	-9%
2006	3469.8	-58%
2007	2773.5	-20%
2008	339.40	-88%

The above table can be shown in the form of trend line as shown in the below figure. The below trend line represents the mobilization of special bonds by the govt in the past 20 yrs (1989-2008).

**Figure no: 4.6**  
**Trend line of Special Bond**



From the above table and figure we can see that the mobilization of special bond by the government has been in an increasing trend till the year 1999. We can see that in the year 1991 the growth rate was the maximum in the total 20 yrs. The growth rate was 105% in the year 1990-1991. Similarly the growth rate after that has not been so significant. And from the year 1999 there has been a negative growth in the mobilization of special bond. From the year 2005 to 2006 there has been a steep drop in the mobilization of special bond and it has dropped by 88% in year 2008, which is the highest drop in the past 20 years.

The main holders of special bond are the NRB and commercial banks. However, from year 2006-2008 the total amount of special bonds mobilized was only held by the commercial banks and other individuals. In the past year (2008) the total amount of special bonds mobilized by the govt was NPR 339.40 million. Out of which 46.43% of the total mobilization was held by the commercial banks and the rest 53.57% was held by other

individuals such as citizens, financial institutions etc. The demand for these bonds will be negative in near future which means that they will cost more than generating the required fund. Hence, it is advisable to discontinue the issuance of these bonds in the future.

#### **4.2.4 Key Characteristics of Nepalese Corporate Debt Securities**

Debt securities have plenty of unique characteristics. However, debt securities in Nepal are not very popular. Most of the private institutions depend upon bank loans to fulfill their fund requirements. Very few debenture issuances have been recorded till date. In the recent time Sri Ram Sugar Mills, Himalayan Bank Limited and Nepal Investment bank have issued debentures. Sri Ram Sugar Mills (SRSM) issued Debentures worth 93 million in the FY1997/98 followed by Himalayan Bank limited in 2001/2002 worth 360 million Rupees. Similarly in the FY 2003/04 Nepal Investment bank (NIBL) issued debentures worth 300 million Rupees. Jyoti Group and Bottlers Nepal have also been known to issue debentures but the record of these issuances was not available due to lack of data.

Hence, we can note from the above that the practice of debt securities in the corporate market in Nepal is still in its infant stage. Most of the small private organizations heavily depend upon bank loans instead of debt securities. Even most of the large organizations don't issue debt securities; rather they depend on common share distribution. Thus, it is not a hidden fact that there is a lack of awareness among the corporate sector regarding the debt securities.

Some of the most important characteristics of these debenture issued by SSRM, HBL, and NIBL are listed in the below table.

**Table no: 4.10: Key Characteristics of Nepalese corporate Debt Securities Market**

S.no.	Characteristics	SRSM	HBL	NIBL	Nepal SBI Bank Ltd.	BOK	EBL	NIC Bank	Kumari Bank	NABIL Bank
1	Par Value	Rs.1000	Rs.1000	Rs.1000	Rs.1000	Rs.1000	Rs.1000	Rs.1000	RS.1000	Rs.1000
2	No. of debentures	93000	360000	300000	200000	200000	300000	200000	400000	300000
3	Coupon rate	14%	8.5%	7.5%	6%	6%	6%	1.6%	8%	8.5%
4	Maturity period	4 years	7 years	7 years	7 years	7years	7 years	7 years	10 Years	10 Years
5	Nature of interest payment	Semi-annually	Semi-annually	Semi-annually	Semi-annually	Semi-annually	Semi-annually	Semi-annually	Semi-annually	Semi-annually
6	Provision of trustee	Nepal Bank Ltd	-	-	-	-	-	-	-	-
7	Nature of business	Manufacturing and processing	Banking	Banking	Banking	Banking	Banking	Banking	Banking	Banking
8	Subscription	Under-subscribed	Over-subscribed	Over-subscribed	Over-subscribed	Over-subscribed	Over-subscribed	Over-subscribed	Over-subscribed	Over-subscribed
9	Purpose of issuance	Expansion of production capacity	Fulfillment of supplementary capital	Fulfillment of supplementary capital	Fulfillment of supplementary capital	Fulfillment of supplementary capital	Fulfillment of supplementary capital	Fulfillment of supplementary capital	Fulfillment of supplementary capital	Fulfillment of supplementary capital
10	Nature of placement	Public offering	Private placement and public offering	Private placement and public offering	Private placement and public offering	Private placement and public offering	Private placement and public offering	Private placement and public offering	Private placement and public offering	Private placement and public offering
11	Types	Convertible	Non convertible	Non convertible	Non convertible	Non convertible	Non convertible	Non convertible	Non convertible	Non convertible
12	Issue managers	NIDC Capital Market Ltd.	NMB	AFCL	CIT	NMB	CIT	AFCL	NMB	NCML

Source: Prospectus of Debentures and SEBO annual report 2007/08

) **Par value:**

The par value or principal of a bond indicates the amount of money that must be repaid at maturity. All Three debentures have par value of Rs. 1000. A debenture might be issued at premium or discount but whatever be the case the par value will remain the same at the time of repayment.

) **Coupon interest rate;**

The coupon interest rate implies the nominal interest rate that is paid annually, semi-annually or as per the predetermined period on the bond. In the above bonds the coupon rates were respectively, 14%, 8.5% and 7.5% respectively for SRSM, HBL and NIBL. The interest is paid semiannually hence only  $\frac{1}{2}$  of the total coupon interest each year period.

) **Maturity period:**

All bonds have a maturity period except for consoles which have infinite maturity period. In the above bonds we can see that the maturity period of SRSM, HBL and NIBL are 4 years, 7 years and 7 years respectively.

) **Sinking fund:**

Periodic repayment of debt is possible if bond issued has sinking fund provision. For redemption of the debentures each year, HBL has a provision of sinking fund amounting to Rs. 51.429 million and similarly NIBL has a provision of Rs. 43 million as sinking fund. However, this provision was not observed in case of SRSM.

) **Trustee:**

A public company issuing bond to the public assigns a qualified trustee so as to represent the interest of the bond holders. In case of SRSM Nepal Bank Ltd. acted as a trustee to mediate with the bond holders. This implies that, Nepal Bank Ltd had the authority to take appropriate action in case SRSM was not able to meet any of its obligations towards the bond holders. However in case of HBL and NIBL there was no provision for a trustee.

) **Convertible:**

It is a feature attached to a bond to attract investors. It has the nature of providing an option to the bond holders to convert their debentures to common shares. In the above table only SRSM has this provision. .

From the above table we can see that the most of the debentures that have been issued are by banking institutions. The only non banking organization that has issued debentures is SRSM which is a manufacturing company. However, the issue received a very nominal interest from the public and was unable to fulfill the requirement of its issue. All other debenture issues by the banking sectors were oversubscribed on public offering.

#### **4.2.5 Comparative Study of Time Deposit Interest Rate and debenture Interest Rate:**

Interest rate is one of the important determinants of debt securities price. The overall structure of interest rates of government Securities is quite encouraging as it is geared towards the objectives of interest rate stability. During F/Y 2001/02, interest rate on Treasury bill was observed to be 3.55%. The rate further declined to 2.98% in F/Y 2002/03 and this continued in subsequent years as well. The F/Y 2003/04 witnessed a substantial decline in the interest rate which was 1.47 percent and was the lowest rate of all. During F/Y 2007/08, the rates increased to 5.13 percent.

**Table no: 4.11**  
**Structure of Interest Rate**

For Mid July	2002	2003	2004	2005	2006	2007	2008
<b>Government Securities</b>							
T-Bills(91 days)	3.55	2.98	1.47	3.94	3.25	2.77	5.13
National Savings Bond	7.0-13.00	7.0-13.00	6.5-13.0	6.5-13.0	6.0-8.5	6.0-8.5	6.0-7.75
Development Bond	3.00-8.0	3.0-8.0	3.0-8.0	3.0-8.0	3.0-6.75	3.0-6.75	5.0-8.00
<b>Commercial Banks</b>							
Savings Deposits	2.5-6.25	2.5-6.00	2.0-5.0	1.75-5.0	2.0-5.0	2.0-2.5	2.0-6.5
<b>Time Deposits</b>							
3 Months	2.5-5.25	2.0-5.0	2.0-4.0	1.5-4.0	1.5-4.0	1.5-4.0	1.5-6.75
6 Months	2.5-6.0	2.5-6.0	2.0-4.5	2.5-4.5	1.75-4.5	1.75-4.5	1.75-6.75
1 year	3.5-7.0	3.0-7.0	2.75-5.75	2.25-5.0	2.25-5.0	2.25-5.0	2.5-6.0
2 year and above	3.25-8.0	3.25-7.5	3.0-6.0	2.5-6.05	2.5-6.4	2.5-5.5	2.75-6.75

Source: Annual NRB Report mid July 2009

The growth of commercial banks in the last two decades remained phenomenal; particularly after 1990 when financial sector reform process was followed aggressively. Contrary to this, the commercial bank deposit rates suffered from substantial decline. The existence of impressive number of depositors and higher inflow of remittances has really contributed to the growth of deposit. But, due to sluggish economy, political instability and internal conflict, the growth of commercial bank's deposit rates have badly de-accelerated. During F/Y 2001/02, the time deposit rate for 2 years and above was witnessed to be 3.25-8.0 %, which persistently declined and in F/Y 2006/07, the rate was observed to be 2.5-6.4 percent. The other 3 months, 6 months and 1 year time deposits are also followed by persistence erosion of deposit rates.

From the above analysis, we can conclude that there is significant prospect for corporate debt securities market because the current interest rate in case of government security is observed

to be 8.5 percent and commercial banks' time deposit rate in case of 2 years and above is 2.5-6.4 percent. Looking at this current scenario in the deposit rate, further depletion could be expected. On the contrary, interest rate on debenture is 6 percent since keeping the fund in fixed deposit is less productive both the institutional investors and individual investor can reap monetary benefits by investing in debentures. Thus compared to this, the debenture market has fared relatively better in general, since it not only provides an opportunity for investment but also provides price gains that will occur in the future.

### **4.3 Analysis of primary data:**

#### **4.3.1. Analysis of questionnaire:**

A questionnaire with a set of relevant questions to point out the major problems faced by the Nepalese Debt securities market was prepared. This questionnaire included 10 different questions and a total of 60 different respondents each involved directly or indirectly to the present debt market of Nepal. The respondents included listed companies, brokers and market makers, individual investors, and other experts mainly the staffs of SEBO, NRB, and NEPSE.

The questions in the questionnaires ranged from the choice of securities by each of the respondents to the impact of political scenario on the debt securities market. A Chi-square test was performed on the thus collected data to test the relevance of the collected data with the current market trend of debt securities trading.

The major content of the questionnaire are discussed below.

#### **1. Choice of Securities:**

Out of 60 respondents, 52% preferred to invest in common stocks, 27% chose to invest in debt securities, 7% chose to invest in mutual funds and 14% preferred to invest in preferred stocks. From this data we can see that debt securities is the second most preferred investment option for investors in stock market after common stocks.

## **2. Major factors responsible for slow growth of securities;**

Out of 60 respondents, 44% of them responded that the major factor for the slow growth of debt securities is the lack of investor's awareness. Another 40% of the respondents opined that the limited supply of quality bond in the market is the main reason for the slow growth of debt securities market. But a very small majority of respondents believe that this trend of slow growth is due to the lack of capital gain opportunity. This is because, though the interest rate in the market is unstable, the periodic coupon payment on a bond is always constant. Hence, even if the market interest rate diminishes the investor of a bond will be in advantage due to the higher interest payment from the bond.

## **3. Choice of debentures from various sectors:**

Out of 60 respondents, 58% preferred debentures from banking sector. The data presented in this and previous chapters also give the picture of this trend. However, there are a few respondents who prefer manufacturing sector more than other sector. Out of 60 respondents 26% voted for debentures issued by manufacturing companies. A very small majority, about 7%, chose hotel sector as their preferred investment sector. About 7% of the total respondents chose other sector rather than banking, manufacturing and hotel sector. This majority preferred debentures from other institutions such as finance companies, insurance companies, trading houses, etc.

## **4. Reason behind use of bank loan instead of issuing debenture;**

Out of 60 respondents, 42% agreed that as bank loans are easily available in the Nepalese markets compared to the hassles associated with issuing debentures. Therefore, most of the organizations prefer bank loans to debenture issue or any other instrument of raising fund. 26% of the respondents agreed that bank loan is preferred to debenture because of the long and difficult process incurred in the issue of debentures. A similar majority, 26% argued that bank loan is preferred to debentures in the Nepalese market because of the lower cost. This is actually another reason for the slow growth of Nepalese debt market. Another 6% of the respondents opined that debentures are not so popular as compared to bank loans due to other various reasons such as secrecy of financial transaction, involvement of a large number of

investors which cause problems in administering the transaction, risk regarding market response (incase the bond is undersubscribed), etc.

**5. Existence of large business organization and practice of debt instruments:**

Out of 60 respondents, 55% agree that the practice of debt instrument is not so popular in Nepal due to the lack of large business organizations. We can note from the presented data also that the only institutions that have issued debentures are related to banking sector except for SSRM which is a manufacturing firm. However from the presented data we can note that the issuance of debentures by SSRM was not much of a success as compared to the issuances by other banking institutions. However, 35% of the majority disagrees with this argument. On the other hand 10% of the respondent were reluctant to take a stand and were unable to decide.

**6. Existence of sufficient legislature regarding debentures in Nepal:**

Out of 60 respondents, 25% of the majority agrees that the legal provision in Nepal regarding debt securities is not sufficient. On the other hand 75% of the respondents disagree. According to them the present legal provisions are not sufficient for the proper growth of debt securities market in Nepal.

**7. Political instability and Debt securities market in Nepal:**

Out of 60 respondents a large majority, almost 80%, agrees that political stability plays a vital role in the positive growth of the debt securities market and political stability is a major factor affecting the overall development of a nation. Only 20% of the responded argued that political instability doesn't have any affect in the proper growth of the debt securities market.

**8. Trading of government debt securities on the floor of NEPSE:**

To gain an insight about the market regarding the government securities to be traded on the NEPSE floor, this topic was included in the questionnaire. Out of 60 respondents 48 respondents (80%) agreed that government securities must be allowed to be treaded in the NEPSE floor. Only 20% of the respondents did not agree on trading of government

securities on the NEPSE floor. Some of the reasons given by these respondents to support their view that government securities must not be traded on NEPSE floor are as under;

- ) NEPSE alone is not capable to deal with government bonds as they require special regulatory attention which NEPSE is unable to define.
- ) Rather than the place of trading, these bonds must be more publicly available and government must be able to address this issue by formulating regulations that make such bonds more easily available to the public.
- ) Government bonds are issued by the government in order to fulfill its monetary and fiscal needs hence it has the sole responsibility of these bonds. NEPSE is an institution to handle private and corporate sector stocks. Hence, government must not allow its bonds to be traded publicly in NEPSE.

#### **9. Appropriate system of government debt securities market:**

A question was placed in the questionnaire to study the view of the market regarding how systematic is the trading of government debt securities market in Nepal. Out of the total respondents, about 75% opined that the trading of government bonds is not systematic in Nepal. Only 25% of the total respondents seemed to be satisfied with the current trading policy of the government regarding its bonds.

The respondents who voted that the trading mechanism of government bonds is not satisfactory in Nepal gave the following reasons:

- ) The trading mechanism is centralized to Kathmandu only and does not have a country wise trading policy.
- ) Government bonds are still not feasible to most of the public as they lack information regarding these bonds.
- ) Not traded on the floor of NEPSE hence unable to attract individual investors.

#### **4.3.2. Test of hypothesis:**

The questionnaire was distributed among the different individuals and institutions directly or indirectly related to the current debt market of Nepal. As the sample size was 60 respondents in total a chi square test was performed to test the accuracy of the collected data.

### Hypothesis 1;

In a random sample of 60 respondents, the following distribution was noted based on the related fields of the respondents. The objective of this test is to draw the choice of securities by Nepalese investors.

**Table: 4.12**

#### Hypothesis test regarding the choice of securities

<b>Opinion</b>	<b>Listed companies</b>	<b>Brokers and market makers</b>	<b>Individual investors</b>	<b>Other experts</b>	<b>Total</b>
Common stock	9	7	8	7	<b>31</b>
Debt Securities	4	3	6	3	<b>16</b>
Mutual funds	1	1	1	1	<b>4</b>
Preference shares	1	1	6	1	<b>9</b>
<b>Total</b>	<b>15</b>	<b>12</b>	<b>21</b>	<b>12</b>	<b>60</b>

Source: field survey

### Setting of Hypothesis:

**Null Hypothesis (H<sub>0</sub>):** There is no difference between the observed and expected frequencies regarding the choice of securities among the respondents.

**Alternative Hypothesis (H<sub>1</sub>):** There is a significant difference between the observed and expected frequencies among the respondents.

Fixing the level of significance at 5%.

Calculation of expected frequencies (E):

$$\text{Expected frequency of } R_1C_1 = \frac{\text{Row Total} \mid \text{Column Total}}{\text{Grand Total}}$$

$$X \frac{31 | 15}{60}$$

$$= 7.75$$

Similarly,

$$\begin{array}{llll} R_2C_1 = 4 & R_3C_1 = 1 & R_4C_1 = 2.25 \\ R_1C_2 = 6.20 & R_2C_2 = 3.20 & R_3C_2 = 0.80 & R_4C_2 = 1.80 \\ R_1C_3 = 10.85 & R_2C_3 = 5.60 & R_3C_3 = 1.40 & R_4C_3 = 3.15 \\ R_1C_4 = 6.2 & R_2C_4 = 3.2 & R_3C_4 = 0.8 & R_4C_4 = 1.8 \end{array}$$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	(O - E)	$\frac{(O - E)^2}{E}$
9	7.75	1.25	0.2016
7	6.20	0.80	0.1032
8	10.85	-2.33	0.5255
7 4 } 14 3 }	6.2 4 } 13.4 3.2 }	0.60	0.0267
6 3 1 1 1 1 1 1 2 5 1 } 22	5.60 3.2 1 0.80 1.4 0.8 2.25 1.8 3.15 1.8 } 21.80	0.20	0.0018
Total			0.8588

**Test statistics:**

$$X^2(\text{Calculated}) = \frac{\sum \frac{f_{OZE}^2}{E}}{E} = 0.8588$$

$$\begin{aligned} df &= (R-1)(C-1) - 11 \\ &= (4 - 1) (4-1) - 11 \\ &= 2 \end{aligned}$$

(Since 11 d.f is lost in pooling as expected frequencies are less than 5)

Tabulated value of  $\chi^2$  at 2 d.f. is 5.99

**Decision:** Since the calculated value of  $\chi^2$  is less than its tabulated value (i.e. 5.99 > 0.8588), the null hypothesis is accepted. This means that there is no significant difference between the observed and expected frequencies regarding the choice of securities among the respondents.

**Hypothesis2:**

In a random sample of 60 respondents, on the basis of related fields the following distribution was noted. The test has the objective of analyzing the factors due to which the Nepalese debt securities market cannot grow smoothly.

**Table no:-4.13**

**Hypothesis test regarding the reason for slow growth of Nepalese debt securities market**

<b>Opinion</b>	<b>Listed companies</b>	<b>Brokers and market makers</b>	<b>Individual investors</b>	<b>Other experts</b>	<b>Total</b>
Lack of investors awareness	9	5	6	6	<b>26</b>
Limited supply of quality bonds	5	5	10	4	<b>24</b>
Lack of capital gain opportunity	1	3	4	2	<b>10</b>
<b>Total</b>	<b>15</b>	<b>13</b>	<b>20</b>	<b>12</b>	<b>60</b>

**Source: Field survey**

**Setting of Hypothesis:**

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between the observed and expected frequencies of opinions regarding the reasons for the slow growth of debt securities market in Nepal.

**Alternative Hypothesis (H<sub>1</sub>):** There is significant difference between the observed and expected frequencies of opinions regarding the reasons for the slow growth of debt securities market in Nepal.

Fixing level of significance at 5%

Calculation of expected frequencies (E):

Expected frequency of  $R_1C_1$   $X \frac{Row\ total \ | \ Column\ total}{Grand\ total}$

$$X \frac{26 \ | \ 15}{60}$$
$$= 6.5$$

Similarly,

	$R_2C_1 = 6$	$R_3C_1 = 2.5$
$R_1C_2 = 5.63$	$R_2C_2 = 5.2$	$R_3C_2 = 2.17$
$R_1C_3 = 8.67$	$R_2C_3 = 8$	$R_3C_3 = 3.33$
$R_1C_4 = 5.2$	$R_2C_4 = 4.8$	$R_3C_4 = 2$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	(O – E)	$\frac{(O - E)^2}{E}$
9	6.5	2.5	0.9615
5	5.63	-0.63	0.0705
6	8.67	-2.67	0.8223
6	5.2	0.8	0.1231
5	6	-1	0.1667
5	5.2	-0.2	0.0077
10 4 1 3 4 2	8 4.8 2.5 2.17 3.33 2	1.2	.0632
<b>Total</b>			<b>2.215</b>

**Test statistics:**

$$X^2(\text{Calculated}) = \sum \frac{fO - ZE}{E} = 2.215$$

$$\begin{aligned} \text{d.f} &= (R-1) (C-1) - 5 \\ &= (3 - 1) (4-1) - 5 \\ &= 1 \end{aligned}$$

(Since 5 d.f is lost in pooling as expected frequencies are less than 5)

Tabulated value of  $\chi^2$  at 1 d.f and 5% level of significance is 3.84

**Decision:** Since the calculated value of  $\chi^2$  is less than its tabulated value (i.e.3.84>2.215), the null hypothesis is accepted. This means that there is no significant difference between the observed and expected frequencies of the opinions regarding the reasons for the slow growth of debt securities in Nepal.

### Hypothesis 3:

In a random sample of 60 respondents from related fields, the following distribution was noted regarding the choice of debentures from various sectors in the Nepalese debt securities market.

**Table no: 4.14**

#### **Hypothesis Test regarding the choice of debentures from various sectors;**

<b>Opinion</b>	<b>Listed companies</b>	<b>Brokers and market makers</b>	<b>Individual investors</b>	<b>Other experts</b>	<b>Total</b>
Banking sector	9	6	9	8	<b>32</b>
Manufacturing sector	4	3	6	2	<b>15</b>
Hotel sector	1	2	1	1	<b>5</b>
Others	1	1	5	1	<b>8</b>
<b>Total</b>	<b>15</b>	<b>12</b>	<b>21</b>	<b>12</b>	<b>60</b>

**Source: Field survey**

### Setting of Hypothesis:

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between the observed and expected frequencies of respondent's opinions regarding their choice of debentures from various sectors.

**Alternative Hypothesis (H<sub>1</sub>):** There is a significant difference between the observed and expected frequencies of respondent's opinions regarding their choice of debentures from various sectors.

Fixing level of significance at 5%

Calculation of expected frequencies (E):

$$\text{Expected frequency of } R_1C_1 = X \frac{\text{Row total} \mid \text{Column total}}{\text{Grand total}}$$
$$= X \frac{32 \mid 15}{60}$$
$$= 8$$

Similarly,

$$\begin{array}{cccc}
 R_2C_1 = 3.75 & R_3C_1 = 1.25 & R_4C_1 = 2 & \\
 R_1C_2 = 6.4 & R_2C_2 = 3 & R_3C_2 = 1 & R_4C_2 = 1.6 \\
 R_1C_3 = 11.2 & R_2C_3 = 5.25 & R_3C_3 = 1.75 & R_4C_3 = 2.8 \\
 R_1C_4 = 6.4 & R_2C_4 = 3 & R_3C_4 = 1 & R_4C_4 = 1.6
 \end{array}$$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	(O - E)	$\frac{(O - E)^2}{E}$
9	8	1	0.125
6	6.4	-0.4	0.025
9	11.2	-2.2	0.4321
8 } 4 } 15 3 }	6.4 } 3.75 } 13.15 3 }	1.85	0.2603
6 } 2 } 1 } 2 } 1 } 21 1 } 1 } 1 } 1 } 5 } 1 }	5.25 } 3 } 1.25 } 1 } 1.75 } 21.25 1 } 2 } 1.6 } 2.8 } 1.6 }	-0.25	0.0029
<b>Total</b>			0.8453

**Test Statistics:**

$$X^2(\text{Calculated}) = \frac{\sum \frac{f_{OZE}^2}{E}}{E} = 0.8453$$

$$\text{d.f} = (R-1)(C-1) = 11$$

$$= (4 - 1) (4-1) - 11$$

$$= 2$$

(Since 11 d.f is lost in pooling as expected frequencies are less than 5)

Tabulated value of  $\chi^2$  at 2 d.f and 5% level of significance is 5.99

**Decision:** Since the calculated value of  $\chi^2$  is less than its tabulated value (i.e.  $5.99 > 0.8453$ ), the null hypothesis is accepted. This means that there is no significant difference between the observed and expected frequencies of the opinions regarding the choice of debt securities from various sectors.

#### **Hypothesis 4:**

In a random sample of 60 respondents the following distribution was noted while drawing the respondents view about the excessive use of bank loans instead of debentures.

**Table: 4.15**

#### **Hypothesis test regarding the use of bank loans instead of debentures**

<b>Opinion</b>	<b>Listed companies</b>	<b>Brokers and market makers</b>	<b>Individual investors</b>	<b>Other experts</b>	<b>Total</b>
Bank loan is easily available	6	5	8	6	<b>25</b>
Issuing debentures a difficult process	4	3	7	2	<b>16</b>
Cost of bank loan is lower Hotel sector	4	3	5	3	<b>15</b>
Others	1	1	1	1	<b>4</b>
<b>Total</b>	<b>15</b>	<b>12</b>	<b>21</b>	<b>12</b>	<b>60</b>

#### **Setting of Hypothesis:**

**Null Hypothesis ( $H_0$ ):** There is no significant difference between the observed and expected frequencies of respondent's opinions regarding the use of bank loans against debentures.

**Alternative Hypothesis ( $H_1$ ):** There is significant difference between the observed and expected frequencies of respondent's opinions regarding the use of bank loans against debentures.

Fixing level of significance at 5%.

Calculation of expected frequencies (E):

$$\text{Expected frequency of } R_1C_1 = X \frac{\text{Row total} \times \text{Column total}}{\text{Grand total}}$$

$$= X \frac{25 \times 15}{60} = 6.25$$

Similarly,

$$\begin{array}{llll} R_2C_1 = 4 & R_3C_1 = 3.75 & R_4C_1 = 1 & \\ R_1C_2 = 5 & R_2C_2 = 3.2 & R_3C_2 = 3 & R_4C_2 = 0.8 \\ R_1C_3 = 8.75 & R_2C_3 = 5.6 & R_3C_3 = 5.25 & R_4C_3 = 1.4 \\ R_1C_4 = 5 & R_2C_4 = 3.2 & R_3C_4 = 3 & R_4C_4 = 0.8 \end{array}$$

**Test of chi-square:**

Observed frequencies (O)	Expected frequencies (E)	(O - E)	$\frac{(O - E)^2}{E}$
6	6.25	-0.25	0.01
5	5	0	0
8	8.75	-0.75	0.0643
6 } 4 } 13 3 }	5 } 4 } 12.2 3.2 }	0.8	0.0525
7 } 2 } 4 } 16 3 }	5.6 } 3.2 } 3.75 } 15.55 3 }	0.45	0.0130

5 3 1 1 1 1 1	5.25 3 1 0.8 1.4 0.8	12.25 -0.25	0.0051
<b>Total</b>			<b>0.1449</b>

**Test Statistics:**

$$X^2(\text{Calculated}) = \frac{\sum \frac{f_o - E}{E}}{E} = 0.1449$$

$$\begin{aligned} \text{d.f} &= (R-1)(C-1) - 10 \\ &= (4 - 1)(4-1) - 10 \\ &= 1 \end{aligned}$$

(Since 10 d.f is lost in pooling as expected frequencies are less than 5)

Tabulated value of  $\chi^2$  at 1 d.f and 5% level of significance is 3.84

**Decision:** Since the calculated value of  $\chi^2$  is less than its tabulated value (i.e. 3.84 > 0.1449), the null hypothesis is accepted. This means that there is no significant difference between the observed and expected frequencies of respondent's opinions regarding the use of bank loans against debentures.

**Hypothesis 5:**

In a random sample of 60 respondents, the following distribution was noted on the basis of opinions from the related sectors. The test is conducted to analyze the existence of large business organizations and practice of debt securities.

**Table: 4.16**

**Hypothesis test regarding the existence of large business companies and practice of debt securities**

<b>Opinion</b>	<b>Listed companies</b>	<b>Brokers and market makers</b>	<b>Individual investors</b>	<b>Other experts</b>	<b>Total</b>
Agree	8	6	10	7	<b>31</b>
Disagree	6	7	5	4	<b>22</b>
Don't know	1	2	2	2	<b>7</b>
<b>Total</b>	<b>15</b>	<b>15</b>	<b>17</b>	<b>13</b>	<b>60</b>

**Source: field survey**

**Setting of Hypothesis;**

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between the observed and expected frequencies of opinions regarding the existence of large business organizations and practice of debt instruments in Nepal.

**Alternative Hypothesis (H<sub>1</sub>):** There is a significant difference between the observed and expected frequencies of opinions regarding the existence of large business organizations and practice of debt instruments in Nepal.

Fixing level of significance at 5%

Calculation of expected frequencies (E):

$$\text{Expected frequency of } R_1C_1 = \frac{\text{Row total} \times \text{Column total}}{\text{Grand total}}$$

$$= \frac{31 \times 15}{60} = 7.75$$

Similarly,

$$\begin{aligned} R_2C_1 &= 5.5 & R_3C_1 &= 1.75 \\ R_1C_2 &= 7.75 & R_2C_2 &= 5.5 & R_3C_2 &= 1.75 \\ R_1C_3 &= 8.78 & R_2C_3 &= 6.23 & R_3C_3 &= 1.98 \\ R_1C_4 &= 6.72 & R_2C_4 &= 4.77 & R_3C_4 &= 1.52 \end{aligned}$$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	(O – E)	$\frac{(O - E)^2}{E}$
8	7.75	0.25	0.0081
6	7.75	-1.75	0.3952
10	8.78	1.22	0.1695
7	6.72	0.28	0.0117
6	5.5	0.5	0.0455
7	5.5	1.5	0.04091
5 4 1 2 2 2	6.23 4.77 1.75 1.75 1.98 1.52	-2.0	0.2222
<b>Total</b>			<b>0.8931</b>

**Test statistics:**

$$X^2(\text{Calculated}) = \frac{\sum \frac{f_o - E}{E}}{E} = 0.8931$$

$$\begin{aligned} \text{d.f} &= (R-1) (C-1) - 5 \\ &= (3 - 1) (4-1)-5 \\ &= 1 \end{aligned}$$

Tabulated value of  $\chi^2$  at 1 d.f and 5% level of significance is 3.84

**Decision:** Since the calculated value of  $\chi^2$  is less than its tabulated value (i.e.3.84>0.8931), the null hypothesis is accepted. This means that there is no significant difference between the observed and expected frequencies of the opinions regarding the existence of large business organizations and practice of debt instruments in Nepal.

### Hypothesis 06:

In a random sample of 60 respondents, the following distribution was noted on the basis of opinions collected regarding the sufficiency of legal provisions in Nepal related to the debt securities market.

**Table: 4.17**

**Hypothesis regarding the sufficiency of legal provisions related to the debt securities market**

<b>Opinion</b>	<b>Listed companies</b>	<b>Brokers and market makers</b>	<b>Individual investors</b>	<b>Other experts</b>	<b>Total</b>
Sufficient	4	4	10	2	<b>20</b>
Insufficient	11	12	11	6	<b>40</b>
<b>Total</b>	<b>15</b>	<b>16</b>	<b>21</b>	<b>8</b>	<b>60</b>

**Source: Field survey**

### Setting of Hypothesis;

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between the observed and expected frequencies of opinions regarding the sufficiency of legal provisions related to debt securities in Nepal.

**Alternative Hypothesis (H<sub>1</sub>):** There is a significant difference between the observed and expected frequencies of opinions regarding the sufficiency of legal provisions related to debt securities in Nepal.

Fixing level of significance at 5%

Calculation of expected frequencies (E):

$$\text{Expected frequency of } R_1C_1 = \frac{\text{Row total} \times \text{Column total}}{\text{Grand total}}$$
$$= \frac{20 \times 15}{60}$$
$$= 5$$

Similarly,

$$R_1C_2 = 5.33 \quad R_2C_1 = 10$$

$$R_1C_3 = 7 \quad R_2C_2 = 10.67$$

$$R_1C_4 = 2.67 \quad R_2C_3 = 14 \quad R_2C_4 = 5.3$$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	(O - E)	$\frac{(O - E)^2}{E}$
$\left. \begin{array}{l} 4 \\ 4 \\ 10 \\ 2 \end{array} \right\} 20$	$\left. \begin{array}{l} 5 \\ 5.33 \\ 7 \\ 2.67 \end{array} \right\} 20$	0	0
11	10	1	0.1
12	10.67	1.33	0.1658
$\left. \begin{array}{l} 11 \\ 6 \end{array} \right\} 17$	$\left. \begin{array}{l} 14 \\ 5.3 \end{array} \right\} 19.3$	-2.3	0.2741
<b>Total</b>			<b>0.5399</b>

**Test statistics:**

$$X^2(\text{Calculated}) = \frac{\sum \frac{(O - E)^2}{E}}{E} = 0.5399$$

$$\begin{aligned} \text{d.f} &= (R-1)(C-1) - 4 \\ &= (2 - 1)(4-1) - 4 \\ &= 1 \end{aligned}$$

Tabulated value of  $\chi^2$  at 1d.f and 5% level of significance is 3.84

**Decision:** Since the calculated value of  $\chi^2$  is less than its tabulated value (i.e. 3.84 > 0.5399), the null hypothesis is accepted. This means that there is no significant difference between the observed and expected frequencies of the opinions regarding the sufficiency of legal provisions related to debt securities in Nepal.

**Hypothesis 07:**

In a random sample of 60 respondents, the following distribution was noted on the basis of opinions collected regarding the relevance of political instability with the growth of debt market in Nepal.

**Table: 4.18**

**Hypothesis regarding the relevance of political instability with the growth of debt market in Nepal**

<b>Opinion</b>	<b>Listed companies</b>	<b>Brokers and market makers</b>	<b>Individual investors</b>	<b>Other experts</b>	<b>Total</b>
Relevant	12	11	17	8	<b>48</b>
Not relevant	3	1	4	4	<b>12</b>
<b>Total</b>	<b>15</b>	<b>12</b>	<b>21</b>	<b>12</b>	<b>60</b>

**Source: Field survey**

**Setting of Hypothesis;**

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between the observed and expected frequencies of opinions regarding the relevance of political instability and growth of debt securities market in Nepal.

**Alternative Hypothesis (H<sub>1</sub>):** There is a significant difference between the observed and expected frequencies of opinions regarding the relevance of political instability and growth of debt securities market in Nepal.

Fixing level of significance at 5%

Calculation of expected frequencies (E):

$$\text{Expected frequency of } R_1C_1 = X \frac{\text{Row total} \times \text{Column total}}{\text{Grand total}}$$

$$= X \frac{48 \times 15}{60} = 12$$

Similarly,

$$R_2C_1 = 3$$

$$R_1C_2 = 9.6 \quad R_2C_2 = 2.4$$

$$R_1C_3 = 16.8 \quad R_2C_3 = 4.2$$

$$R_1C_4 = 9.6 \quad R_2C_4 = 2.4$$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	(O – E)	$\frac{(O - E)^2}{E}$
12	12	0	0
11	9.6	1.4	0.2042
17	16.8	0.2	0.0024
8 3 1 4 4 } 20	9.6 3 2.4 4.2 2.4 } 21.6	-1.6	0.1185
<b>Total</b>			<b>0.3251</b>

**Test statistics:**

$$X^2(\text{Calculated}) = \frac{\sum \frac{(O - E)^2}{E}}{E} = 0.3251$$

$$\begin{aligned} \text{d.f} &= (R-1) (C-1) - 4 \\ &= (2 - 1) (4-1) - 4 \\ &= 1 \end{aligned}$$

Tabulated value of  $\chi^2$  at 1 d.f and 5% level of significance is 3.84

**Decision:** Since the calculated value of  $\chi^2$  is less than its tabulated value (i.e. 3.84 > 0.3251), the null hypothesis is accepted. This means that there is no significant difference between the observed and expected frequencies of the opinions regarding the relevance of political instability and growth of debt securities in Nepal.

**Hypothesis 08:**

In a random sample of 60 respondents, the following distribution was noted on the basis of opinions collected regarding the trading of government debt securities on the floor of NEPSE.

**Table: 4.19**

**Hypothesis regarding the trading of government securities on the floor of NEPSE**

<b>Opinion</b>	<b>Listed companies</b>	<b>Brokers and market makers</b>	<b>Individual investors</b>	<b>Other experts</b>	<b>Total</b>
Yes	11	10	18	8	<b>47</b>
No	4	2	3	4	<b>13</b>
<b>Total</b>	<b>15</b>	<b>12</b>	<b>21</b>	<b>12</b>	<b>60</b>

**Source: Field survey**

**Setting of Hypothesis;**

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between the observed and expected frequencies of opinions regarding the trading of government securities on the floor of NEPSE.

**Alternative Hypothesis (H<sub>1</sub>):** There is a significant difference between the observed and expected frequencies of opinions regarding the trading of government securities on the floor of NEPSE.

Fixing level of significance at 5%

Calculation of expected frequencies (E):

$$\text{Expected frequency of } R_1C_1 = \frac{\text{Row total} \times \text{Column total}}{\text{Grand total}}$$

$$= \frac{47 \times 15}{60} = 11.75$$

Similarly,

$$R_2C_1 = 3.25$$

$$R_1C_2 = 9.4 \quad R_2C_2 = 2.6$$

$$R_1C_3 = 16.45 \quad R_2C_3 = 4.55$$

$$R_1C_4 = 9.4 \quad R_2C_4 = 2.6$$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	(O – E)	$\frac{(O - E)^2}{E}$
11	11.75	-0.75	0.0479
10	9.4	0.6	0.0038
18	16.45	1.55	0.1460
8 4 2 3 4 } 21	9.4 3.25 2.6 4.55 2.6 } 22.4	-1.4	0.0875
<b>Total</b>			<b>0.2852</b>

**Test statistics:**

$$X^2(\text{Calculated}) = \frac{\sum \frac{fOZE}{E}}{E} = 0.2852$$

$$\begin{aligned} \text{d.f} &= (R-1)(C-1) - 4 \text{ (since 4 d.f lost due to pooling)} \\ &= (2 - 1)(4-1) - 4 \\ &= 1 \end{aligned}$$

Tabulated value of  $\chi^2$  at 1 d.f and 5% level of significance is 3.84

**Decision:** Since the calculate value of  $\chi^2$  is less than its tabulated value (i.e.  $3.84 > 0.2852$ ), the null hypothesis is accepted. This means that there is no significant difference between the observed and expected frequencies of the opinions regarding the trading of government securities on the floor of NEPSE.

**Hypothesis 09:**

In a random sample of 60 respondents, the following distribution was noted on the basis of opinions collected regarding how systematic is the trading of government debt securities in Nepal.

**Table: 4.20**

**Hypothesis regarding systematic trading of government debt securities in Nepal**

<b>Opinion</b>	<b>Listed companies</b>	<b>Brokers and market makers</b>	<b>Individual investors</b>	<b>Other experts</b>	<b>Total</b>
Yes	4	2	4	4	<b>14</b>
No	11	10	17	8	<b>46</b>
<b>Total</b>	<b>15</b>	<b>12</b>	<b>21</b>	<b>12</b>	<b>60</b>

**Source: Field survey**

**Setting of Hypothesis;**

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between the observed and expected frequencies of opinions regarding the systematic trading of government securities in Nepal.

**Alternative Hypothesis (H<sub>1</sub>):** There is a significant difference between the observed and expected frequencies of opinions regarding the systematic trading of government securities in Nepal.

Fixing level of significance at 5%

Calculation of expected frequencies (E):

$$\text{Expected frequency of } R_1C_1 = \frac{\text{Row total} \times \text{Column total}}{\text{Grand total}}$$

$$= \frac{47 \times 15}{60} = 3.5$$

Similarly,

$$R_2C_1 = 11.5$$

$$R_1C_2 = 2.8 \quad R_2C_2 = 9.2$$

$$R_1C_3 = 4.9 \quad R_2C_3 = 16.1$$

$$R_1C_4 = 2.8 \quad R_2C_4 = 9.2$$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	(O – E)	$\frac{(O - E)^2}{E}$
4 2 4 4 11	3.5 2.8 4.9 2.8 11.5	-0.5	0.00980
10	9.2	0.8	0.06957
17	16.1	0.9	0.05031
8	9.2	-1.2	0.1565
<b>Total</b>			<b>0.28618</b>

**Test statistics:**

$$X^2(\text{Calculated}) = \sum \frac{fO - ZE}{E} = 0.28618$$

$$\begin{aligned} \text{d.f} &= (R-1) (C-1) - 4 \text{ (since 4 d.f lost due to pooling)} \\ &= (2 - 1) (4-1) - 4 \\ &= 1 \end{aligned}$$

Tabulated value of  $\chi^2$  at 2 d.f and 5% level of significance is 3.84

**Decision:** Since the calculated value of  $\chi^2$  is less than its tabulated value (i.e. 3.84 > 0.28618), the null hypothesis is accepted. This means that there is no significant difference between the observed and expected frequencies of the opinions regarding how systematic is the trading of government securities in Nepal.

#### **4.4 Problems in Debt Securities Market Growth**

As the market of Nepal is still in the infant stage, the regulatory system established to systematize and regularize the securities trading still has deficiencies. According to the respondents, not only the investors, also the service providers are found to be irrational and concerned with short term gains. In this scenario, market cannot expect perfect behavior from all the market participants. The major problems seen in the system are duality and ambiguities in the regulations, inadequate legal provision to administer the debenture market,

lack of adequate market infrastructure, and lack of clear demarcation of roles of trustee, lack of professionalism in the market participants. Another existing problem is the lack of institutional investors in the debenture market. The structure of the market is very unbalanced with very high weightage of banks and financial institutions. From the analysis of the responses, without a strong industrial and business sector, these financial institutions become weak, which results in less issue of corporate debt securities. SEBO/N is the regulatory body and NEPSE the only market for debenture trading in Nepal. One of the primary functions of both these institutions is to develop the debenture market in the country. But except carrying out the regular functions, neither of these institutions has been able to play a role of catalyst in the promotion of debenture market.

The other important aspect that both of these institutions are neglecting is the trading mechanism of debentures. Even if the debentures of all the seven banks have been listed in NEPSE, but the trading of five banks is not possible which means it does not provide an avenue for entry and exit which is not a healthy sign for the development of debenture market. Moreover debenture-holders are suffering from lack of liquidity since they can not earn the benefit of price appreciation. For this amendment is made in section 24, according to which the first quoted price of the bonds or debentures of a day have to be 0.2 per cent plus or minus the closing price of the previous day but this price fluctuation limit could not support the bonds or debentures trading mechanism. This may be due to the less participation of investors since there is less demand for debentures there is a less chance for the debenture-holders to reap the benefit of capital gain.

To make the debenture market more competitive and strong company Ordinance, 2005 has made provision of appointing a trustee for issuing debenture. However, the institutions providing trustee services are limited and the regulatory mechanism is yet to clearly emerge. The stagnant economy led by political instability and violence in the country has been the major reason for the pessimism in the market. Security problem has created the huge problem on industrial development. This is why there are very few issuances of debentures from manufacturing sectors. Even the individual investors could not boost up their confidence due to the anarchies and economic chaos prevails in the country.

Inability of investors to analyze risk and return has created the problem on corporate debt securities market growth. Investor being inclined only towards short term gains is the major problem in debenture market. Lack of timely information, non-existence of conducive financial and investment policies are regarded as the main problem.

Problems on growth of debt market have been created by fundamental institutional weakness. They are limited human resource, inadequate information technology, overstaffing, inadequate attention to prudent risk management, and poorly functioning governance structures i.e. boards, committees, policies and procedures. Absence of an over the counter market, benchmark credit rating agency, centralized capital market, poor investor's response, no opportunity of capital gain, small debt market, reluctances of investors towards corporate debenture, lack of awareness among investors, non-existence of effective corporate culture with good governance in private sector and absence of trust indenture act have hindered the development of corporate debenture market of Nepal.

There is still lacks of agencies, which enables widespread savings of people into productive avenues and provide the liquidity. Inability of covering wider geographical sector of nation while issuing corporate debt securities is another problem of development of corporate debenture market. The tax policy is affecting the development of corporate debenture market. Generally, income from interest is regarded as non taxable income but in the context of Nepal, there is no tax exemption in the interest income this may affect the debenture market by increasing transaction cost and creating a disincentive for investment in the corporate debt securities market.

Since the corporate debenture market could not speed up as desired, many of the corporate debt securities are absent. Debt securities like Convertibles, Warrants, Commercial paper have not been initiated yet because of the lack of legal provisions, inadequate control and regulatory mechanism. Till date NEPSE, SEBO/N, NRB, CRO have not initiated towards the development of such practices in Nepal. Perhaps the most important point to affect seriously the debenture market in the long run is the directives no. 8, point no. 5, which states that the finance companies cannot invest in the shares and debentures of any bank or other financial

institutions. If it is the crossholding, the purpose can be fulfilled by another already existing provision under which no finance company is allowed to invest more than 10% of its paid up capital in the form of investment in any other financial institutions. This totally non-relevant provision may effect the growth of corporate debenture market.

As the investment increases, so does the size of the capital market. But the overall investment scenario is not much encouraging. The society is under the grip of social and economic tension, law and order situation is worsening, regular strikes are on the rise. Above all the chains of political events have been counterproductive to the investors to come forward.

#### **4.5 Prospects of Debt Securities Market in Nepal**

There may be some cause and effect relationship as it seems that investors have started showing sensitivity towards the corporate debenture market. Many individuals and institutions are interested in investing in the debentures because of the sound track record of the issuing companies and its future prospects. As a result the issues were oversubscribed heavily. Nepal presents a massive opportunity for debt market growth. If the companies brought the suitable corporate debt instruments with different features which can be used as a sweetener to attract potential number of investors then there is high prospect of corporate debt securities market.

Countries with well developed capital market also have well-developed banking system and non-banking financial intermediaries (like: Finance companies, mutual funds, investment companies, brokerage houses etc.). In case of Nepal these preconditions are growing gradually, it shows that there is high prospect of debt market growth in Nepal in coming days.

Well- constructed portfolio help in reducing the risk associated with investment. Nepalese investors are now searching the good portfolio. To construct the good and better portfolio mix debt instrument is necessary. Presently, corporate debt market is limited in Nepal. But the preference of investors to reduce the risk market and prepare the good portfolio, debt security will come widely. Present liberalization and privatization move of government will

improve the economic growth and financial condition of the Nation. Now, Company Act, alternative incentives system in the industrial Enterprises Act etc will provide the suitable environment for the growth of the debt securities market as well as capital market in Nepal.

A gradual process of development of the nation and continued economic growth helps to grow debt market gradually. To industrialize the nation more and more capital is needed, the equity market only will not be able to supply the capital. Therefore, there is higher prospect of debt market growth along with the industrialization.

Developing people's awareness towards the capital market, savings and investment will help to grow debt market properly. World's equity market is bearish in nature, therefore it is moving towards the debt security. Nepal is also expected to follow the world trend there by showing the prospect of debt market growth.

Using debt securities for expansion of the corporations gives the executives of corporations concerned for the control of the company. Most of the corporate bodies are on expansion path and there is also growing trend of debt market in other neighboring countries and Asian nations. It shows that there is high prospect of debt market growth in Nepal. Countries on which there are better developed banks and financial intermediaries the corporate debt securities market is developed automatically. In Nepal the development of banking sector is increasing which shows that debt market will grow gradually. Many academicians and researchers are involved in tracing out the capital market and corporate debt securities market situation. Their findings, recommendations and suggestions will help in proper development and growth of debt market in Nepal.

#### **4.6 Major Findings**

1. Common stock has the highest coverage in total amount of public issue. It is the most widely used corporate security. Similarly, preference share is a least use instrument (with 5th rank) in Nepalese Financial market. It means that capital market of Nepal is heavily dependent upon the equity instruments. Issuance of just four types of securities i.e. common stock, preference shares, debenture and mutual fund unit scheme reveal the fact that our

capital market is really very poor on the matter of varieties of corporate securities. Securities innovation is lacking in Nepal's capital market.

2. Growth of corporate debt securities market is determined by the growth of capital market, country's economic growth, taxation policy, level of Investment and saving, effective investment policy, economic growth, increasing awareness among investors, emerging investment alternatives and growing investment industry.

3. From FY 1993/94 to 2005/06, among eight debentures issued, one debenture belonged to the manufacturing sector while remaining seven belonged to banking sectors, which means in the issuance of corporate debt securities, banking sector plays the dominant role.

4. All these bonds are not secured by the pledge of any kind of assets therefore these bonds/debentures are unsecured bonds. Moreover, in all these debentures in the event of liquidation or bankruptcy, debenture holders are to be considered only after the depositors have been fully satisfied. Meaning that, the bondholder will get the amount after payment is made to the depositors.

5. Nepal's capital market is very lean in providing investment alternative to the investors. Among various corporate debt instruments like straight debenture, convertibles, warrants, commercial paper, only straight debentures (i.e. no convertible feature) are available for Nepali investors. Thus, it can be said that present capital market is almost monopolized by the equity shares. For those investors, who are risk seeker and want to invest in the variable income securities, the present capital market offers sufficient alternatives but for those investor who are risk averse and want to invest in the fixed income securities, there are very few avenues available.

6. Pursuant to the company Ordinance 2005, company needs to make provision of a debenture trustee. Such debenture trustee has to be licensed by the securities Board. But the authorities are yet to come up with definite rules to set up such trustee.

7. Bonds are less attractive to investors during the period of inflation because a rise in the price level reduces the purchasing power of the people who earn fixed income in the form of interest and principal. Similarly, inflation discourages investment which require longer gestation period like debenture. In this way, inflation tends to disturb the qualitative composition if investment.

8. There is a limit on the extent to which funds can be raised through long term debt. Generally accepted standards of financial policy dictate that the debt ratio shall not exceed certain limits. When debt goes beyond these limits its cost rises rapidly.

## **Chapter -5**

### **Summary, Conclusion and Recommendations**

This chapter summarizes the overall study and draws conclusions from the study, which is under the 'Summary and Conclusion' part. The second part of this chapter deals with the recommendations and suggestions provided to concerned authorities under the 'Recommendation' part.

#### **5.1 Summary**

The debt securities market is an important sector of Nepalese security market. There is no question as to whether this sector should be developed or not. To develop a capital market as a whole, this sector should be developed. Since debt security market plays significant role in the mobilization of funds from the hands of unproductive people to productive one, it contributes significantly in the reallocation of capital and achieving economic development in the country.

The basic purpose of the study is to get overall picture of debt securities market. This study seems to be relevant in this dynamic situation of the securities market. Its specific objectives are: 1) To find out the conditions and positions of debt securities market. 2) To trace out the major obstacles/ problems faced by prevailing debt securities market. 3) To identify the key features of Nepalese corporate debt securities market in Nepal. 4) To identify the future prospects of debt securities.

This study is based on secondary as well as primary sources of information. The trend of debt securities is analyzed using secondary data for the period of 1989/90 to 2007/08. The key features of corporate debt securities and debenture interest rate are also analyzed. Responses collected from 60 respondents were analyzed to achieve remaining objective. Out of 60 respondents, 15 were from listed companies, 12 were from Brokers and Issue managers, 12 were from experts and 21 were from individual investors. 60 respondents of four groups gave their responses on the different aspects of debt securities market in Nepal. The results of these respondents were analyzed to ascertain the difference in their responses. To test the

difference in the opinions of the respondents' chi-square test was used and results were tested at 5 percent level of significance.

Bond is the only security prevails in the Nepalese corporate debt securities market. Securities like commercial paper, warrants, and convertibles do not exist. This means our debt securities market is really very poor on the matter of varieties of debt securities. By analyzing secondary data, the researcher found various issues related to debt securities market. Debt security market of Nepal is dominated by government debt securities. NRB holds a major chunk of govt debt securities. Now in recent years the issuance of corporate debt securities is on increasing trend. The regular and frequent issuance of debt securities reveals the fact that companies especially banks are more interested towards the issuance of bonds/ debentures. Moreover, every debenture which is issued in recent years by banks has been oversubscribed. It indicates that banking sectors debentures are more attractive and that people are showing some interest towards corporate debt securities. However, Limited participation of financial institution and banking sectors showed that perhaps they are not interested to invest in same sector. The Insurance Board of Nepal has made a rule that the insurance companies cannot invest more than 10% out of their total capital in corporate securities but there is no limitation for government securities. This provision definitely limits the investment on corporate debt securities. However the result of debenture market is prosperous which leads bright future prospects of banking sectors debt securities market in Nepal.

## **5.2 Conclusion**

A prominently developed debt securities market helps the nation to be self dependent. Developing a good debt securities market is not easy. It is required to face challenges and settle several issues. Management of financial reform systems, development of relevant infrastructures, developing a proper monitoring supervision system, developing a fair market based pricing system and educating people to create awareness towards the government and corporate debt securities instruments are the initial issues for the development of debt securities market.

From this research study, the researcher comes into the conclusion that due to less participation of individual investors in both the primary issues and secondary issues of govt and corporate bonds/ debentures, the debt securities market could not be able to thrive as expected. Investors are more interested to invest on common stocks rather than on bonds/debentures. The continuously decreasing interest rate, few issuance of corporate debt securities, lack of credit rating agency, no opportunity of capital appreciation, lack of knowledge on corporate bonds are the major reasons of Investor's poorer responses towards corporate debt securities market.

The debt securities market will not achieve its growth, unless and until investors feel free to choose the corporate as well as govt debt securities. In another words, corporations should take initiation on the issues of more corporate debt securities with different attributes and features. In Nepal, investments are made on impulse rather than through market study or credit ratings. Investment is done on whim, but we cannot see the development of debt securities market if investment is done on whim, so there are more problems in the corporate debt securities market growth rather than the prospects of its growth. Most of the investors are diverting their investment on other sectors like real estates which have easy and quick return and also like to hoard in the form of ornaments, and jewellery. This creates problem in the development of the economy and adversely affect the economic activities.

The research also leads to the conclusion that there are also some prospects of corporate debenture market. The growing investment industry (group of activities related to investment , such as insurance, banking, brokerage etc), increasing trend of corporate debentures issues, declining interest rate on deposits of commercial banks, over subscription rate, growing participation of banking sector in issuing debentures shows the growth prospect of corporate debt securities market. By investing on corporate debentures investors can get higher return than deposit on commercial banks, which also show the growth prospect of corporate debt securities market. On the overall debt securities market, government debt securities market is comparatively better than corporate debt securities market. Therefore, emphasis should be given to corporate debentures for the overall development of corporate debt securities market.

### **5.3 Recommendations**

The following are the proposed recommendations which are drawn through the research study which the researcher finds important in addressing the actual problems and prospects of corporate debt securities market.

#### **To Government**

The government should bring more concrete policy to force or motivate companies towards the issuance of debenture. As development of proper policies attract large number of suppliers of debt securities as well as investors from the nation and abroad, Government should take appropriate step to develop corporate debt securities market. Nepal Government should focus on following areas for debenture market reform and growth:

- Annual budgets are important strategies for meeting the long term objectives of periodic plan. Thus Government should bring appropriate strategies to bring the budget for expansion of centralized stock exchange into regional stock exchange, implementation of electronic trading system as well as the electronic transfer of ownership.
- Investment can be regarded as the measuring rod of economic pulse of the nation; the pulse could stop if the level of anarchies, political instability, regular strikes (bandhas) rises. To maintain the stability, government should provide security and set free the economic activities from other undue interferences.
- Government made very ambitious objective and quantitative target about capital market in its tenth five-year plan but not doing anything significant to attract more investors from out of the valley. Government should initiate towards expanding the stock exchange facilities in each development region based on feasibility. So that investors can apply for the debentures through different financial institutions which have their offices scattered around the country. This way trading of debentures is possible.
- As the corporate debenture market is in infancy stage. To make it more vibrant and prosper, it needs some relief, and perhaps the removal of tax on coupon interest will be a good relief.

- There were altogether three manufacturing companies which had issued debentures and all were redeemed. From the last six years, no manufacturing company have initiated towards issuance of debentures this is because majority of them have been performing worse. Since manufacturing industries are considered backbone of a capital market, Government should bring the sick industries reform programme. If this programme is seriously materialized, the capital market will benefit together with corporate debt securities market.

### **To Investors**

- Nepali stock market is primarily guided by whims and not by new information. This is a sign of market inefficiency, but investors can earn handsome gains if they try to understand such underlying cause of the govt and corporate debenture market movement and act accordingly.
- Investors should develop a habit of investing in securities within their risk limits and diversifying their investment. If they invest all their resources in the equity shares, then they are taking a big risk. They must diversify their investment. For secure investment, the internationally agreed principle is the 40-40-20- principle, which suggests to invest 40% in stocks, 40% in bonds and 20% in the money market instruments such as certificate of Deposits (CDs). This way they can probably accumulate much more wealth than by any other principles.
- There are altogether eight commercial banks which have issued debentures and these entire banks offer high coupon interest rate which exceeds the bank time deposit rate. The debentures' interest rate lies between 6% to 9% whereas the saving and time deposit rate lies within 2.5%-6%. Thus, investors are recommended to go for corporate debentures rather than keeping their money almost idles in the banks.
- The first investment principle is "spread the risk". Bond/ Debenture is only the instrument providing fixed income and involves lower risk than the securities that yield variable income.

### **To Institutional Mechanism**

- Nepali capital market lacks many corporate debt securities practices prevalent in the world of financial market. Inefficiency of laws about convertibles, warrants and

commercial papers is the main reason for the absence of such practices. NEPSE, SEBO/N, NRB should take initiative for the existence and proper development of such practices.

- Nepali capital market lacks the over the counter market where no formal listing of debenture is required for the trading. Since the securities once de-listed from the organized stock exchange can be traded in the over-the counter market, the investors do not have to lose liquidity when the stock exchange de-lists the securities. But this too lacks a legal framework in Nepal.
- Corporate Debt securities market is suffering from low investors' participation due to the absence of awareness about debt securities. Thus number of participation is not as desired. SEBO/N should co-operate with NEPSE and launch many investor awareness programs in different parts of the country where potential small investors live. Therefore, in the course of such awareness campaigns, the services of the brokers should be expanded and this expanded network should be used for more awareness programs.
- In order to make debenture and bond market dynamic and competitive, the stock exchange can make separate arrangement for market making of such securities with permission from the securities board.
- Initiatives should be carried out to arrange for full house brokering services. It should also make effort for proper record keeping and disclosure of corporate financial and non- financial information and every trading information.
- SEBO and NEPSE should focus towards the improvement of proper recording of debenture transactions, simplifying listing procedures, monitoring the deposits of stock brokers, monitoring the buying and selling orders of debentures and systematizing mutual transactions.

## Annex 1

### Calculation of growth trend of govt securities in curvilinear model

Let X = No. of years

Y = Amt of govt securities

Year	X	y (Rs.)	xy	x <sup>2</sup>	x <sup>3</sup>	x <sup>4</sup>	x <sup>2</sup> y
1989	1	12,887.90	12887.90	1	1	1	12887.9
1990	2	14,673.10	29346.20	4	8	16	58692.4
1991	3	20,855.90	62567.70	9	27	81	187703.1
1992	4	23,234.90	92939.60	16	64	256	371758.4
1993	5	25,456.00	127280.00	25	125	625	636400
1994	6	30,631.20	183787.20	36	216	1296	1102723.2
1995	7	32,057.90	22405.30	49	343	2401	1570837.1
1996	8	34,241.80	273934.40	64	512	4096	2191475.2
1997	9	35,890.80	323017.20	81	729	6561	2907154.8
1998	10	38,406.60	384066.00	100	1000	10000	3840660
1999	11	49,669.70	546366.70	121	1331	14641	6010033.7
2000	12	54,357.00	652284.00	144	1728	20736	7827408
2001	13	60,043.80	780569.40	169	2197	28561	10147402.2
2002	14	73,621.00	1030694.00	196	2744	38416	14429716
2003	15	81,148.30	1217225.00	225	3375	50625	18258367.5
2004	16	86,133.70	1378139.00	256	4096	65536	22050227.2
2005	17	87,564.30	1488593.00	289	4913	83521	25306082.7
2006	18	89,954.90	1619188.00	324	5832	104976	29145387.6
2007	19	99,303.80	1886772.00	361	6859	130321	3584671.8
2008	20	111,239.10	2224782.00	400	8000	160000	44495640
Total	210	1,061,371.70	1,453,8845.00	28702870	44100	722666	226399228.8

We have,

$$\begin{array}{rcl}
 Y X a \Gamma b x \Gamma c & x^2 & \dots\dots\dots i \\
 Y X N a \Gamma b & x \Gamma c & x^2 \dots\dots\dots ii \\
 X Y X a & x \Gamma b & x^2 \Gamma c & x^3 \dots\dots\dots iii \\
 x^2 Y X a & x^2 \Gamma b & x^3 \Gamma c & x y \dots\dots\dots iv
 \end{array}$$

Now we have,

$$\begin{array}{rcl}
 1061371.70 = 20a + 210b + 2870c & \dots\dots\dots v \\
 14538845 = 210a + 2870b + 44100c & \dots\dots\dots vi \\
 226399228.80 = 2870a + 44100b + 722666c & \dots\dots\dots vii
 \end{array}$$

Now multiplying eqn (v) by 21 & (vi) by 2 and subtracting vi by v, we get,

$$\begin{array}{r}
 22288805.70 \quad X \quad 420a \quad \Gamma \quad 4410b \quad \Gamma \quad 60270c \\
 \{ 29077690 \quad X \{ 420a \} \quad 5740b \} \quad 88200c \\
 \hline
 Z6788884.30 \quad X 0 \quad \quad Z1330b \quad Z27930c
 \end{array}$$

or,

$$6788884.30 = 1330b + 27930c \quad \dots\dots\dots viii$$

Now multiplying eqn (v) by 287 & (vii) by 2 and subtracting vii by v, we get,

$$\begin{array}{r}
 304613677.90 \quad X \quad 5740a \quad \Gamma \quad 60270b \quad \Gamma \quad 823690c \\
 \{ 452798457.60 \quad X \{ 5740a \} \quad 88200b \} \quad 1445332c \\
 \hline
 Z148184779.70 \quad X 0 \quad \quad Z27930b \quad Z621642c
 \end{array}$$

or,

$$148184779.70 = 27930b + 621642c \quad \dots\dots\dots ix$$

Now, dividing eqn (ix) by 21 and subtracting viii & ix we get,

$$6788884.30 - 1330b - 27930c$$

$$\frac{\{ 7056418.08 - 1330b - 29602c \}}{}$$

$$Z267533.78 - Z1672c$$

or,

$$c = \frac{267533.78}{1672}$$

$$c = 160.0082$$

Putting the value of “c” in eqn viii we get,

$$6788884.30 = 1330b + 27930c$$

$$\text{or, } 6788884.30 = 1330b + 27930(160.0082)$$

$$\text{or, } 6788884.30 = 1330b + 4469029.026$$

$$\text{or, } 1330b = 6788884.30 - 4469029.026$$

$$\text{or, } 1330b = 2319855.274$$

$$\text{or, } b = \frac{2319855.274}{1330}$$

$$\text{or, } b = 1744.2521$$

putting the value of “b” in eqn v we get,

$$1061371.70 = 20a + 210b + 2870c$$

$$\text{or, } 1061371.70 = 20a + 210(1744.2521) + 2870(160.0082)$$

$$\text{or, } 1061371.70 = 20a + 366292.941 + 459223.534$$

$$\text{or, } 1061371.70 = 20a + 825516.475$$

$$\text{or, } 20a = 1061371.70 - 825516.475$$

$$\text{or, } 20a = 235855.225$$

$$\text{or, } a = \frac{235855.225}{20}$$

$$\text{or, } a = 11792.7613$$

Now we have,

$$Y = 11792.7613x + 160.0082x^2$$

Calculation of forecasted value of govt securities for the next five years, i.e. for 2009,2010,2011,2012 & 2013

For 2009,

$$X = 21$$

$$\begin{aligned} Y_{2009} &= X11792.7613 \Gamma 1744.2521(21) \Gamma 160.0082(21)^2 \\ &= 11792.7613 + 36629.29 + 70563.62 \\ &= 118,985.67 \end{aligned}$$

For 2010,

$$X = 22$$

$$\begin{aligned} Y_{2010} &= X11792.7613 \Gamma 1744.2521(22) \Gamma 160.0082(22)^2 \\ &= 11792.7613 + 38373.55 + 77443.97 \\ &= 127,610.28 \end{aligned}$$

For 2011,

$$X = 23$$

$$\begin{aligned} Y_{2011} &= X11792.7613 \Gamma 1744.2521(23) \Gamma 160.0082(23)^2 \\ &= 11792.7613 + 40117.80 + 84644.34 \\ &= 136,554.90 \end{aligned}$$

For 2012,

$$X = 24$$

$$\begin{aligned} Y_{2012} &= X11792.7613 \Gamma 1744.2521(24) \Gamma 160.0082(24)^2 \\ &= 11792.7613 + 41862.05 + 92164.72 \\ &= 145,819.53 \end{aligned}$$

For 2013,

$$X = 25$$

$$\begin{aligned} Y_{2013} &= X11792.7613 \Gamma 1744.2521(25) \Gamma 160.0082(25)^2 \\ &= 11792.7613 + 43606.30 + 100005.13 \\ &= 155,404.19 \end{aligned}$$

## QUESTIONNAIRE

Dear Respondent,

I have been conducting a research on “A study on Debt securities in Nepal” as a requirement for the partial fulfillment of the degree of MBS. I hope this questionnaire will be an effective methodology to find out the present status of debt securities market in Nepal.

So, I heartily request you to fill this questionnaire at the best of your knowledge. Your kind co-operation in this regard will be of great value to me.

Thank you!

Yours faithfully,

Tulsi Kumari Thapa

Tribhuvan University

Lumbini Banijya Campus

MBS Final Year

A Questionnaire Survey

Name: .....

Post:.....

Name of the Institution/ Company: .....

Type of the Company/ Type of Business:.....

Address:.....

Please rank from 1 to 5 in order of their important by assigning '1' for most preferred, '2' for second most preferred and so on.

1. What type of long-term investment do you generally prefer?

- a. Common Stock
- b. Debt Securities [ ]
- c. Mutual funds [ ]
- d. Preference shares [ ]
- e. Others (Please Specify) [ ]

2. What is the cause for slow growth of Nepalese Debt Securities Market?

- a. Lack of investors awareness [ ]
- b. Limited supply of quality bond [ ]
- c. Lack of capital gain opportunity [ ]
- d. Others (Please Specify) [ ]

3. Debenture of which sector you proffered most?

- a. Banking Sector [ ]
- b. Manufacturing sector [ ]
- c. Hotel sector [ ]
- d. Other (Please specify) [ ]

4. What is the reason for using bank loan instead of debenture for raising fund?

- a. Ease in getting Bank loan [ ]
- b. Issuing debenture is a difficult process [ ]

- c. Cost of bank loan is low. [ ]
- d. Other [ ]

5. Is the existence of legislature required for debenture is sufficient?

- a. Sufficient [ ]
- b. Insufficient [ ]

6. Which is the most influencing factor in determining the growth of debt securities market in Nepal?

- a. Economic growth [ ]
- b. Capital market growth [ ]
- c. Increasing awareness among investors [ ]
- d. Emerging investment alternatives [ ]
- e. Political Instability [ ]
- f. Others (Please Specify) [ ]

7. Is the govt securities need to be traded on floor of NEPSE?

- a. Yes [ ]
- b. No [ ]

8. Is the govt securities traded systematically in the security market?

- a. Yes [ ]
- b. No [ ]

9. Do you see future prospect of debt securities market of Nepal?

- a. Yes [ ]
- b. No [ ]

If Yes, Please specify the reasons

.....

If No, Please specify the reasons

.....

10. Do you agree that the debt securities market of Nepal is likely to grow gradually in future?

- a. Agree [ ]
- b. Tend to Agree [ ]
- c. Disagree [ ]
- d. Tend to Disagree [ ]
- e. Fully Disagree [ ]

11. Do you have any suggestions for the improvement of debt securities market? Please Specify.

.....  
.....

If you want to share future information and suggestion which can improve the quality of the study report, please mention.

.....  
.....

