

# CHAPTER – I

## INTRODUCTION

### 1.1 Background of the study:

Nepal is a popularly known as the under developed country where financial market is still in infant stage. Its economy is known as progressive economy. To progress economically, all sector of the economy should contribute significantly, for this capital market can play the vital role. In the capital market various types of financial instruments are issued and traded. Mainly these instruments are equity, government debt, corporate debt, preference share etc.

A debt instrument is a long term contract under which a borrower agrees to make payments of interest and principal on specific date to the holders of the bond. Debt has face value of Rs. 1000 and holder of the debt gets interest in semiannual and annual basis on the invested amount. Debt holders get interest before the stock holders get dividends. There are no any restrictions to get interest by debt holders whether the issuing agencies suffer loss. Mainly risk averter investors want to invest on bond or debt because it involves less risk. The debt securities are of collateral based or non collateral based, perpetual or redeemable, convertible or non convertible types.

The debt securities market is that type of market in which financial instrument (mainly bonds) dealing in outstanding debts are bought and sold. In other words debt market simply refers to the demand and supply pattern as well as trading mechanism of debt securities. Basically the issuing agencies and debt securities holders are the main parties involved in this mechanism. The debt market can be classified into two ways: the primary market and secondary market. New issues are made in primary market whereas outstanding issues are traded in the secondary market.

Nepalese capital market as well as debt securities market has not reached its maturity stage. We can say the history of debt securities market was

started from the year 1962 A.D. when the government issued the debt securities for the first time. After that period the government has been issued the debt securities regularly to meet its financing needs. While talking about the corporate debt securities, the debt of Bottlers Nepal Ltd. is the early debt securities. For transaction of debt security, the 'Security Exchange Center' was involved. Later, when it was converted into 'Nepal Stock Exchange', the transaction of government debt securities has not been done through 'Nepal Stock Exchange'.

As government and corporate bodies should go into the debt securities market for required debt capital. We can categorize the Nepalese debt securities market as :

- a. Government debt securities market,**
- b. Corporate debt securities market .**

#### **a. Government debt securities market.**

The market that deals on securities issued by government in order to collect fund to meet its financial needs with promises to pay a certain percent of interest at certain period of time with predetermined maturity period is known as government securities market. In Nepal, Nepal Rastra Bank has been actively issuing various government securities with the main aims of tackling the deficit budget and to collect small and scattered funds from general public. These securities are as follows:

##### **I. Treasury Bills:**

Treasury bills are the short term money market instrument of the government. It normally matures in 91 days while some mature in 364 days. Treasury bills are sold to the bidders in the order that one who bids with the expectation of low interest rate. Government initiated the process of selling treasury bills since 2018 B.S. Till 2064/65, Nepal Government has Rs 85033.0 million liability on treasury bills (Rastra Rin Khabar Patra, 2065 Aswin).

## **II. Development Bond:**

This type of bond is issued to perform the development works. It is a kind of long term government bond. It matures normally in five years or more. It can be used as collateral if holders need to take loan. It has fixed and minimum interest rate. The income from these bonds is taxable which are paid on semiannual basis. Government initiated the process of selling development bonds since 2020. Till 2064/65, Nepal Government has Rs 21735.4 million liabilities on development bond (Rastra Rin Khabar Patra, 2065 Aswin).

## **III. National Saving Bond:**

It is also a long term bond and it normally bears maturity period of five years. It has fixed interest rate payable semiannually. These bonds are normally tax free bonds and having high interest rate. Government initiated the process of selling national saving bond since 2040. Till 2064/65, Nepal Government has Rs 4131.3 million liability on national saving bond (Rastra Rin Khabar Patra, 2065 Aswin).

## **IV. Special Bond :**

It is issued on special occasion when government falls sort of funds. The government issues special bonds to those parties to whom the government has to make payments. 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 need. Government initiated the process of selling special bond since 2023. Till 2064/65, Nepal Government has Rs 339.4 million liabilities on special bond (Rastra Rin khabar Patra, 2065 Aswin).

## **V. Public Saving Card:**

It is also a long term debt instrument of government which normally matures in five years. It is difference from other long term bond that it can not be used as collateral. It has also fixed interest rate and payable semiannually. It can be purchased only by Nepalese citizens and it is taxable. Government initiated the process of selling public saving card since 2059. Till 2064/65,

Nepal Government has Rs 3014.3 million liabilities on public shaving card (Rastra Rin khabar Patra, 2065 Aswin).

### **b. Corporate debt securities market:**

The market that deals on the debt securities issued by the corporation is known as the corporate debt securities market. Corporate debt securities market is very new and is initial stage in Nepal. Firstly Bottlers Nepal issued debenture of Rs. 5 millions in fiscal year 1986/87 and was redeemed at maturity. The interest rate was 18% annually. Similarly, after 6 years, Jyoti Spinning Mills Ltd. had issued 14% bond worth Rs. 20 millions in the fiscal year 1992/93. In the fiscal year 1997/98, another manufacturing company, Shree Ram sugar Mills Ltd. has also issued debenture worth Rs. 93 millions, which had convertible in nature having 14% interest rate and was also redeemed in fiscal year 2001/02. In 2001/02, Himalayan Bank Ltd. has issued Rs. 360 millions debenture, which is lunched by the name Himalayan Bond 2009. It has coupon rate of 8.5% and it was listed on security board of Nepal. Nearly one and half year after Himalayan Bank Bond, another commercial bank, Nepal Investment Bank Ltd. has issued Rs. 300 millions Nepal Investment Bank Bond 2010 with 7.5% coupon interest and semiannually payments. In the fiscal year 2007/08. Nepal Electricity Corporation ,Kumari Bank Ltd ,Himalayan Bank Ltd ,Nepal Investment Bank Ltd ,Nabil Bank Ltd have issued debenture worth Rs. 2950 millions each with 6% coupon interest rate each.

The above presented statement of Nepalese debt securities market shows Nepalese government is more forward than corporate sectors in exercising debt instruments. In growth of debt securities market of Nepal, there is great contribution of Nepal Rastra Bank, security board, commercial banks, finance companies, general people, government, private organization etc.

### **1.2 Significance of the study:**

This study is concerned with the present status of Nepalese debt securities market. Debt securities market is the important part of capital. This study will make clear about the debt securities market and its present

conditions and problems. It is fact that development of the debt securities market is essential because it is likely to play vital role for the improvement of the economic status of the nation through industrialization. Therefore this study is significant because the debt securities market growth is national phenomenon and it helps to industrialization.

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

Nepal is a non industrialized, agro-base and developing nation, the growth of capital market is essential for industrialization. The major obstacles to industrialization are the obstacles of debt market development in Nepal. In Nepalese capital market lack of investor and issuer awareness is main obstacles for the development of debt market. The industrial as well as individual investors are interested to put their excess fund in bank deposit rather than debt securities, even there exist capital market which pays more interest than bank deposit whether it is because of liquidity problem or security problem or other legal and institutional problem, will be answered by this research. If the market is design as investors oriented, it will help to demand debt securities in the capital market.

Debt securities are taken as less risky securities. In Nepal, there is lack of appropriate investment opportunities, due to which investor can not found suitable securities to invest their funds. So, debt securities are appropriate investment sector to the potential investor. But the investors have not given much concerned towards debt securities. Most of the government securities are hold by institutional investors rather than individual investors.

In corporate sector, there is only few issuance of debenture. The issuance of debenture is comparatively less costly for company, which requires long term capital. However they are willing to issue only equity share, why? Cost of capital can reduced through the issues of debenture. Similarly, gain the benefit of leverage, effect of tax saving, preserve the control position of promoters etc. are the other main advantages for issuer company. Even if so, companies prefer to issue ordinary share, why?

Anyway, there are too much confusion for investors and issuing agencies. Nepalese investors prefer high risk and high return or low risk and low return is next emerging issues with this study. How the public support can be achieved towards debt securities? What are the initial actions to be followed for increase public support? Lack of investors as well as issuer awareness is assumed to be the main issues of the development of debt market in Nepal. The general conclusion that the development of securities market influenced not by a single factor but number of factors are responsible such as legal provisions, quality of bond, investors, issuing agencies, government, interest rate etc.

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

On the basis of above discussion, here are underlined some specific research questions which are designed to research.

- ) What is the status of debt securities market in Nepalese securities market?
- ) What are the major obstacles for the debt market?
- ) What is the contribution of different types of investors in government securities?
- ) Who are the key investors and what are the key features of Nepalese corporate debt securities?
- ) What action should be taken to develop debt securities market in Nepal?

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

The debt security can play the crucial role in the economic development of Nepal. The research objectives will to identify the status of debt securities market in Nepal. The specific objectives of the study are as follows:

- ) To identify the position of debt securities market in Nepalese Security market.
- ) To examine the trend and contribution of different types of investors in government securities.

- ) To analyze the key investors, key features and trend of Nepalese corporate debt securities.
- ) To identify the major obstacles for the debt securities market growth in Nepal.
- ) To point out the suggestion for the development of debt securities market in Nepal.

### **1.6 Limitation of the study:**

The topic 'Status of Debt Securities Market in Nepal' will cover the area of all kinds of government debt and corporate debt issued by the different sector. The study may leave the other issues, which are indirectly related with debt securities market. However the research has the following limitations:

- ) The study is covered the period from 1996 to 2008.
- ) The secondary data is not verified.
- ) The primary data may have some extent errors due to many technical reasons, it may not be so.
- ) The main limitations are time constraints, financial problems and lack of research experiences.
- ) The useful suggestions and guidelines are taken from the senior in this study.

### **1.7 Design of the study:**

The expected output of this study will be arranged in the following format:

**Chapter 1: Introduction:** - This chapter is described the background of the study. It described the different types of Bond. In this chapter Researcher deals the significant, problem, objectives, limitation and design of the Debt securities.

**Chapter 2: Literature Review:** - This chapters refers to a glance to the past studies and progress on the similar field. It includes the review of journals, newspapers, various books and related post studies. All those studies are categorized in two parts. First, conceptual framework, which includes concept of debt market, capital market, financial market, money market etc and further deals about debt market instruments. Mostly, these include review form books. Second part is review of related studies.

**Chapter 3: Research Methodology:** - Research Methodology is the way to solve systematically about the research problem. It may be understood as a science of studying how research is done scientifically. This chapter aims to familiarize the relevant techniques of data collection, analysis of data using statistical tools and techniques required for preparation of research report and include research design, population and sample of the study source of data and research methods.

**Chapter 4: Data Presentation and Analysis :-** Collecting the data is the connecting link to the research work of the researcher with the world of reality. But the gathering the data is meaning less unless the data will be presented and analyzed properly to change it from raw to an understandable presentation. The analysis of data consists of organizing, tabulating, performing statistical analysis and drawing inferences. This chapter deals with the analysis of the primary and secondary data.

**Chapter 5: Summary, Conclusion and Recommendation:** - this chapter summarizes the overall study and draws conclusion form the study.

Besides this, Bibliography and Appendixes will be attached at the end of the study.

# CHAPTER – II

## REVIEW OF LITERATURE

Review of literature means reviewing research studied or other relevant proposition in the past studies. This chapters refers to a glance to the past studies and progress on the similar field. The researcher has reviewed various books, journals, newspapers, policy researches and thesis that were found while studying about "Status of Debt Securities Market in Nepal". All those studies are categorized in two parts. First, conceptual framework, which includes concept of debt market, capital market, financial market, money market etc and further deals about debt market instruments. Mostly, these include review form books. Second part is review of related studies. It includes the review of journals, newspapers, and related post studies. All the reviewed literatures have been presented orderly as follows:

### **2.1 Conceptual Framework:**

#### **2.1.1 Debt Securities Market:**

Market is a place where transactions like buying and selling takes place. Among the different types of market, financial market is one of the important market, where trading of financial assets are held. Financial market can be divided into two types- money market and capital market. Money market means market of short-term debt securities where as capital market is the market of long-term debt and equity shares. "Financial market used to mobilize funds. Investors can mobilize their funds to their own projects directly. They also invest their money through financial markets or financial intermediaries.

(Pradhan ,1992,24-26)

Stock and Bonds (corporate and government) are traded in primary as well as secondary markets. Primary market is for initially issued securities. Similarly, secondary market is for trading debt and equity securities after they are originally sole or issued.

Debt 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 purpose, in turn is issued by any organization and government. So, debt securities market can be divided into two forms, corporate and government market.

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

Variety of purpose government of any country has to collect the financial sources by issuing the debt securities to impact in the national economy by mobilization of capital. Meir Kohn on his "Financial Institutions and Markets" defined the market for government securities, money market and capital market differently. According to him "The market for the government debt is the single largest security market, and it plays a central role in the financial system. The money market is the market for the short-term private debt. It is closely linked to the banking system and to the market for inter-bank loans. Similarly, capital market is the market for corporate equities and for the long-term debt of corporations and municipalities." (Kohn, 1999, 452)

Government securities are issued in various maturities; short-term long term and intermediate term and also issues saving bonds to individual investors. It should come as no surprise that the government relies heavily on debt financing. Revenues seldom cover expenses and new securities must be sold to obtain needed funds. Moreover, new debt must be issued in order to get the necessary funds to pay off old debt that comes due. (Sharpe, W. F., 1987, 157)

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

In meeting its need for long time finance, the firm has a choice between debt and equity source one of the most important debt financial securities is bond. "A corporate bond is a security representing a long term promise to pay 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". (Hampton, T.T., 1973, 328)

Business firms issue many types of bonds. The basic classification includes collateralized (secured) and uncollateralized (unsecured), senior and

junior, callable and non callable and convertible bonds (Thygeson, K.J., 1993, 63) Firms can obtain long term debt financing privately or through public offering. Private debt includes several types of debt that consist of direct loans from banks and institutions. While public offering debt includes insurances of bonds and debentures. (Wood, J.C. and Kodapakkam, Vol. 20, No. 3 (1991) , 50).

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 an investor clientele. The holders of a 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. (Vanhorne.,2000) Corporate debt securities market has to be developed according to the same way with the other components of capital market within country.

### **2.1.2 Debt Instruments:**

Different types of debt securities used to raise the loan are called debt instruments. Among them debenture, subordinate debenture, mortgage bond, income bond, equity-liked debt, Treasury bill etc are the main debt instruments prevalent in Nepal.

#### **Debentures:**

The term debenture usually applies to the unsecured bonds of a corporation. Although the debentures holders are protected by the restrictions imposed in the indenture.

#### **Subordinate debentures:**

Sub-ordinate debenture represents debt that ranks behind debt senior to these debentures with respect to claim on assets. Because of the nature of the claim, a straight subordinated debenture issues has to provide a yield higher than a regular issue in order to attract the investors.

**Mortgage bond:**

A mortgage bond issue is secured by a lien on specific assets of the corporation usually fixed assets. If corporation defaults in any of the provisions of the bond indenture, the trustee, on behalf of the bondholders, has the power to foreclose and trustee takes over the property and sell it, unseeing the proceeds to pay bonds.

**Income bond:**

A company is obligated to pay interest on an income bond only when it is earned. If the company does not generate the earning, interest may be cumulative. However the cumulative obligation usually is limited to no more than three years.

**Equity-linked debt:**

This debt instrument is given an option on common stock with debt plus warrants. The debt holder has an option to purchase the common stock of the company and continues to hold the debt instruments.

**Treasury bills:**

It is a money market instrument especially of government. Treasury bill is the short-term, common used by government debt securities. Treasury bills are issued on a discount basis, with maturities of up to 52 weeks and it has face value at maturity.

Weston and Copeland classified debts in two categories. They are secured debt and unsecured debt. The priority of claims, right to issue additional securities and scope of lien are the secured long-term debt and debentures, sub-ordinate debentures, income bonds and floating rate notes are unsecured type of bonds. Mortgages, which have senior claims over assets and earnings, are called senior mortgages. In other words 1<sup>st</sup> mortgages that has first claim over assets are called priority claims. Second and third mortgages are the junior mortgages or a claim. Under the right to issue additional securities, there are closed-end mortgage and open-end mortgage. At the closed-end mortgage, company cannot sell additional bond, beyond those

already issued. It provides security to the bond buyer. If the bond indenture is silent about mortgage, it is open-end mortgage. It gives the company, right to issue additional bond. At the time of liquidation, net proceed received from the sales is divided proportionally. More specifically, open-end mortgage has the limited open-end mortgage with the provision of certain percent additional bond issue. If the bond is issued with the lien granted on certain property, is called scope of the lien. Firms use unsecured debts by different reasons. Financial strength and weakness is the main reason of using the unsecured type of debt. Similarly, tax considerations and uncertainty of future earnings have given rise to special firms of unsecured financing. Debenture is an unsecured debt, which provides no lien on specific property as security for the obligation. Therefore debenture holders are creditors whose claim is protected by property if they are not pledged. From viewpoint of issuer, debenture issuing is the using of unsecured property for subsequent financing. A firm with strong credit position can issue debenture, so they does not need specific security. However, the credit position of the company may be so weak that it has no alternative to the use of debentures; all its property may already be encumbered. Subordinated debentures, income bonds and floating rate notes are the forms of debts that do not require specific security. (Fred, Weston;. Copeland,1992 , 963-969)

### **2.1.3 Key Characteristics of Debt Securities:**

Debt security does 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 assume a par value of Rs. 1000. The par value generally represents the amount of the firms borrows and promises to repay on the maturity date.
- ) **Coupon Interest rate:** coupon is specified amount of 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, this providing compensation to investors in the form of capital appreciation.

) **Market Interest Rate:** Market interest rate is the interest rate different from the interest rate of the issuer of the bond. The market interest rate yield changes continuously because of internal as well as external sources. The internal sources are the sources of the bond issuer itself. The internal factor causes the price of the bond and yield change frequently with the price change. The external sources on the demand and supply of fund, inform as well as other macroeconomic factors that cause prices and yield of the bonds.

) **Maturity Period:** Maturity period is the years remaining for a bond to mature. Bonds generally have a specified maturity period on which the par value must be repaid. It is fixed at the time of issue of the bond and maturity period decreases as we move toward the maturity of the bond.

) **Call provision:** At the time of bond issue, 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. Most corporate bonds contain 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

) **Sinking Funds:** It is a bond contract that requires the issuer to retire a portion of the bond issue each year. A sinking fund is money taken from a corporation earning that is used to redeem bonds periodically, before maturity a specified in the indenture

company it can be used the required number of bonds on the open market.

) **Indenture:** it is a legal agreement between an issuer of bonds and the bondholder stating the time period for repayment, amount of interest paid, if the bond is convertible (and if so, at what price or what ratio), and the amount of money that is to be repaid. The indenture contains the terms and conditions of the bond issue.

) **Trustee:** Trustee is an agent of a bond issuer who handles the administrative aspects of a loan and ensures that the borrower complies with the terms of the bond indenture. The bond trustee is responsible for the collection and investment of loan and the registration, transfer and payment of bonds.

) **Other features:** Several other features are convertible bond (a bond that is exchangeable, at the holder, for common stock of the issuing firm), warrant (a long-term option to buy a stated number of shares of common stock at a specified price,) income bond ( a bond that pay interest only it earned) and indexed bond (a bond that has interest payments based on a inflation index so as to protect the holder from inflation).

#### **2.1.4 Duration of the Bond:**

Duration is a measure of time designed to more accurately portray a bond's 'average' life. Duration is directly related to the time and inversely related to coupon and yield to maturity. Duration 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.

The duration is a figure, measured in years, which says how long it will be before a bond's purchase price has been repaid in present value money. The concept of duration initially was introduced by Frederic Macaulay in 1938; therefore, it is also called "Macaulay Duration". Duration is also known as the

sensitivity of a bond's price change in interest rates. Several factors, such as coupon interest, maturity period and prevailing level of interest rates determine the price of a bond. Duration draws together all these factors into one number which quantifies the sensitivity of the bond.

### 2.1.5 Valuation of Bond:

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.

According to Surendra Pradhan in his book "Basic of Financial Management", there are three types of bonds.

- a. ordinary bonds,
- b. callable bonds and
- c. Perpetual bonds.

An ordinary bond is the one whose life is present generally between 5 to 20 years. The valuation formula for such bond can be expressed as follows:

$$V_b = \sum_{t=1}^n \frac{I_t}{1+k^t} + \frac{MV}{1+k^n}$$

Where

$V_b$  = Present value of bond

$I_t$  = Interest payment during 't' periods

$K$  = Market interest rate

$MV$  = Maturity value or face value

$t$  = time periods

$n$  = no. of time periods

A callable bond is not much different from ordinary bond except that the issuer keeps the right to redeem it at a specified date or any time before the maturity, its valuation model presented as:

$$V_b = \sum_{t=1}^n \frac{I_t}{1+k^t} + \frac{CP}{1+k^m}$$

Where,

$m$  = no. of periods to call period

CP = Call price

A perpetual bond is never redeemed by the issuer, but the issuer pay interest for an indefinite period. The issuer is never required to pay the par value of bond holders. The value of this bond may be expressed as follows:

$$V_b = X \frac{I}{K}$$

Where,

I = Interest payment each year

K = Market Interest rate

### 2.1.6 Yield to Maturity (YTM):

The yield to maturity is the discount rate that equates the present value of the bond's expected future cash flows with the current market price of the bond. The YTM can be calculated by using following equation:

- By approximation formula method:

$$YTM \approx \frac{\text{Interest} \Gamma \frac{\text{Face value} - \text{Purchase Price}}{\text{Years to maturity}}}{\frac{\text{Face value} \Gamma 2 + \text{Purchase price}}{3}}$$

- By trial and error method:

$$\text{Market price of debt} = \sum_{t=1}^n \frac{\text{Interest}}{(1 + YTM)^t} \Gamma \frac{\text{Maturity Value}}{(1 + YTM)^n}$$

Where,

n = Years to maturity/ No. of time periods

t = time periods

## 2.2 Reviews from Other Books:

In a book published in 1964 by World Bank, Avramovic and colleagues approached external borrowing in terms of a country's debt receiving capacity. They mentioned that country borrows only to help finance well conceived development program. They also concluded that: developing country's saving is below the desired level of investment so they borrow from abroad to finance part of its investment and also to service the external debt; savings has grown

enough to finance all domestic investment however, the country continues to borrow abroad to cover service cost of debt. The debt (external) grows but at a slower rate in the first stage, at the end of second stage it reaches maximum; country stops borrowing abroad to cover interest payments and begins to reduce the external debt. The small savers cannot cope up with rapid growth of debt and debt securities. Rapid growth in debt is likely to intensify inequalities in wealth distribution.

If the debt market is not developed properly, the major portion of a private savings is diverted towards the other sectors like: speculative investments in real estate and trade having easy and quick return and also hoarded in the form of ornaments and jewelers. It is also the effect of the underdeveloped capital market.

In the absence of the development of corporate security market, the only securities generally floated in the market are government securities and through them the government assembles the funds directly from the surplus spending units and via the financial intermediates. So for the government has the virtual monopoly over the security market there is not possibility of the development of the security market and resort to security market by the government has been only in the form of borrowing mainly through the issuance of development bonds to meet the budgetary expenses. The first time the government bond was issued in 12<sup>th</sup> February 1964. It had 6 percent rate of interest and maturity period of five years. (Mahat, 1981, 25)

According to IMF staff country report "A well functioning capital market is necessary for Nepal to support the efficient channeling of private savings to investment and facilitate the transactions to direct monetary control. While headway has been made through various reforms since the late 1980s the capital market is still in early stage of development with many structural weaknesses. (IMF Staff Country Report, NO 96/63 ,July 1996 , 25-26.)

### **2.3 Reviews from Journals:**

Naresh Shakya in his article "Recent Development of domestic Debt Market in Nepal" has summarized that the domestic debt market in Nepal is undeveloped. There is a paucity of debt instruments, which makes market primitive. The prevailing mechanism for trading government debt securities are inefficient and unreliable as the authorities regulate the prices. These weaknesses enormously hamper not only the debt management practices but also monetary management process in Nepal. Debt manger should therefore have an interest in developing market for government debt securities. The issuance of scripless securities, initiation of auctioning of long term government debt securities, implementation of market based pricing mechanism and issue of varied secures like insurance bonds, pension bonds, provident fund bonds, municipalities bonds and other special bonds would be the major achievements for strengthening the debt market in Nepal. Launching of awareness program on market mechanism, pricing method, types of instruments issued and timing of issue could also help the developing of domestic government debt securities market in Nepal. Transparency in the debt management practice could also be explored by publishing the domestic debt database on the regular basis and also made public from the NRB website. (Shakya, 2062,20-30.)

Elton, Grober, Agarwal and Mann in their article "Explaining the rate spread on corporate bonds, " explain the spread between rates on corporate government bonds. The purpose of his 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 a risk premium in corporate bonds spreads and if so, why it exist. They have shown that the spread can almost entirely be explained by three influences; the loss form the expected loss, state and local taxes which must be pain on corporate bonds but not on government bonds and a premium required for bearing unsystematic risk. (Elton, Agrawal and Mann, 2001 Vol. 46, No. 1)

Rabindar Bhattarai in his article "Debentures are welcome" in 2004 has stated "Bond market in Nepal is very lean. Very few companies have issued bond in the market. However, since last few year, 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 over subscription in recently issued corporate bonds, it can be predicted that more of corporate bonds will be expected to issue in the future, particularly from the banks to meet their higher capital requirement under NRB directives. (Bhattaria, New Business Age, 2004)

#### **2.4 Review of Thesis:**

D.R. Kafle (2003) in his thesis "Problem and Prospects of Debt Market Growth in Nepal" has summarized that capital market of Nepal is infant stage and debt securities market of corporate bodies is limited in existence. The government debt securities market is growing but it is not growing as expected. They heavy reliance of government in foreign debt has created huge problem in debt securities market growth in Nepal. According to him in Nepal investment are made on impulse rather than through market study or credit ratings, he found that national saving bond and development bond were more preferred by investors. On the other hand top tier corporate bodes could not get loan easily from banks at lower cost so they are not required to issue debt instruments for raising funds. Tedious and lengthy process of issuing debt securities market is another problem with debt securities market growth. (Kafle, An Unpublished Master Degree Thesis T.U., 2003)

S.M. Bhattarai (2003) has summarized in his thesis titled "Problem and prospects of Debt Market Growth n Nepal" that Nepalese debt market is still at underdeveloped stage. Government bond market is slightly at maturity stage as compared with corporate debt securities market. In recent years many factors shows that it starts to take speed to grow. His research comes into conclusion that there are numbers of problem due to which the debt securities market of Nepal is not growing smoothly. Mainly these problems are lack of public

awareness, limited supply of quality bonds, investors increasing attraction towards common stock which provides higher return at high level of risk and difficult process of issuing debenture. The main factors which indicate the prospects are as inventors attraction towards liquid assets like debt instruments, desire to invest on corporate bond and debenture etc these factors indicate the growth prospects of Nepalese debt securities market. (Bhattarai, An Unpublished Master Degree Thesis, T.U., (2003).

Rekha Pant (1999) on her study "Problem and Prospects of Stock Market Growth in Nepal" gives that government should create the right policy and environment for the facilitation of critical mass of financial instruments issuers and investors. In the near term there is an urgent need to develop the money and bond market (both government and corporate bond market) and increase domestic institutional investor's participation in the market. Also there is a need to develop full service securities firms with a capacity to provide loan array of financial services to insure and inventors as well as to develop new market and instruments such as commercial papers, corporate bond and debentures, government bonds etc. Further due to the following reasons the capital market in Nepal has not reach its full potential: unfavorable macroeconomics condition, political, instability, low investors, confidence, weak tax system, slow process of privatization, inadequate institutional investors, base investment of saving in bank despots and government securities lack of improved prospectus to investors, weak legal affairs for markets regulation, lack of money and bond market. These are the problem of debt market growth in Neal similarly with the problem of securities market development in Nepal. (Pant, An Unpublished Master Degree Thesis, T.U. (1999)

Hari Krishna Koirala (1997) on his thesis "Public Debt in Nepal" has 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 from non banking sector. It is the must non-inflationary source of internal borrowing since it is simply transfer of idle saving form people to government for development purpose. (Koirala, An Unpublished Master's Degree Thesis, T.U., 1997).

Ram Prasad Paudel (2002) in his thesis "A Study on Government Securities Practice in Nepal" has summarized that government securities is issued to meet short-term and long-term financial requirement. The government expenditure through public debt is quite beneficial to the nation if used productively. But a large public debt may create problems in the economy in future. He further given in his findings that 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 the government securities. Poor as well as rich, and educated as well as uneducated people are interested towards government securities. He concluded that Nepalese investors are attracted towards government sectors. Most of the investors of Nepal are risk averter and they need less risky investment. Lastly he recommended that, people pride themselves on their financial contribution to the national, if there are suitable debt securities to them. Therefore, government should develop various methods to influence the business and private individuals to buy more and more government securities. (Poudel, An Unpublished Master's degree Thesis, T.U., 2002).

Sudip Amatya (2005) made study on "Present status of Nepalese Debt Securities Market." He concluded that Nepalese debt securities market is still at infant stage. Government debt securities market is slightly at maturity stage in comparison to corporate debt securities market. So, that emphasis should be given in the development of corporate debt securities market. Corporate debt securities will grow up very soon because there are some positive signals has been observed such as over subscription of HBL, NIBL and EBL debenture; declining interest rate on bank deposit of commercial banks, growing participation of banking sectors in issuing debenture. He has concluded that high preference in purchasing banking sectors debentures, unsystematic government debt securities market, political instability, insufficient legal provision are the main problems of development of debt market in Neal. (Amatya, An Unpublished Master's Degree Thesis, T.U., 2005).

Safala Thapa (2006) has made a study on "Recent Position, Problems and Growth Prospects of Debt Securities Market in Nepal". She concluded that government debt securities are dominant securities in Nepalese debt market. The Nepalese debt securities market is characterized by as an infant stage but sluggish growth, future of this market is not at all gloomy. She has found many problems associated with it such as tin market condition of debt securities, insufficient legal provisions, lack of sufficient information disclosure, volatile market interest rate etc. The study reveals various indicators of this market which can promise a prosperous future to this market if all stakeholders are willing to make serious efforts regarding the promotion of the securities has been increasing satisfactory. Declining interest rate on bank deposit also showed the future potentiality of debt securities market. (Thapa,, An Unpublished Master's Degree Thesis, T.U., 2006)

Bhim Pokharel (2006) on his thesis "Issues and Prospects of corporate Bond Market Growth in Nepal" has concluded that the Nepalese debenture market is characterized by as an infant with sluggish growth, future of this market is not at all gloomy. His study reveals various indicators of this market which can promise a prosperous future to this market if all of its stakeholders, especially government, are willing to make serious effort regarding the promotion of the market. He has concluded that the future growth of corporate bond seems satisfactory. The allotments of debentures are made through negotiations. There is no any free competition between institution investors in case of application and allotment of debentures. Over subscription of debenture issued by banking sectors indicates the positive attitude of investors towards corporate debenture. Information disclosure status of financial institutions also promises the potentiality of these sectors to issue debenture in future. Valuation and duration show the opportunity of secondary transaction of them. However, problems associated to issuer, investors and intermediates of debenture market need to be solved first for the rapid growth and development of bond market. (Pokharel, An unpublished Master's Degree Thesis, T.U., 2006).

In this way, some studies have been conducted by different researcher. Nepal as an underdeveloped 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 capital market should function well. That capital market should function well. That means its equity and debt markets are well existed and market of corporate sectors is limited existence is a matter of curiosity. Therefore the present study is focused on the status of debt securities market in Nepal.

### **Research Gap**

All of the above research done on past are primarily concerned with the debt securities position of Nepal. The past research has neglected other financial institutions and banks. So, to make a complete research on Securities, the debt securities of other institutions besides banks are equally important. To fulfill the research gap, the present study has encompassed the debt securities system of all the category listed in NEPSE, VIZ, Development Bank, SEBO/N, NRB, and other along with the commercial banks.

## **CHAPTER –III**

### **RESEARCH METHODOLOGY**

In simple sense research means to search again. In other words, research means to get new things, techniques and to verify existing tools, techniques by hypothesis and other relevant information. Research methodology is the way to solve systematically about the research problem. It may be understood as a science of studying how research is done scientifically. Research methodology is followed to achieve the objective of this research paper. This chapter aims to familiarize the relevant techniques of data collection, analysis of data using statistical tools and techniques required for preparation of research report and include research design, population and sample of the study source of data and research methods.

#### **3.1 Research Design:**

Research design is the overall plan of action and structure and strategy of investigation conceived so as to control variance. It is outline of a good research employed for the investigation of the required result. This research study attempts to analyse the status of debt securities market in Nepal. To fulfill the objectives of this research, it used both primary data as well as secondary data. To conduct the study, descriptive and analytical research approach has been used. Descriptive approach has been utilized mainly for conceptualization of the associated problems of debt securities market in Nepal. Analytical approach has been used mainly to examine ownership pattern and trend of

government debt securities. Some statistical tools such as time series analysis and chi-square test for testing hypothesis are used to analyze and come to conclusion.

### **3.2 Population and Sample of the Study:**

The study is conducted to trace out the status of debt securities market in Nepal. So, it is clear that the research covers vast area. The population of this study comprised all the listed company which are the potential issuance companies of debenture. They are 142 in number in fiscal year 2007/08. All the holders of debt securities, government bodies, concerned staff and experts, the brokerage firms and market makers are also considering as the population of this study.

Sampling is necessary tool to make a good research work. 25 listed companies are taken as sample from various sectors using judgmental sampling. Likewise, a list of individual investors included corporate debt holders as well as government debt holders are taken total 35 using random sampling. Again, 40 brokers, market markers and other experts mainly staff of NRB, SEBO and NEPSE have been taken as samples. To analyze the position of debt securities market in Nepalese securities market, the issuance of securities from fiscal year 1996/97 to 2007/08 are taken as sample. To analyze the ownership pattern and the trend of government securities the issuances of government securities, from 1996 to 2008 are taken as sample for study.

### **3.3 Source of Data:**

Data is the fact, information, views etc collected systematically and presented formally for the purpose of reaching in the suitable decision. Data is necessary for conducting the research work because without the data we can not prove the reliability as well as can not support the research strongly. So, primary as well as secondary data are used in this study as sources of data.

#### **3.3.1 Primary Data:**

A set of questionnaire is developed in order to collect the primary data. These are allocated to the respective samples and collected after some times. The main sources of primary data are following:

- ) Listed companies
- ) Individual investors included corporate debt holders as well as government securities holder.
- ) Brokers and market markers
- ) Other experts mainly staff of SEBO, NEPSE, and NRB.

### **3.3.2 Secondary Data:**

Secondary data for this study are data published by the governing bodies, publications of the capital market related studies, trading reports, annual reports, past studies made on this field and other publications of the NGOs and INGOs that are already available in the market. Similarly, the past studies of the professionals as well as non professional researchers are followed to create the wide idea for the study. The main sources of secondary data are pointed out as follows:

#### **1. Nepal Rastra Bank**

- ) Rastra Rin Khabr Patra
- ) Various Quarterly Bulletins
- ) Various Economic Reports

#### **2. SEBO Nepal**

- ) Various annual Reports
- ) Various publication of NEPSE
- ) Prospectus of SRSM
- ) Prospectus of NIBL
- ) Prospectus of Bank of Kathmandu Ltd.
- ) Prospectus of Nepal Investment Bank Ltd.
- ) Prospectus of Himalayan Bank Limited.
- ) Prospectus of Nepal SBI Bank Ltd

3. Past researchers and other aforementioned publications of the concerned bodies.
4. Academic and non academic books.
5. Prevailing laws and by laws.

### **3.4 Tools and Techniques of Analysis:**

Since, data analysis is based on explanation and statistical analysis and interpretation. The analysis of the data is limited with in the boundary of the process employed and availability of the data. Separate techniques are utilized in order to analyze the data statistically and present them more systematically. Hypothesis testing, trend (time series) analysis, diagrammatical presentation etc analysis has been done in order to represent the reliability of data. Percentage analysis is also used to analyze the data.

#### **3.4.1 Research Hypothesis:**

A hypothesis helps the researcher in proceeding further and finding solution of the problem, which he or she wants to study. Without the hypothesis, the effectiveness of the research is not possible. In this study, the chi-square test of hypothesis is used. The chi-square test is an important test among the several tests of significance developed by statisticians. For the test 25 listed companies, 35 individual investors and 40 brokers, market makers and 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. The expected frequencies are calculated by applying the formula:

$$\text{Expected frequency is } X \frac{\text{Row total} \times \text{column total}}{\text{Grand Total}}$$

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

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

Where,

$\chi^2$  = Value of Chi-square

O = Observed frequency

E = Expected frequency

### 3.4.2 Time Series Analysis:

To examine the trend of government securities as well as corporate debt, time series analysis has been used. With the help of this model, the forecasted amount is calculated for next four years.

The equation of trend line is as below:

$$Y = a + bx$$

Where,

Y = total forecasted value

a = minimum value

b = Change rate per period

x = difference between actual time and assumed time.

# CHAPTER - IV

## DATA ANALYSIS AND PRESENTATION

Collecting the data is the connecting link to the research work of the researcher with the world of reality. But the gathering the data is meaning less unless the data will be presented and analyzed properly to change it from raw to an understandable presentation. The analysis of data consists of organizing, tabulating, performing statistical analysis and drawing inferences. This chapter deals with the analysis of the primary and secondary data.

### **4.1 Presentation and Analysis of Secondary Data:**

#### **4.1.1. Position of Debt Securities Market in Nepalese Securities Market:**

Securities market is the back-bone of capital market. Development of a well functioning securities market will encourage the entrepreneur to collect the long term capital by mobilizing the individual and institutional saving either directly or indirectly. A matured securities market offers a wide range of opportunities for corporate bodies. Not only the corporate sectors, government can also issue government securities to finance the massive investment required for the major infrastructure projects, utilities and housing. Types of securities available in Nepal are limited as compared to the developed nations. The development and composition of securities market in Nepal are presented in table 1.

**Table 1: Issue Approval by SEBON/N (instrument wise) and government securities****(Rs in Million)**

Year/ Instrument	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	Total
Equity shares	57.00	119.40	148.00	412.46	268.50	528.76	551.50	755.00	300.89	579.80	380.30	924.80	5026.41
Right shires	275.20	249.96	30.00	124.60	365.79	387.87	162.24	429.92	669.42	1013.50	1265.30	6793.40	11767.2
Preference shares	-	-	80.00	-	-	140.00	-	-	-	-	400	-	620
Debentures	-	93.00	-	-	-	360.00	-	300.00	300.00	850.00	250	2950	5103
Mutual fund and additional sales	-	-	-	93.25	82.91	138.48	140.09	62.28	45.49	-	-	-	562.5
Government securities	35890.8	38406.6	49669.7	54357.0	60043.8	73621.0	81148.3	86133.7	87564.3	89954.9	99303.9	111239.1	867333.1
<b>Total</b>	<b>36223.0</b>	<b>38868.96</b>	<b>49927.7</b>	<b>54987.31</b>	<b>60761.00</b>	<b>75176.11</b>	<b>82002.13</b>	<b>87680.9</b>	<b>88880.1</b>	<b>92398.20</b>	<b>101599.5</b>	<b>121907.3</b>	<b>890412.2</b>

Source: Annual Report SEBO/N 2007-08 and NRB quarterly economic bulletin Mid July 2008

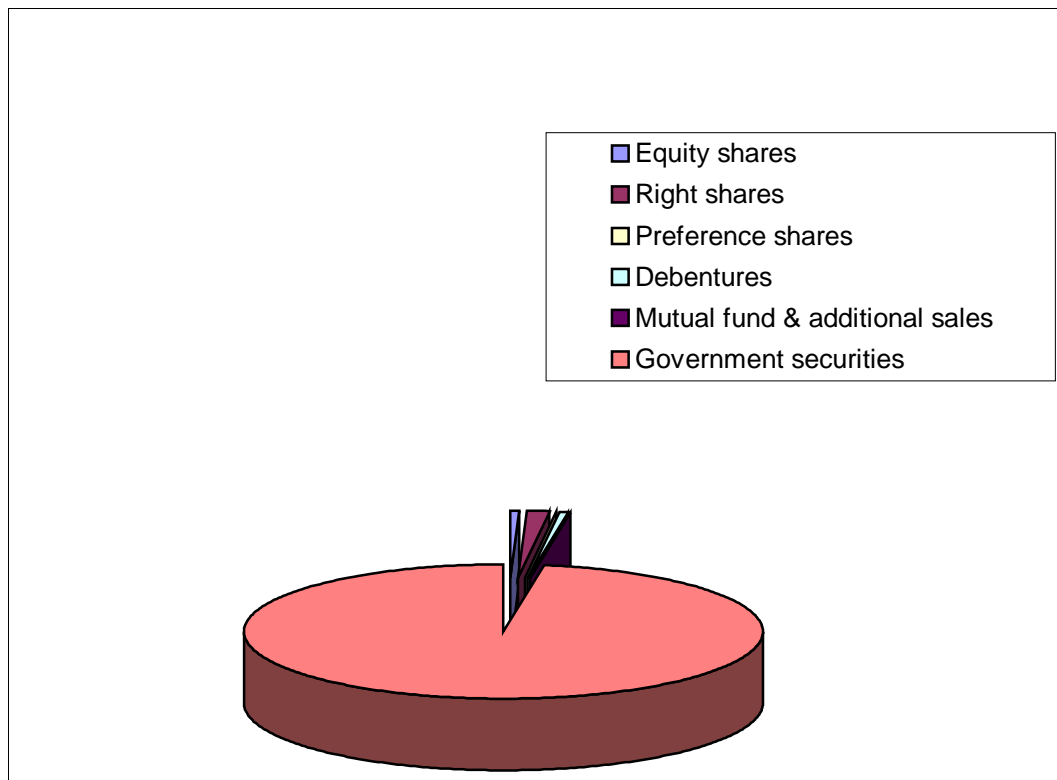
The securities wise issue approval during the period of 1996/97 to 2007/08 can be shown in the table-2

**Table - 2: Percentage Issues of Various Securities****(Rs in Million)**

S.N.	Securities	Approval Amount (in Rs)	Percentage
1	Equity shares	5026.41	0.56
2	Right shares	11767.2	1.33
3	Preference shares	620	0.07
4	Debentures	5103	0.57
5	Mutual Fund & additional Sales	562.5	0.06
6	Government securities	867333.1	97.41
	<b>Total</b>	<b>890412.2</b>	<b>100</b>

The above table no. 2 is presented in the figure no. 1 :

**Figure 1: Percentage of Issue of Various Securities**



The Figure-1 shows that, 97.41 percent of total approved is for government securities, next to government securities is equity share, which represent 0.56 percent of total approved, right share occupies 1.33 percent, debenture occupies 0.57 percent, where as preference shares and mutual fund and additional sales occupies very small figure of 0.07 percent and 0.06 percent respectively. Hence, government securities dominate the other securities.

Equity shares dominate the corporate sectors securities market. Government securities and corporate equity shares were issued regularly over the time. But other types of securities were not issued regularly over the time. Limited issues are made of debentures and preference shares. However, primary motivations for a company to use debt capital in its business activities are the low cost.

There are number of reasons for a dismal state of corporate debt securities market in Nepal. First, the population of corporate bodies which can sell debentures in the market is small. Second, listed companies shows that a significant number of them belong to banking, insurance and finance companies

(out of 142, they are 88) which can mobilize public money in their own ways and hence need not issue debentures to raise debt funds. Third, out of remaining companies, most of them are incurring heavy loss and hence are not in a position of raise funds from the market. Fourth, Nepalese organizations heavily rely on bank loan instead of using loan from debt instrument and securities used only as owner type, i.e. equity shares.

#### 4.1.2 Contribution of Different Types of Investors in Government Securities:

Securities of Nepalese government consist of Treasury bills, Development bonds, National saving bonds, Special Bonds and Public saving card. The contribution of different types of investors in Nepalese government securities deals with the portion of total government bonds and T-bills purchased by different institutions and individuals. Ownership pattern of government securities and T-bills is presented in table 3.

**Table 3 : Ownership Pattern of Government Bonds and T-Bills**

(Rs in Million)

Year/owner's name	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Nepal Rastra Bank	17543.4 (51.23%)	18066.0 (50.33%)	15965.0 (41.57%)	22115.8 (44.53%)	20908.8 (38.47%)	17949.7 (29.89%)	25504.2 (34.64%)	26825.8 (33.06%)	19138.7 (22.22%)	17457.4 (19.94%)	11049.2 (12.28%)	15629.7 (15.85%)	18849.8 (17.34%)	263331.6 (28.30%)
Commercial Bank	7540.0 (22.02%)	7737.8 (21.56%)	10280.6 (26.77%)	12659.1 (25.49%)	18176.6 (34.44%)	25392.9 (42.29%)	29361.3 (39.88%)	35883.4 (44.22%)	43796.3 (50.85%)	48550.7 (55.44%)	58461.4 (64.99%)	65836.4 (66.67%)	72140.6 (66.37%)	444006.4 (47.73%)
Financial Institutions, Insurance corporation, and provident fund	2934.1 (8.57%)	3304.2 (9.21%)	4295.4 (11.18%)	4102.8 (8.26%)	3735.1 (6.87%)	3716.3 (6.19%)	4756.7 (6.46%)	4805.7 (5.92%)	7501.9 (8.71%)	8601.5 (9.82%)	7415.1 (8.24%)	9341.1 (9.47%)	11573.5 (10.64%)	78843.3 (8.48%)
Government Business enterprises and private business enterprises	828.5 (2.42%)	871.5 (2.43%)	1236.6 (3.22%)	1404.2 (2.83%)	1245.7 (2.29%)	927.7 (1.55%)	1079.1 (1.47%)	1025.3 (1.26%)	824.9 (0.96%)	658.7 (0.75%)	648.5 (0.72%)	342.5 (0.35%)	0 (0.00%)	11852.6 (1.27%)
Individuals	2000.0 (5.84%)	2605.5 (7.26%)	2854.7 (7.43%)	3499.5 (7.04%)	5101.9 (9.39%)	6618.9 (11.02%)	6240.4 (8.48%)	5819.5 (7.17%)	6635.3 (7.70%)	6941.1 (7.93%)	4550.2 (5.06%)	1825.3 (1.85%)	1228.6 (1.13%)	57615.1 (6.19%)
Others	3395.8 (9.92%)	3305.8 (9.21%)	3774.3 (9.83%)	5888.3 (11.85%)	5188.9 (9.54%)	5438.3 (9.06%)	6679.3 (9.07%)	6788.6 (8.37%)	8236.6 (9.56%)	5354.9 (6.12%)	7830.5 (8.71%)	5636.4 (5.72%)	4904.1 (4.52%)	74748.8 (8.03%)
Total	34241.8 (100%)	35890.8 (100)	38406.6 (100%)	49669.7 (100%)	54357.0 (100%)	60043.8 (100%)	73621.0 (100%)	81148.3 (100%)	86133.7 (100%)	87564.3 (100%)	89954.9 (100%)	98611.4 (100%)	108696.6 (100%)	930397.8 (100%)

Source: NRB Quarterly Economic Bulletin Mid July 2008.

Table no. 3 shows that in the year 1996 NRB's share in the total purchase of government securities was 51.23 percent of total issued amount. But then its share has been decreasing and reached to only 17.34percent in year

2008. The table clearly shows that the participation of NRB in total purchase of government securities was in increasing trend in percentage term in the earlier years of observation but it shows decreasing trend in the latter years.

The next substantial contribution to the purchase of government securities are commercial banks, whose purchase has increased from 22.02 percent in year 1996 to 66.37 percent in year 2008. The table clearly shows that the participation of commercial bank was in decreasing trend in percentage term in the earlier years of observation but it shows increasing trend in the letter years. According to NRB Quarterly Economic Bulletin this situation has been created.

The contribution of financial institution, Insurance Corporation and provident fund has shown irregular trend. The table shows that total contribution of these sector lies between the ranges of 5 percent to 12 percent of total issued amount over the observation period.

Similarly the contribution of government business enterprises and private business enterprises to purchase of government securities has also not been significant.

The table shows that total contribution of this sector lies in the range of 1 percent to 3 percent of total issued amount over the observation period.

Another important contribution to the purchase of government securities are individuals, whose contribution has increased form 5.84 percent in year 1996 to 11.02 percent in year 2001. Then after, it has been decreasing in percentage term except in year 2007 and 2008.

#### **4.1.3 Trend of Government Securities Issued:**

Government of Nepal has started to borrow from the initial sources since 1961 to fulfill the resource gap in the budget by means of issuing various kinds of securities. In the initial year 1961, the government issued only T-bills. Now the government collects internal borrowing by issuing T-bills, development bonds, special bonds, national saving bonds and public saving cards. The government had issued Rs. 34241.8 million of government securities in 1996. The trend of government securities shows increasing in every year of

observation. The total amount of it reached to Rs. 34241.8 million of government securities in 1996. The trend of government securities shows increasing in every year of observation. The total amount of it reached to Rs. 111239.1 million in year 2008. The table 4 shows the trend of total government securities from 1996 to 2008.

**Table 4 : Trend of Total Government Securities from 1996 to 2008**

(Rs in Million)

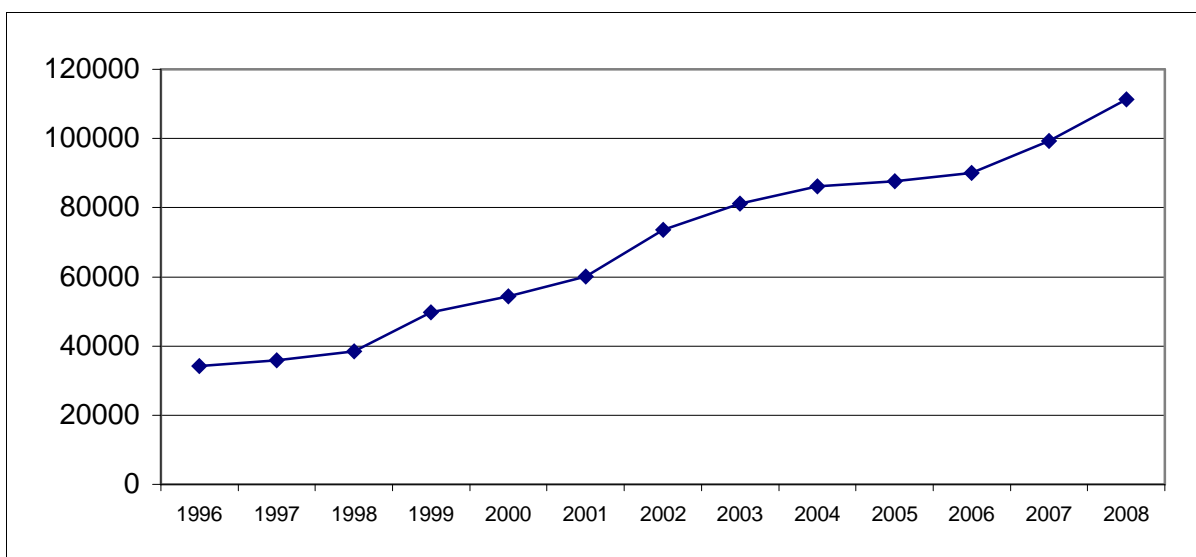
Year	Total amount of government securities (in Rs)	Growth Rate* (in %)
1996	34241.8	6.81
1997	35890.8	4.82
1998	38406.6	7.01
1999	49669.7	29.33
2000	54357.0	9.44
2001	60043.8	10.46
2002	73621.0	22.61
2003	81148.3	10.22
2004	86133.7	6.14
2005	87564.3	1.66
2006	89954.9	2.73
2007	99303.80	10.39
2008	111239.1	12.02

Source: NRB Quarterly economic bulletin, Mid July 2008

\* Growth rate is calculated by taking previous years as base year

**Figure 2: Trend line of total government securities**

(Rs in Million)



The above figure-2 and table-4 shows that the trend of government securities is increasing. Hence to find out the forecasted amount of government debt securities, time series model is used (see appendix-1).

The forecasted amount of total government securities form 2009 to 2012 is given below:

**Table 5: Forecasted amount of total government securities form 2009 to 2012**

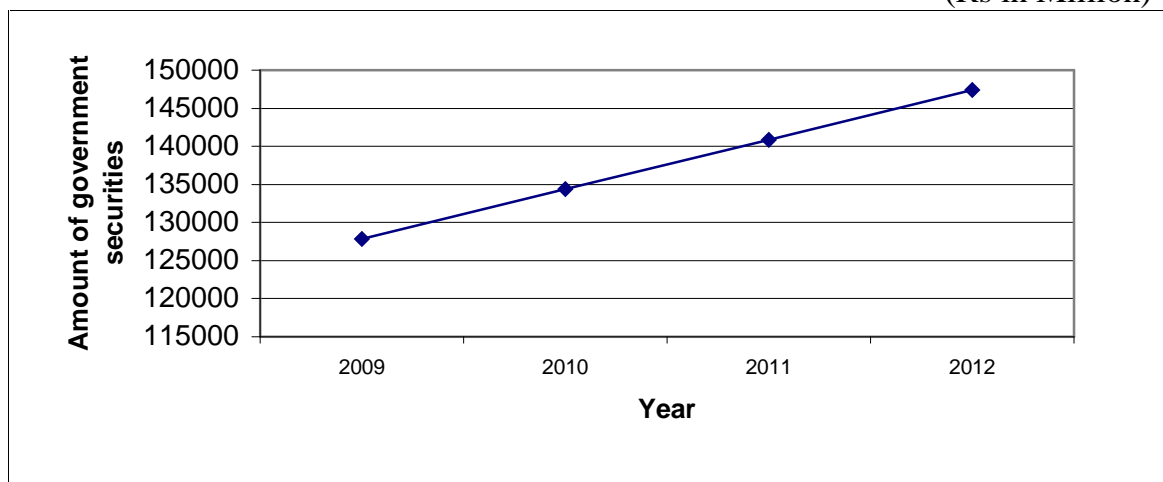
(Rs in Million)

Year	Forecasted amount
2009	127880.80
2010	134384.01
2011	140887.22
2012	147390.43

Source: Appendix-1

**Figure 3: Trend Line of Forecasted amount of government securities from 2009 to 2012**

(Rs in Million)



The above table no-5 and figure no-3 show that the forecasted amount of total government securities is increasing. The forecasted amount of government securities will be Rs. 147390.43 million in year 2012 which is increased from 2009.

#### 4.1.3.1 Trend of Treasury Bills:

Government has started to issue T-bills since 1961 to collect required fund. The given below table-6 shows the trend of T-bills issued by the government from year 1996 to 2008.

**Table 6: Trend of T-bills issued by government from Rs. in Million)1996 to 2008**

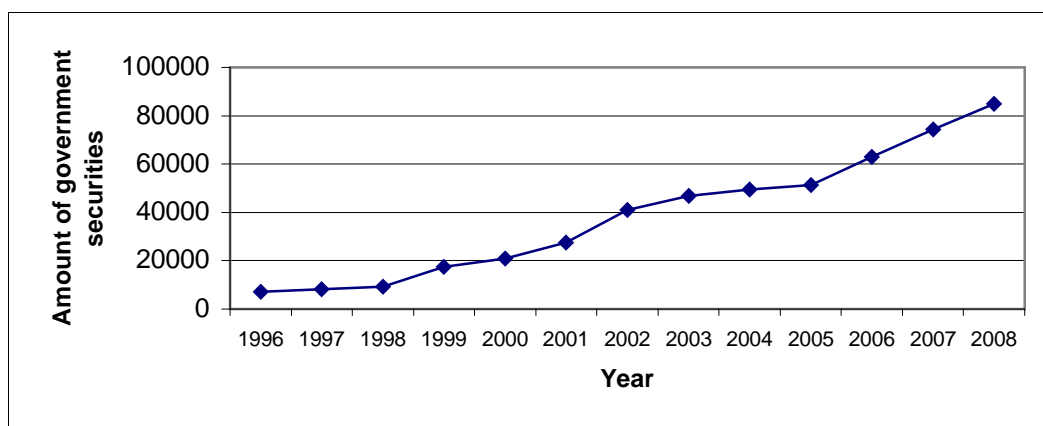
Year	Total amount of T-Bills (in Rs.)	Growth Rate* (in %)
1996	7142.5	11.73
1997	8092.5	10.30
1998	9182.5	13.47
1999	17586.9	91.53
2000	21026.9	19.56
2001	27610.8	31.31
2002	41106.6	48.88
2003	46844.9	13.96
2004	49429.6	5.52
2005	51383.1	3.95
2006	62970.3	22.55
2007	74445.3	18.22
2008	85033.3	14.22

Source: NRB quarterly economic bulletin, Mid July 2008

\* Growth rate is calculated by taking previous year as base year.

**Figure 4: Trend Line of T-Bills**

(Rs in Million)



The above table-6 and figure-4 show that the total amount of treasury bills is increasing. The amount of treasury bills was Rs 7142.5 million in year 1996 which has been increasing every year and reached to Rs. 85033.3 millions in year 2008. The growth rate column shows the maximum increment of 91.53% in year 1999.

The forecasted amount of T-Bills form 2009 to 2012 is given below

**Table 7: Forecasted amount of T-bills from 2009 to 2012**

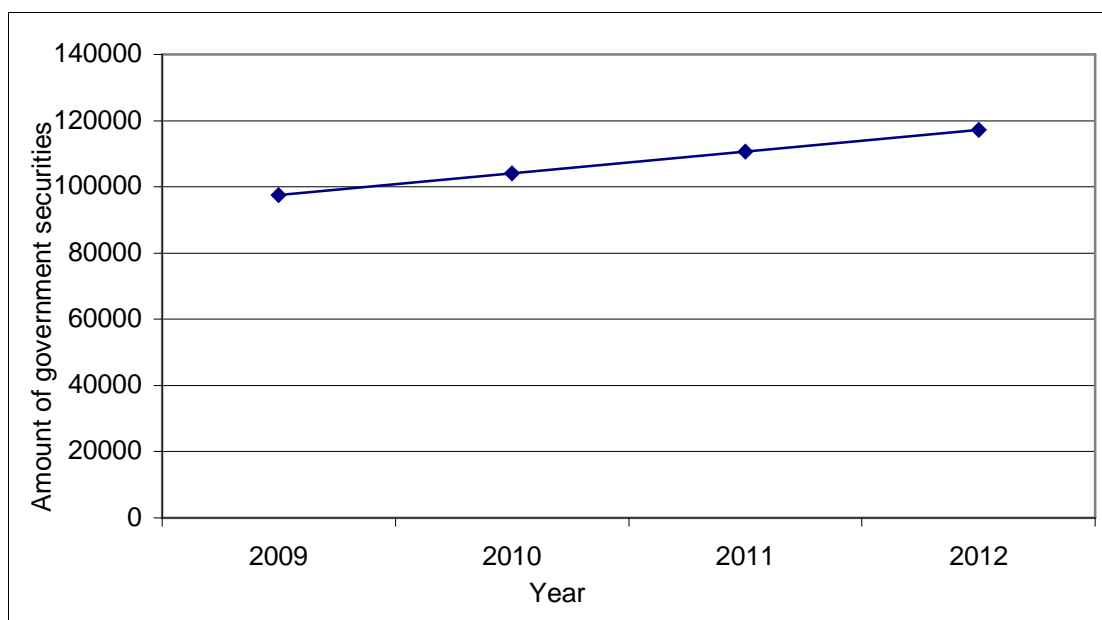
(Rs. in Million)

Year	Forecasted amount
2009	97533.79
2010	104081.52
2011	110629.25
2012	117176.98

Source: Appendix-2

**Figure 5 : Trend line of forecasted amount of T-Bills**

(Rs. in Million)



The above table-7 and figure-5 show that the forecasted amount of T- Bills issued by government is increasing. The amount of T- Bills Rs. 97533.79

million in year 2009 which is increased every year and reached to Rs. 117176.98 million in year 2012.

#### 4.1.3.2 Trend of Development Bond:

The given table-8 shows the trend of development bond issued by the government to collect required fund from year 1996 to 2008.

**Table 8: Development bond issued by government form 1996 to 2008**

(Rs. in Million)

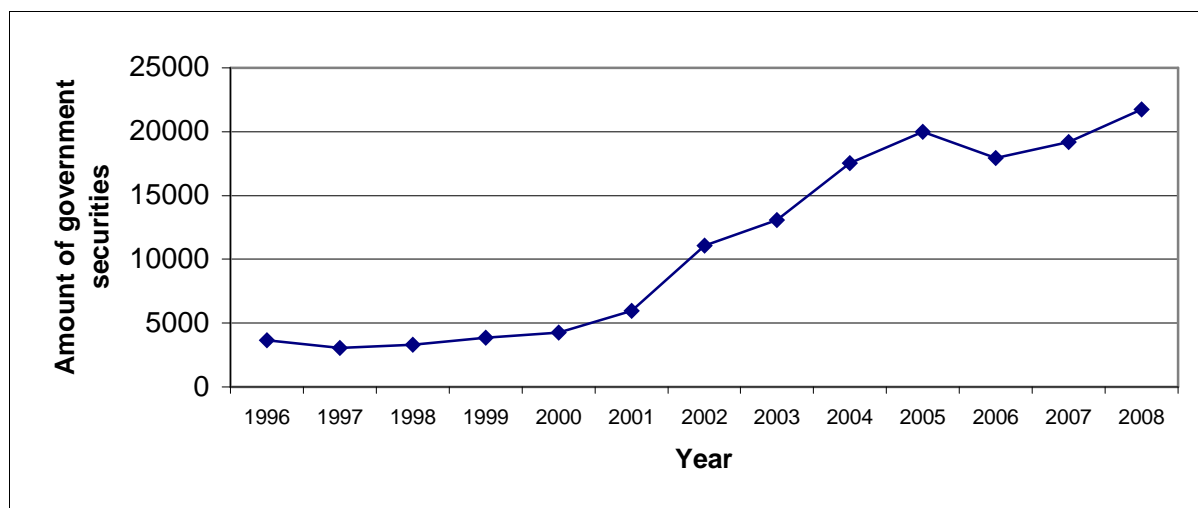
Year	Total amount of development bond (in Rs.)	Growth Rate*(in %)
1996	3672.2	-10.92
1997	3042.2	-17.16
1998	3302.2	8.55
1999	3872.2	17.26
2000	4262.2	18.03
2001	5962.3	39.89
2002	11090.7	86.01
2003	13090.7	10.03
2004	17549.2	34.06
2005	19999.2	13.96
2006	17959.2	-10.20
2007	19177.1	6.78
2008	21735.4	13.34

Source: NRB Quarterly economic bulletin, Mid July 2008

\*Growth Rate is calculated by taking previous year as base year

**Figure 6: Trend line of development bond**

(Rs in million)



The above table-8 and figure - 6 show that the amount of development bond issued by the government is in decreasing trend from 1996 to 1997. After than the trend shows increasing and reached to Rs. 21735.4 millions in year 2008. .

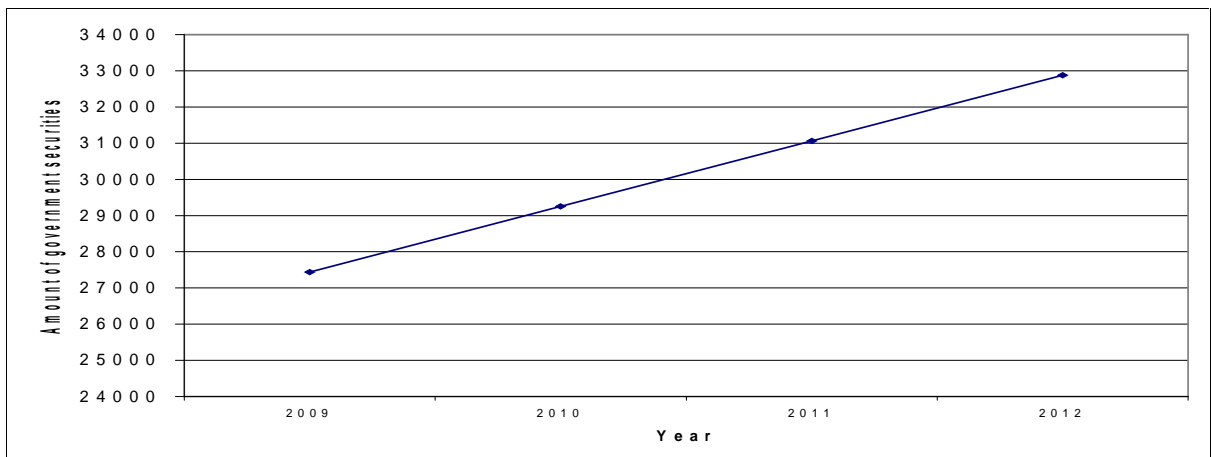
The forecasted amount of development bond from 2009 to 2012 is given below:

**Table 9**  
**Forecasted Amount of Development bond from 2009 to 2012**  
(Rs. in Million)

Year	Forecasted amount
2009	27439.01
2010	29250.91
2011	31062.81
2012	32874.71

Source: Appendix-3

**Figure 7: Trend line of forecasted amount of development bond**  
(Rs in Million)



The above table-9 and figure-7 show that the forecasted amount of Development bond issued by government is in increasing trend from 2009. The amount of Development bond is Rs. 27439.01 million in year 2009 which is increased in year 2012 of Rs. 32874.71 million.

### 4.1.3.3 Trend of National Saving Bond:

The given below table- 10 shows the trend of national saving bond issued by the government to collect required fund from year 1996 to 2008.

**Table 10:**  
**National Saving Bond Issued by Government from 1996 to 2008**

(Rs. in Million)

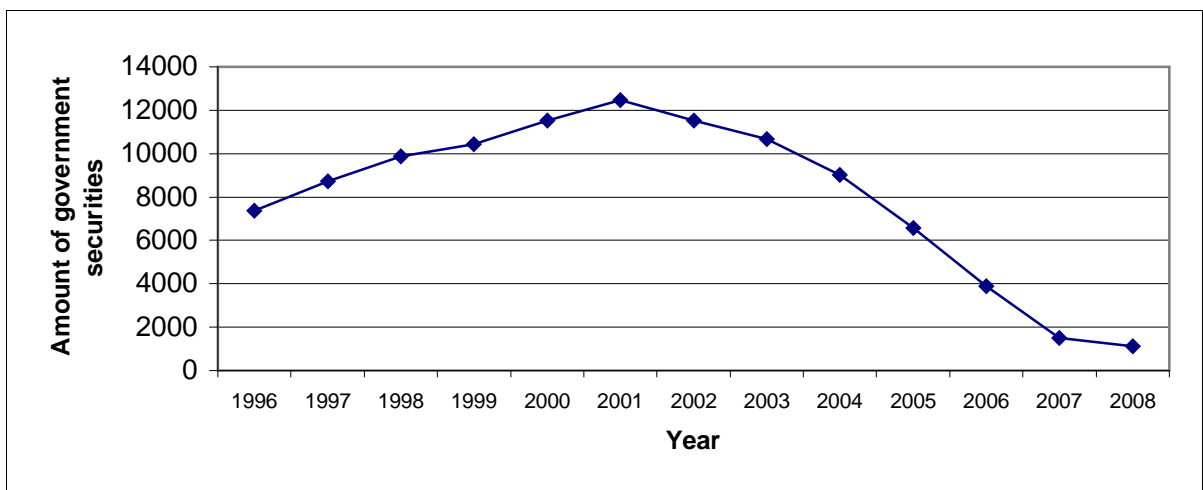
Year	Total amount of national Saving bond (in Rs)	Growth Rate* (in %)
1996	7376.5	21.40
1997	8736.5	18.44
1998	9886.4	13.16
1999	10426.4	5.46
2000	11526.5	10.55
2001	12476.4	8.24
2002	11536.3	-7.54
2003	10659.9	-7.60
2004	9029.8	-15.29
2005	6576.8	-27.17
2006	3876.8	-41.05
2007	1516.9	-60.87
2008	1116.9	-26.37

Source: NRB Quarterly economic bulletin, Mid July 2008

\* Growth rate is calculated by taking previous year as base year.

**Figure 8: Trend Line of national Saving Bond**

(Rs. in Million)



The above given table-10 and figure-8 show that the amount of national saving bond issued by government is in increasing trend from 1996 to 2001 and reached to Rs 12476.4 millions from Rs 7376.5 millions. After that the trend shows decreasing and reached to Rs 1116.9 millions in the year 2008. The above figure clearly shows increasing trend up to year 2001 and decreasing trend thereafter. Due to the strategies of NRB for lending & deposit. From year 1996 to 2001, Bond issued by NRB is increasing trend after that decreasing trend for monetary policy.

The forecasted amount of national saving bond from 2009 to 2012 is given below:

**Table 11: Forecasted amount of national saving bond from 2009 to 2012**

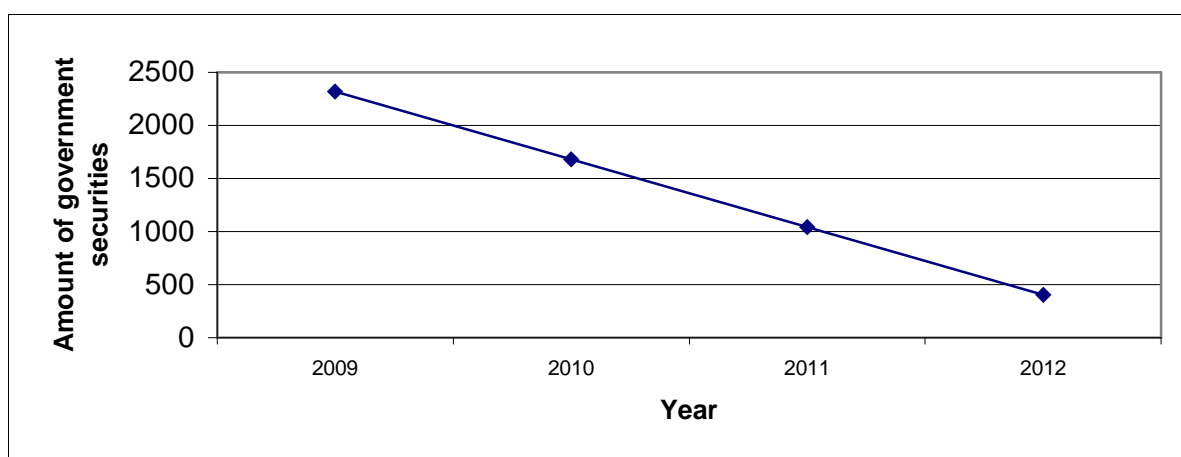
(Rs in million)

Year	Forecasted amount
2009	2318.23
2010	1680.58
2011	1042.93
2012	405.28

Source: Appendix-4

**Figure 9: Trend Line of Forecasted amount of National saving bond**

(Rs in Million)



The above table-11 and figure-9 show that the forecasted amount of National Saving Bond is in decreasing trend. The forecasted amount of National Saving

Bond is Rs. 405.28 million in 2012 which was Rs. 2318.23 million in year 2009.

### 3.1.3.4 Trend of Special Bond:

This type of bond is issued on special occasion when government falls sort of funds. The given below table- 12 shows the trend of special bond issued by the government to collect required fund from year 1996 to 2008.

**Table 12: Special bond issued by government from 1996 to 2008**

(Rs in Million)

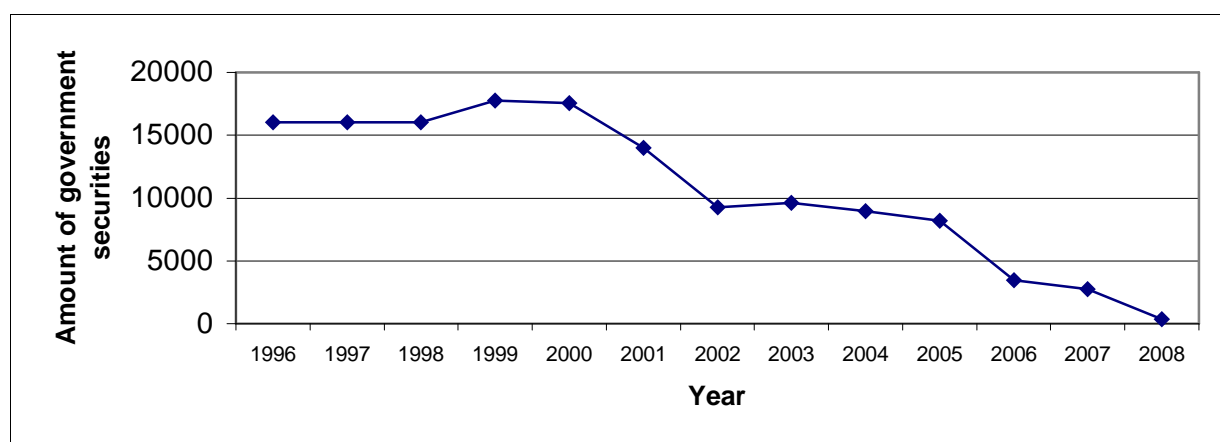
Year	Total amount of special bond (in Rs)	Growth Rate* (in %)
1996	16050.6	3.77
1997	16019.6	-0.19
1998	16035.5	0.10
1999	17784.2	10.91
2000	17541.4	-1.37
2001	13994.3	-20.22
2002	9259.3	-33.84
2003	9621.7	1.04
2004	8946.2	-7.02
2005	8176.3	-8.61
2006	3469.8	-57.56
2007	2773.5	-20.07
2008	339.4	-87.76

Source: NRB quarterly economic bulletin, Mid July 2008

\* Growth rate is calculated by taking previous year as base year.

**Figure 10: Trend Line of special Bond**

(Rs. in Million)



The above given table-12 and figure-10 shows the amount of special bond issued by the government is in increasing trend up to year 1999, except in year 1997. But after then the trend line is decreasing except in year 2003 and reached to Rs 339.4 millions in year 2008.

The forecasted amount of special bond from year 2009 to 2012 is given below:

**Table 13: Forecasted amount of special bond form 2009 to 2012**

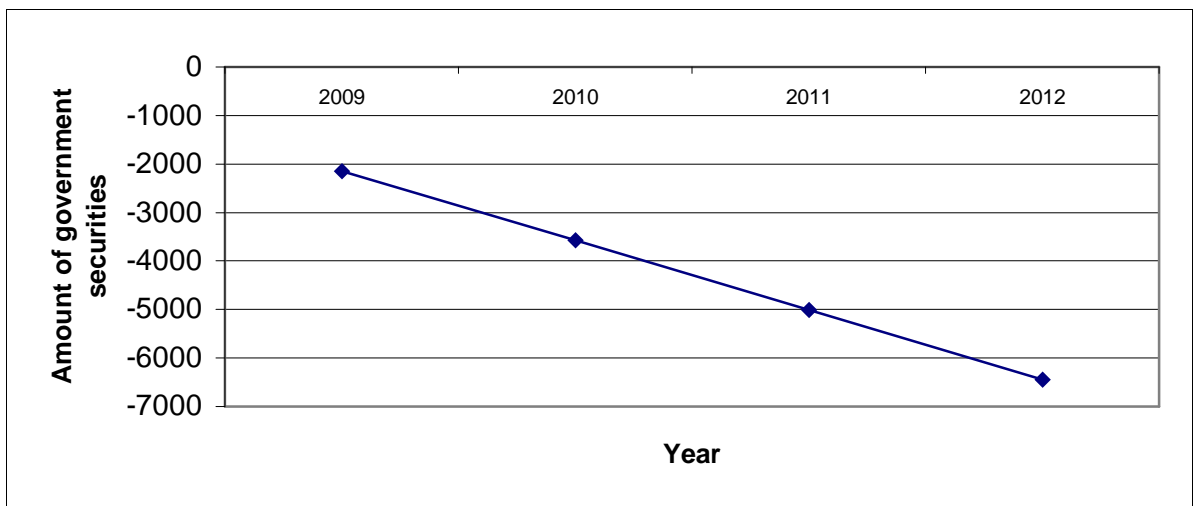
(Rs. in Million)

Year	Forecasted amount
2009	-2143.69
2010	-3578.56
2011	-5013.43
2012	-6448.30

Source: Appendix-5

**Figure 11: Trend Line of forecasted amount of special bond**

(Rs. in Million)



The above table-13 and figure-11 show that the forecasted amount of Special Bond is in decreasing trend. The forecasted amount of Special Bond is Rs. - 6448.30 million in year 2012 which was Rs. -2143.69 million in year 2009.

#### 4.1.3.5 Trend of Public Saving Card:

The public saving card was absent up to the year 2001. Government issued it from the year 2002. The given table shows the trend of public saving card issued by the government from year 2002 to 2008.

**Table 14: Public Saving Card Issued by Government from 2002 to 2008**

(Rs in Million)

Year	Total amount of public saving card (in Rs)	Growth rate * (in %)
2002	628.1	-
2003	931.1	48.24
2004	1178.9	26.61
2005	1428.9	21.29
2006	1678.9	17.50
2007	1391.0	-17.15
2008	3014.3	116.7

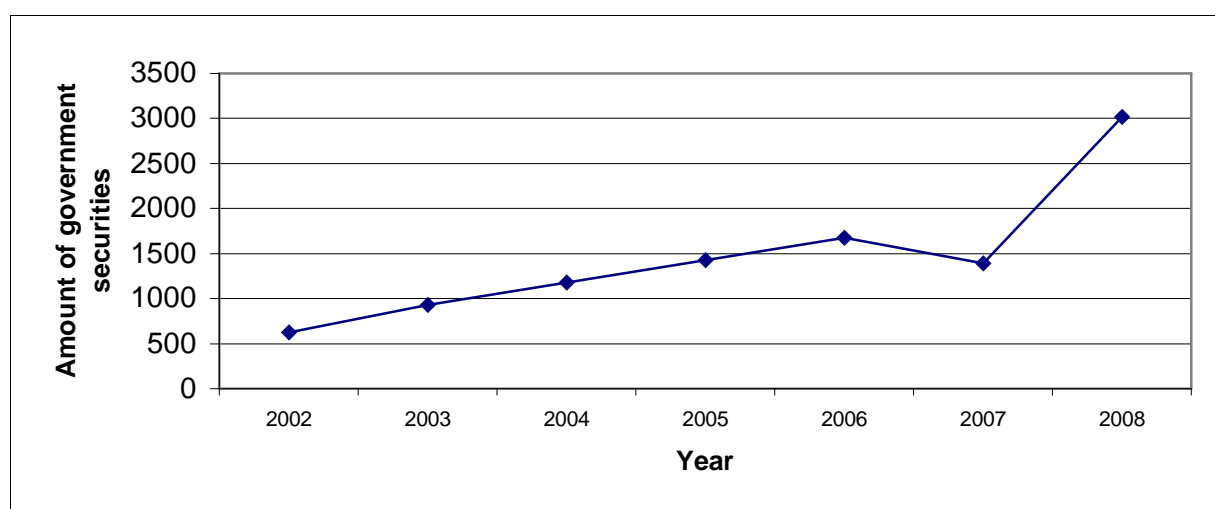
Source: NRB quarterly economic bulletin, Mid July 2008.

\* Growth rate is calculated by taking previous year as base year.

The issuing trend of public saving card is presented by figure as follows:

**Figure 12: Trend Line of Public Saving card**

(Rs in Million)



The above figure-12 shows that the amount of public saving card issued by government is increasing trend and reached to Rs 3014.3 millions in the year 2008 form Rs. 628.1 millions in the year 2002.

The forecasted amount of public saving card from year 2009 to 2012 is given below:

**Table 15: Forecasted amount of public saving card from 2009 to 2012**

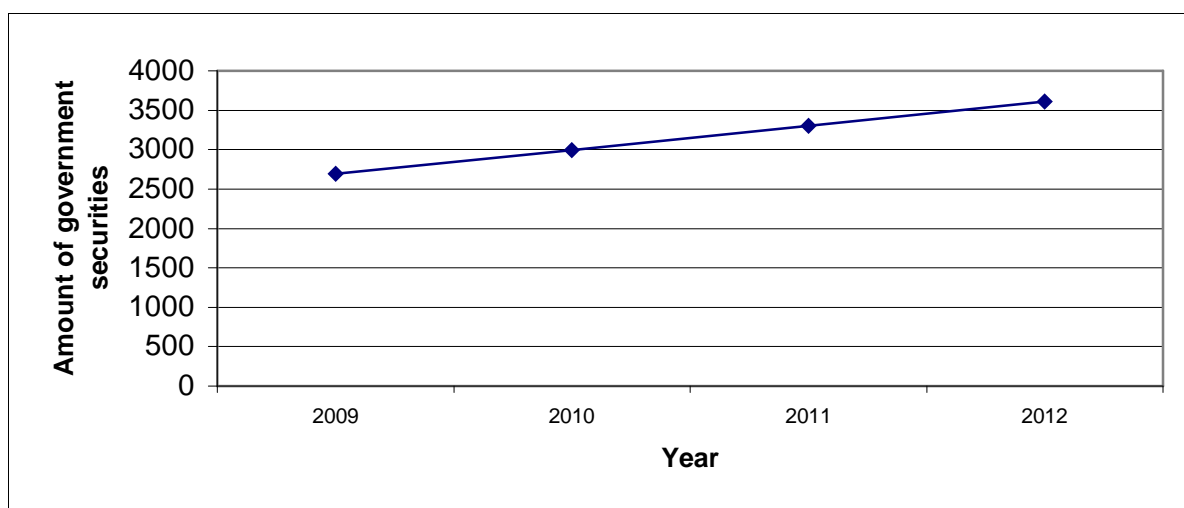
(Rs in Million)

Year	Forecasted amount
2009	2689.94
2010	2996.31
2011	3302.68
2012	3609.05

Source: Appendix-6

**Figure 13: Trend Line of Forecasted amount of Public Saving card**

(Rs in Million)



The above table-15 and figure 13 show that the forecasted amount of Public Saving Card is in increasing trend in every year. The forecasted amount of Public Saving Card is Rs. 3609.05 million in year 2012 which was Rs. 2689.94 million in year 2009.

#### 4.1.4 Key Characteristics and Investors of Nepalese Corporate Debt Securities:

Bonds, unlike common stocks, can have many unique and important characteristics. Though corporations, municipalities and governmental units, however, issue many different types of debt instruments, each having its own characteristics. In Nepal debt securities are not popular. The enterprises depend upon banks for any debt that they want to employ in business. There are only eight issuances of debentures in Nepal till this report writing (upto 2007/2008). In 1997/98 SRSM issued debentures for Rs 93 millions followed by Himalayan Bank Limited in 2001/02 for Rs 360 millions. Similarly, Nepal Investment Bank and Everest Bank Limited have also issued debenture for Rs 300 millions each in 2003/04 and 2004/05 respectively. In the fiscal year 2007/08 Nepal Electricity Corporation, Kumari Bank Ltd, Himalyan Bank Ltd, Nepal Investment Bank Ltd, and Nabil Bank Ltd have also issued debentures worth Rs 2950 millions. Before 1997/98 bottlers Nepal and Jyoti group issued debentures, the record of these issues could not be obtained. Some of most important characteristics of debentures of SRSM, HBL, NIBL, EBL, BOKL, NIC and SBI as corporate debt securities can be presented from the table 16.

**Table 16: Key characteristics of Nepalese corporate debentures:**

S.N.	Characteristics	SRSM	HBL	NIBL	EBL
1	Par value	Rs.1000	Rs.1000	Rs.1000	Rs.1000
2	No. of debentures	93000	360000	300000	300000
3	Coupon rate	14%	8.5%	7.5%	6%
4	Maturity	4 yrs.	7 yrs.	7 yrs.	7 yrs.
5	Nature of interest payment	Semi-annually	Semi-annually	Semi-annually	Semi-annually
6	Provision of sinking fund (each year)	-	Rs.51.429 millions	Rs.43 millions	Rs.60 million (from 3rd year to 7th year)
7	Provision of trustee	Nepal bank limited	-	-	-

8	Convertible: Conversion ratio Conversion price	10 equity shares Rs. 100 each equity share	- -	- -	- -
9	Nature of business	Manufacturing and processing	Banking	Banking	Banking
10	Subscription	Under	Over	Over	Over
11	Purpose of issuing debenture	Expansion of production capacity	To fulfill for supplementary capital	To fulfill for supplementary	To fulfill for supplementary
12	Nature of placement	Public offering	Private placement and public offering	Private placement and public offering	Private placement and public offering
13	Flotation cost	0.50% of total collected	0.54% of total collected	0.13% of total collected	0.092% of total collected
14	Name of issue manager	NIDC	NMB	AFCL	CIT

Source: Prospectus of debentures of SRSM, HBL, NIBL, EBL and Annual Report of NEPSE, 2005/06

**Table 16 (contd.): Characteristics of Nepalese corporate debentures:**

S.N	Characteristics	NIBL	BOKL	NIC	SBI
1.	Par value	Rs.1000	Rs.1000	Rs.1000	Rs.1000
2.	No. of debentures	250000	200000	200000	200000
3.	Coupon rate	6%	6%	6%	6%
4.	Maturity period	7yrs.	7yrs.	7yrs.	7yrs.
5.	Nature of interest payment	Semi-annually	Semi-annually	Semi-annually	Semi-annually
6.	Provision of sinking fund (each year)	Rs.35.751 million	Rs.28.571 millions	Rs.40 millions (from 3rd year to 7th year)	Rs.28.571 million
7.	Provision of trustee	AFCL	-	NIDC	CIT
8.	Convertible: Conversion ratio Conversion price	- -	- -	- -	- -
9.	Nature of business	Banking	Banking	Banking	Banking

10.	Subscription	Over subscribed	Over subscribed	Over subscribed	Over subscribed
11.	Purpose of issuing debenture	To fulfill for supplementary capital	To fulfill for supplementary capital	To fulfill for supplementary capital	To fulfill for supplementary capital
12.	Nature of placement	Private placement and public offering	Private placement and public offering	Private placement and public offering	Private placement and public offering
13.	Flotation cost	0.08% of total collected amount	0.15% of total collected amount	0.0775% of total collected amount	0.14% of total collected amount
14.	Name of issue manager	AFCL	NMB	AFCL	CIT

Sources: Prospectus of debentures of NIBL, NIC, BOKL, and Annual Report of NEPSE, 2005/06

**Par Value:** The par value or the principal amount of a bond indicates the amount of the money that must be repaid at maturity. All firms' debentures par value is Rs. 1000.

**Coupon Interest Rate:** The coupon is established at the time of bond issue and represents the nominal interest rate that will be paid. The coupon interest rates were 14%, 8.5%, 7.5%, and 6.5% for SRSM, HBL, NIBL, and EBL respectively and 6% for last four issues of debentures.

**Maturity Period:** All debentures or bonds, with the exception of perpetual bond, have a maturity date. The maturity period of SRSM is 4 yrs. and 7 yrs. for others. It provides the essential information that is necessary to calculate the term to maturity at the date of issue or at any time during the life of the bond.

**Sinking Fund:** Period payment of the debt is possible if the bond issue is a sinking fund issue. For redemption of the debentures all banks have generated the sinking fund provision by transferring the required amount appropriation account.

**The Trustee:** A company-issuing bond to the public designates a qualified trustee to represent the interests of the bondholders. Nepal Bank Limited used to mediate as a trustee for the bondholders of SRSM. CIT, AFCL, NIDC are also trustee for the debentures of SBI, NIC and NIBL debentures respectively.

**Convertible:** SRSM's debenture was fully convertible and redeemable. Even convertibility depends upon the desire of the investors. The conversion ratio is set at 10 shares per bond while conversion price is set Rs. 100 per share.

**Investors of Nepalese Corporate Debt Securities:**

The key investors of SRSM's debentures were individuals (i.e. 88.30%) where as the institutional investors were only 5.87%.

**Table 17: Key Investors of 14% Redeemable and Convertible Debentures of SRSM:**

(Rs in Millions)

No. of investors	Key investors	Subscribed amount	% on total
1	NIDC capital market Ltd.	1	5.83
3	Other institutions	1.005	5.87
323	Individuals	15.125	88.30
327	Total	17.130	100

Source: Prospectus of SRSM.

NIDC capital market also invested in SRSM debenture to the extent of 5.83 percent. The SRSM had targeted to collect Rs. 93 millions while only Rs. 17.13 millions were collected from the market. Hence, only 18.41 percent debentures were sold along with the coupon interest rate is higher than market interest rate (i.e. 14% > 9.26%). SRSM paid Rs.85650 (i.e. 0.50% of total collected amount) as flotation cost to issue Manager Company.

The key investors of HBL debenture are shown in the following table.

**Table 18: Key investors of 8.5% HBL debenture:**

(Rs. in millions)

No. of investors	Investors	Subscribed amount	% on total amount
1	Nepal Telecom	20	5.56
1	Nepalese Army Kalyan Kosh	150	41.67
2	Insurance companies	40	11.11
9	Financial institutions	0.225	0.06
715	Individuals	131.795	36.60
760	Total	360	100

Source: Prospectus of HBL.

In the case of HBL debentures, individual investors contributed 36.60 percent, which is lower as compared with SRSM debentures. The larger investor is Nepalese Army Kalyan Kosh, followed by insurance companies, Nepal Telecom, other institutions and financial institutions.

Nearly one and half year after the Himalayan Bank Limited, another big Nepalese commercial bank Nepal Investment Bank issued debentures of Rs. 300 millions. The investors of 7.5% NIBL debenture are presented in the following table.

**Table 19 : Key investors of 7.5% NIBL Debenture:**

(Rs. in millions,)

No. of investors	Key investors	Subscribed Amount	% on total
249	Individual investors	100	33.33
1	King Mahendra Trust	200	66.67
1	Nepalese Army Kalyan Kosh		
1	NIBL Retirement fund		
1	CIT		
1	National Life and General Insurance Company		
15	Others		
269	Total	300	100

Source: Prospectus of NIBL

In 2005, an important achievement could be observed in the field of development of debenture market. Another bank Everest Bank has issued Rs.300 millions bonds. It has also become a milestone in this regard. The key investors of 6% EBL debenture are presented in the following table no. 20

**Table 20: Key Investors of 6% EBL Debenture:**

(Rs. in millions)

No. of investors	Key investors	Subscribed amount	% on total amount
143	Individuals	50	16.67
6	Insurance companies	250	83.33
1	Nepalese Army Kalyan Kosh		
1	CIT		
1	Co-operative organizations		
1	Others		
153	Total	300	100

Source: Prospectus of EBL

In the fiscal year 2005/06 four commercial banks have issued debentures worth Rs.850 millions. NIBL again issued debentures worth Rs. 250 millions. The key investors of NIBL debentures are presented in the following table.

**Table 21: Key Investors of 6% NIBL Debentures**

(Rs. in millions)

No. of investors	Key investors	Subscribed amount	% on total
69	Individual investors	80	32
1	CIT	170	68
1	NIBL retirement fund		
1	Nepalese Army Kalyan Kosh		
72	total	250	100

Source: Prospectus of NIBL

Another big commercial bank Nepal SBI bank limited has also issued debentures amounted to Rs.200 millions. The key investors of 6% SBI debentures are presented in the following table.

**Table 22: Key Investors of 6% SBI Debentures**

(Rs. in Million)

No. of investors	Key investors	Subscribed amount	% on total
1	Rastiya Beema Sansthan	50	25
1	National life Insurance	7.50	3.75
1	CIT	20	10
1	LIC Nepal	65	32.50
1	Sagarmatha Insurance Co.	2.50	1.25
2	Others	49.60	24.80
7	Individual Investors	5.40	2.70
14	Total	200	100

Source: Prospectus of SBI Bank

Similarly in the fiscal year 2005/06 BOKL has issued debentures worth Rs.200 millions. The key investors of 6% BQKL debentures are as follows:

**Table 23: Key Investors of BOKL 6% Debentures**

(Rs in Million)

No. of investors	Key investors	Subscribed amount	% on total
1	Rastiya Banijya Bank	150	75
1	National life Insurance		
1	CIT		
1	King Mahendra Trust		
7	Others		
22	Individual Investors	50	25
33	Total	200	100

Source: Prospectus of BOKL

NIC Bank has also issued debentures amounted to Rs.200 millions in the fiscal year 2005/06. The key investors of 6% NIC debentures are as follows.

**Table 24: Key Investors of NIC Debentures**

(Rs. in millions)

No. of investors	Key investors	Subscribed amount	% on total
7	Individual investors	50	25
1	Rastiya Beema Sansthan	50	25
1	CIT	100	50
9	Total	200	100

Source: Prospectus of NIC

In the case of SBI debentures, individual investors contributed only 2.70 percent, which is lower than that of SRSM, HBL, BOKL, NIC, EBL and NIBL debentures. In this way the percentage of individual investors has been decreasing.

#### **4.1.4.1 Trend of Issuing Debentures:**

To fulfill the companies' financial crises, different corporations are issuing different kinds of securities to collect the required fund. Government and corporate bodies have

issued bond and debentures. In the contest of corporate bodies, Bottlers Nepal Limited, Jyoti Spinning Mills, Shree Ram Sugar Mills, Himalayan Bank Limited, Everest Bank Limited, Nepal Investment Bank Limited, and Bank of Kathmandu have already issued debentures. Out of them, some have been already redeemed; some are still exist in the market. Proportions of the amount of debentures issued by different corporate bodies out of total issued amount of securities from the fiscal year 1996/97 to, 2007/08 are as follows:

**Table 25: Amount of debentures issued out of total issued amount:**

(Rs. in millions)

Year	Total issued amount	Cumulative amount of total issued	Amount of debenture issue	Cumulative amount of debenture issue	% of debenture issue	Total no. of issue
1996/97	332.20	1224.55	-	-	-	5
1997/98	465.36	1686.91	93	93	5.513	12
1998/99	258.00	1944.91	-	93	4.782	5
1999/00	630.31	2575.22	-	93	3.61	9
2000/01	717.20	3292.42	-	93	2.82	9
2001/02	1555.11	4847.53	360	453	9.35	16
2002/03	853.83	5701.36	-	453	7.95	17
2003/04	1547.20	7248.56	300	753	10.39	16
2004/05	1315.80	8564.36	300	1053	12.30	12
2005/06	2443.30	11007.60	850	1903	17.29	29
2006/07	2995.5	14003.16	250	2153	15.37	34
2007/08	10668.20	24671.36	2950	5103	20.68	64
Total	11007.60	-	1903	-	-	171

Source: SEBO/N, Annual Report 2007/08.

Since, the first years of time period (i.e. fiscal year 1996/97), there was not any debenture issued. But in the fiscal year 1997/98 SRSM issued debenture amounted to Rs. 93 millions, which covers only 5.513% on total issued amount. After then three years, no any debenture was issued. In the fiscal year 2001/02 HBL issued debenture, so the percentage of debenture issued covered in total issue

increased to 9.35%. Similarly, in the last three years of the study period, NIBL issued debentures amounted to Rs. 300 millions in 2003/04. Hence the percentage of the debenture issue on total issue amount increased to 10.39% and EBL issued debentures amounted to Rs. 300 millions then the percentage of issuing debentures increased to 12.30%. In this fiscal year 2007/08 Nepal Electricity Corporation, Kumari Bank Ltd, Himalyan Bank Ltd, Nepal Investment Bank Ltd ,and Nabil Bank Ltd have issued debenture amounted to Rs. 2950 millions, so the percentage of debentures issue on total issued amount increased to 20.68%.

All the corporations issue various securities to collect the needed fund. During the study period from the fiscal year 1996/97 to 2007/08, there are made 228 issues, out of them only eight issues are made through debentures. Concluding the all above mentioned, it is clearly shown that the issuance of debentures is increased and from this trend the researcher expects that it will increase in future. It can be shown the bright prospects of the corporate debenture market in Nepal.

#### **4.1.4.2 Forecasting of Corporate Debentures in Nepal:**

In the Nepalese contest, the corporate bodies have issued various kinds of securities to raise capital. Out of them debenture is a kind of securities used by some companies. Bottlers Nepal Limited, SRSM, HBL, NIBL, EBL, BOKL, NIC and SBI bank have issued debentures. The debenture of Bottlers Nepal limited has already been matured before the observed period.

**Table 26: Time series analysis of Nepalese Corporate Debenture market**

year	Amount of corporate debenture (y)	Deviation from 1999/2000 (x)	x <sup>2</sup>	xy
1997/98	93	-5	25	-465
1998/99	0	-4	16	0
1999/00	0	-3	9	0
2000/01	0	-2	4	0

2001/02	360	-1	1	-360
2002/03	0	0	0	0
2003/04	300	1	1	300
2004/05	300	2	4	600
2005/06	850	3	9	2550
2006/07	2995.5	4	16	11982
2007/08	10668.20	5	25	53341
Total	15566 .7	0	110	67948

The equation of trend line is  $y = a+bx$

$$a = \frac{\phi y}{N} \times \frac{15566.7}{11} = 1415.15$$

$$b = \frac{\phi XY}{\phi X^2} \times \frac{67948}{110} = 617.71$$

### Forecasted value of corporate debenture:

The above equation is used to forecast the amount of corporate bond and debenture for the fiscal year 2008/09, 2009/10, 2010/11, and 2011/12. Here the amount of debentures issued by corporate bodies for four years has been estimated below using the trend line equation.

Where for the year

$$2008/09, x = 9 \quad 2010/11, x = 11$$

$$2009/10, x = 10 \quad 2011/12, x = 12$$

The forecasted amount of corporate debenture issue for 2008/09:

$$\begin{aligned} Y_{2008/09} &= 1415.15 + 617.71 \times 9 \\ &= \text{Rs.}6974.54 \text{ millions} \end{aligned}$$

The forecasted amount of corporate debenture issue for 2009/10:

$$Y_{2009/10} = 1415.15 + 617.71 \times 10 = \text{Rs.}7592.25 \text{ millions}$$

The forecasted amount of corporate debenture issue for 2010/11:

$$Y_{2010/11} = 1415.15 + 617.71 \times 11 = \text{Rs.}8209.96 \text{ millions}$$

The forecasted amount of corporate debenture issue for 2011/12:

$$Y_{2011/12} = 1415.15 + 617.71 \times 12 = \text{Rs.}8827.67 \text{ millions}$$

**Table 27: Forecasted total amount of corporate debenture from year 2008/09 to 2011/12.**

(Rs. in millions)

Year	Forecasted Amount
2008/09	6974.54
2009/10	7592.25
2010/11	8209.96
2011/12	8827.67

The above Table-27 forecasted value of the corporate debenture can also be presented in figure as follows:

**Figure 14: Trend Line of Forecasted amount of Debenture Issue**

(Rs in Million)

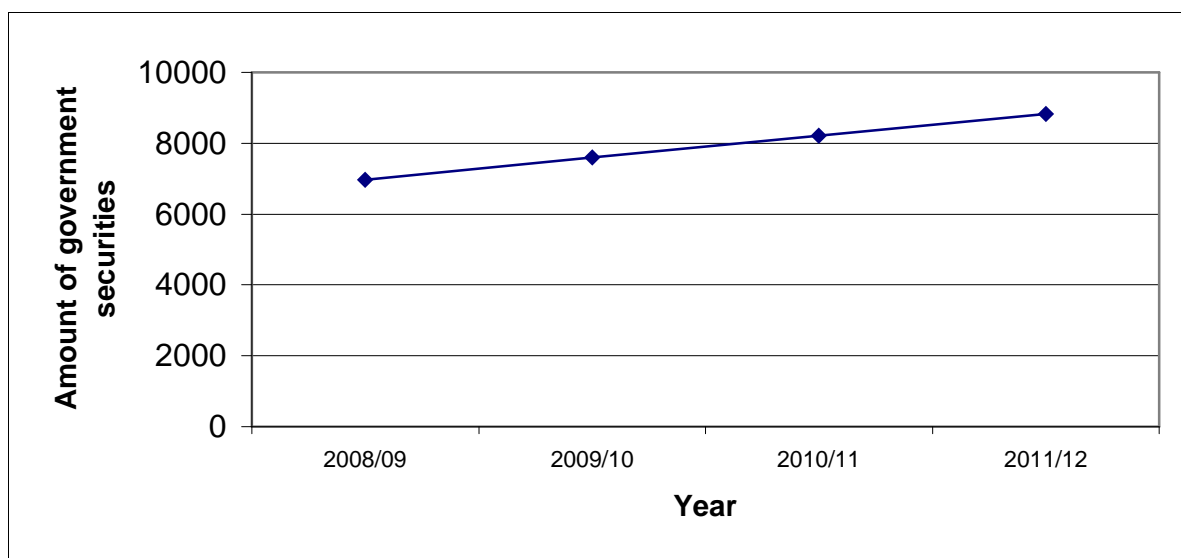


Figure 14 shows the forecasted amount of corporate debenture is an increasing trend. The trend line is up warding form left to right side.

## **4.2 Presentation and Analysis of Primary Data:**

### **4.2.1 Introduction:**

For the purpose of presentation and analysis of primary data, a set of questionnaires of 10 questions has been prepared. These questionnaires deal with study of opinions of 100 respondents regarding the major problem faced by the debt securities market of Nepal. Out of total respondents, 25 represent the listed companies, 35 belong to individual investors and 40 belong to brokers, market makers and other experts mainly the staff of NRB, NEPSE and SEBO. In order to assess whether the difference in the opinions of the listed companies, individual investors and other experts, chi-square test of hypothesis is used.

### **4.2.2 Analysis of Questionnaires:**

#### **1. Preference for types of securities:**

In respect of preference for types of securities, the majority of respondents from companies, individual investors and brokers, market makers and other experts gave the first priority to common stock, second priority to government securities, third to corporate bond and fourth to preference share. Companies gave the first priority to government securities, whereas individual investors, brokers, market makers and other experts gave the first priority to common stock and preference stock is in the last priority to invest for all sectors.

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

To test whether the difference in the opinions of the respondents is significant, the ( $\chi^2$ ) chi-square test is employed. In the random samples of 100 respondents, it contains the following distribution which was noted on the basis of related fields.

**Table 28: Frequencies of Responses regarding the preferences for types of securities**

Statements	Listed companies	Individual investors	Brokers, market makers and other experts	Total
Common stock	7	15	20	42
Corporate debenture	6	8	9	23
Preference share	2	3	4	9
Government securities	10	9	7	26
Total	25	35	40	100

Source: Field Survey

**Hypothesis setting:**

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between observed and expected frequencies regarding the preference for types of securities.

**Alternative Hypothesis (H<sub>1</sub>):** There is significant difference between observed and expected frequencies regarding the preference for types of securities.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

$$\begin{aligned} \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \mid \text{Column Total}}{\text{Grand Total}} \\ &= \frac{42 \mid 25}{100} = 10.50 \end{aligned}$$

Similarly,

	$R_1C_2 = 14.70$	$R_1C_3 = 16.80$
$R_2C_1 = 5.75$	$R_2C_2 = 8.05$	$R_2C_3 = 9.20$
$R_3C_1 = 2.25$	$R_3C_2 = 3.15$	$R_3C_3 = 3.60$
$R_4C_1 = 6.50$	$R_4C_2 = 9.10$	$R_4C_3 = 10.40$

### Test of Chi-square:

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
7	10.50	-3.50	1.166667
15	14.70	0.30	0.00612
20	17.80	2.20	0.27191
6	5.75	0.25	0.01087
8	8.05	-0.05	0.00031
9 2 3 4 } 18	9.20 2.25 3.15 3.60 } 18.20	-0.20	0.00220
10	6.50	3.50	1.88462
9	9.10	-0.10	0.00110
7	10.40	-3.40	1.11154
Total			4.45534

$$\text{Calculated value of } \chi^2 = \frac{(O-E)^2}{E} = 4.45534$$

$$\begin{aligned} \text{Degree of freedom (d.f.)} &= (R-1)(C-1) - 3 \text{ [Since 3 d.f. loss due to pooling]} \\ &= (4-1)(3-1) - 3 \\ &= 3 \end{aligned}$$

Tabulated value of  $\chi^2$  at 5% level of significance for 3 degree of freedom is 7.815.

**Decision:** Since the tabulated value of  $\chi^2$  at 5% level of significance for 4 degree of freedom is greater than calculated value (i.e.  $7.815 > 4.45534$ ), the null hypothesis is accepted which means that there is no significance difference between observed and expected frequencies regarding the preferences for the types of securities.

### 2. Preference of Sector to Invest:

Out of 100 respondents, 61% of them give their opinion that banking sectors debenture is most preferable for investment. 20% of them give their opinion in favour of manufacturing sectors debenture. 6% of them show their preference on hotel sector and 13% shows their preference on trading sector.

According to them, efficient management, creative return, promising growth rate and timely disclosure of information are the key incentives behind the confidence in the banking sector.

**Testing of Hypothesis:**

To test whether the opinions of the respondents is significant, chi-square ( $\chi^2$ ) test is employed. In the random samples of 100 respondents, it contains the following distribution which was noted on the basis of related fields.

**Table 29: Opinion of respondents regarding the preference of sector to invest.**

Statements	Listed companies	Individual investors	Brokers, market markers and other experts	Total
Banking sector	16	23	22	61
Manufacturing sector	5	7	8	20
Hotel sector	1	3	2	6
Trading sector	3	2	8	13
Total	25	35	40	100

Source: Field Survey

**Hypothesis setting:**

**Null Hypothesis (H<sub>0</sub>):** There is no significance difference between observed and expected frequencies regarding the preference of sector to invest.

**Alternative Hypothesis (H<sub>1</sub>):** There is significant difference between observed and expected frequencies regarding the preference of sector to invest.

Fixing the level of significance of 5%

Calculation of expected frequencies (E):

$$\begin{aligned}
 \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \mid \text{Comumn Total}}{\text{Grand Total}} \\
 &= \frac{61 \mid 25}{100} \\
 &= 15.25
 \end{aligned}$$

Similarly,

	$R_1C_2 = 21.35$	$R_1C_3 = 24.40$
$R_2C_1 = 5$	$R_2C_2 = 7$	$R_2C_3 = 8$
$R_3C_1 = 1.50$	$R_3C_2 = 2.10$	$R_3C_3 = 2.40$
$R_4C_1 = 3.25$	$R_4C_2 = 4.55$	$R_4C_3 = 5.20$

**Test of chi-square:**

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
16	15.25	0.75	0.12752
23	21.35	1.65	0.23607
22	24.40	-2.40	0.23607
5	5	0	0
7	7	0	0
8	8	0	0
1 3 2 3 2 8	1.50 2.10 2.40 3.25 4.55 5.20	0	0
Total			0.40048

Calculated value of  $\chi^2 = \frac{(O-E)^2}{E} = 0.40048$

Degree of freedom (d.f.) = (R-1) (C-1) - 5 [Since 5 d.f. loss due to pooling]  
= 1

Tabulate value of  $\chi^2$  at 5% level of significance for 1 degree of freedom is 3.841.

**Decision:** Since the tabulated value of  $\chi^2$  at 5% level of significant for 1 degree of freedom is greater than calculated value (i.e. 3.841 > 0.40048), the null hypothesis is accepted which means that there is no significant difference between observed and expected frequencies regarding the preference of sector to invest.

### 3. Reasons for slow growth of debt security market:

Out of 100 students, 42% of them give their opinion that the major factor is lack of investor's awareness. 31% of them give their opinion in favour of insufficient supply of debt securities. 18% of them give their opinion in favour of lack of capital gain opportunity and rest of them shows their preferences on unsuitable interest rate.

#### Testing of Hypothesis:

To test whether the opinions of the respondents is significant, chi-square ( $\chi^2$ ) test is employed. In the random samples of 100 respondents, it contains the following distribution which was noted on the basis of related fields.

**Table 30: Opinion of respondents regarding to the reason for the slow growth of debt securities market**

Statements	Listed companies	Individual investors	Brokers market and other experts	Total
Insufficient supply of debt securities	7	14	10	31
Lack of investors awareness	12	8	22	42
Unsuitable interest rate	1	6	2	9
Lack of capital gain opportunity	5	7	6	18
Total	25	35	40	100

Source: Field Survey

#### Hypothesis Setting:

**Null hypothesis ( $H_0$ ):** There is no significant difference between observed and expected frequencies regarding the reason for the slow growth of debt securities market.

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

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

$$\begin{aligned} \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \mid \text{Column Total}}{\text{Grand Total}} \\ &= \frac{31 \mid 25}{100} \\ &= 7.75 \end{aligned}$$

Similarly,

$$\begin{array}{lll} R_1C_2 = 10.85 & & R_1C_3 = 12.40 \\ R_2C_1 = 10.50 & R_2C_2 = 14.70 & R_2C_3 = 16.80 \\ R_3C_1 = 2.25 & R_3C_2 = 3.15 & R_3C_3 = 3.60 \\ R_4C_1 = 4.50 & R_4C_2 = 6.30 & R_4C_3 = 7.20 \end{array}$$

**Test of Chi-square**

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{(O - E)^2}{E}$		
7	7.75	-0.75	0.07258		
14	10.85	3.15	0.91452		
10	12.40	-2.40	0.46452		
12	10.50	1.50	0.21429		
8	14.70	-6.70	3.05374		
22	16.80	5.20	1.60952		
1 6 2 5 7	2.25 3.15 3.60 4.50 6.30	1.2	0.07273		
6	7.20			-1.2	0.2
Total					6.6019

$$\text{Calculated value of } \chi^2 = \frac{(O - E)^2}{E} = 6.6019$$

$$\begin{aligned} \text{Degree of freedom (d.f.)} &= (R-1)(C-1) - 4 \text{ [Since 4 d.f. loss due to pooling]} \\ &= 2 \end{aligned}$$

Tabulated value of  $\chi^2$  at 5% level of significance for 2 degree of freedom is 5.991.

**Decision:** Since the calculated value of  $\chi^2$  is greater than the tabulated value of  $\chi^2$  (i.e. 6.6019 > 5.991), the null hypothesis is rejected and alternative hypothesis is accepted which means that there is significant difference between observed and expected opinion regarding the reason for slow growth of debt securities market in Nepal.

#### 4. Issuance procedure of debenture and common stock:

Out of 100 students, majority of respondents (61%) agreed that issuance procedure of debenture is much more difficult than the issuance of common stock. According to them, issuance procedure of debenture is difficult because of compulsory involvement of trustee and lack of efficient issue managers. 26% of respondents agreed that debenture issuance procedure is not difficult and rest of respondents don't know about it.

#### Testing of Hypothesis:

To test whether the opinion of the respondents is significant, chi-square ( $\chi^2$ ) test is employed. In the random samples of 100 respondents, following distribution of opinions has been obtained during the field survey.

**Table –31: Opinion of respondents regarding the issuance procedure of debenture and common stock**

Statements	Listed companies	Individual investors	Brokers, market makers and other experts	Total
Yes	20	15	26	61
No	5	11	10	26
Don't know	0	9	4	13
Total	25	35	40	100

Source: Field Survey

#### Hypothesis setting:

**Null Hypothesis ( $H_0$ ):** There is no significant difference between observed and expected frequencies regarding the issuance procedure of debenture and common stock.

**Alternative Hypothesis (H<sub>1</sub>):** There is significant difference between observed and expected frequencies regarding the issuance procedure of debenture and common stock.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

$$\begin{aligned} \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \mid \text{Column Total}}{\text{Grand Total}} \\ &= \frac{61 \mid 25}{100} \\ &= 15.25\% \end{aligned}$$

Similarly,

$$\begin{array}{lll} R_1C_2 = 21.35 & & R_1C_3 = 24.40 \\ R_2C_1 = 6.50 & & R_2C_3 = 10.40 \\ R_3C_1 = 3.25 & & R_3C_3 = 5.20 \\ R_2C_2 = 9.10 & & \\ R_3C_2 = 4.55 & & \end{array}$$

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
20	15.25	4.75	1.47951
15	21.35	-6.35	1.88864
26	24.40	1.60	0.10492
5	6.50	-1.50	0.34615
11	9.10	1.90	0.39670
10	10.40	-0.40	0.01538
0 9 4 } 13	3.25 4.55 5.20 } 13	0	0
Total			4.2313

$$\begin{aligned} \text{Calculated value of Chi-square} &= \sum \frac{(O-E)^2}{E} \\ &= 4.2313 \end{aligned}$$

$$\begin{aligned} \text{Degree of freedom (d.f.)} &= (R-1) (C-1)-2 \text{ [Since 2 d.f. loss due to pooling]} \\ &= 2 \end{aligned}$$

Tabulate value of  $\chi^2$  at 5% level of significance for 2 degree of freedom is 5.991.

**Decision:** Since tabulated value of  $\chi^2$  is greater than the calculated value of  $\chi^2$  (i.e.  $5.991 > 4.2313$ ) the null hypothesis is accepted which means that there is no significance difference between observed and expected opinion regarding the issuance procedure of debenture and issuance procedure of common stock.

**5. Reasons behind use of bank loan instead of issuing debenture:**

Out of 100 respondents, 37% of them give their opinion that bank loan is easily available due to which most of Nepalese organizations use bank loan instead of issuing debenture. 23% of them give their view that cost of bank loan is less than cost of debenture. Another 24% give their opinion that issuing debenture is a difficult process and rest 16% give their view that due to volatility market interest rate, Nepalese organizations use bank loan instead of issuing debenture.

**Testing of Hypothesis:**

To test whether the difference in the opinions of respondents is significant, chi-square ( $\chi^2$ ) test of hypothesis is employed. In the random samples of 100 respondents following distribution of opinions has been obtained during the field survey.

**Table 32: Opinion of respondents regarding the use of bank loan instead of debenture.**

Statements	Listed companies	Individual investors	Brokers, market makers and other experts	Total
Bank loan is easy to available	8	15	14	37
Cost of bank loan is less than cost of debenture	7	6	10	23
Issuing debenture is difficult process	6	9	9	24
Due to volatility market interest	4	5	7	16

rate				
Total	25	35	40	100

Source: Field Survey

**Hypothesis setting:**

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between observed and expected opinions regarding the use of bank instead of debenture issue.

**Alternative hypothesis (H<sub>1</sub>):** There is significant difference between observed and expected opinions regarding the use of bank loan instead of debenture issue.

Fixing the level of significance at 5%.

Calculation of expected frequencies (E):

$$\begin{aligned}
 \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \times \text{Column Total}}{\text{Grand Total}} \\
 &= \frac{37 \times 25}{100} \\
 &= 9.25
 \end{aligned}$$

Similarly,

	$R_1C_2 = 12.95$	$R_1C_3 = 14.80$
$R_2C_1 = 5.75$	$R_2C_2 = 8.05$	$R_2C_3 = 9.20$
$R_3C_1 = 6.00$	$R_3C_2 = 8.40$	$R_3C_3 = 9.60$
$R_4C_1 = 4.00$	$R_4C_2 = 5.60$	$R_4C_3 = 6.40$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
8	9.25	-1.25	0.16892
15	12.95	2.05	0.32452
14	14.80	-0.80	0.04324
7	5.75	1.25	0.27174
6	8.05	-0.05	0.52205

10	9.20	0.80	0.06957
6	6	0	0
9	8.40	0.60	0.04286
9	9.60	-0.60	0.0375
4	4		
5	9	5.60	9.60
		-0.60	0.0375
7	6.40	0.60	0.05625
Total			1.57415

$$\begin{aligned} \text{Calculate value of Chi-square} &= \phi \frac{\sum \frac{f_{OZEA}}{E}}{E} \\ &= 1.57415 \end{aligned}$$

$$\begin{aligned} \text{Degree of freedom (d.f.)} &= (R-1)(C-1)-1 \text{ [Since 1 d.f. loss due to pooling]} \\ &= 5 \end{aligned}$$

Tabulated value of  $\chi^2$  at 5% level of significance for 2 degree of freedom is 11.070.

**Decision :** since tabulated value of  $\chi^2$  is greater than calculated value (i.e.  $11.070 > 1.57415$ ), the null hypothesis is accepted which means that there is no significance difference between observed and expected opinions regarding the use of bank loan instead of issuing debenture.

#### **6. Reasons of inventor's preference to invest on debt securities:**

In respect of reasons to invest on debt securities, majority of respondents (56%) gave the first priority to its fixed income, second priority (24%) to the less risk involvement and third priority (20%) to the higher interest rate than market interest rate.

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

To test whether the difference in the opinions of the respondents is significant, chi-square ( $\chi^2$ ) test is employed. In the random samples to 100 respondents following distribution of opinions has been obtained during the field survey.

**Table 33: Opinion of Respondents Regarding the Reasons of Investors preference to invest on debt securities**

Statements	Listed companies	Individual investors	Brokers, market makers and other experts	Total
It provides fixed income	11	23	22	56
It involves less risk	8	7	9	24
It gives higher rate of return than market	6	5	9	20
Total	25	35	40	100

Source: Field Survey

**Hypothesis Setting:**

**Null hypothesis (H<sub>0</sub>):** There is no significant difference between observed and expected opinion regarding the reasons to invest on debt securities.

**Alternative Hypothesis (H<sub>1</sub>):** There is significant difference between observed and expected opinion regarding the reasons to invest on debt securities.

Fixing the level of significance at 5%

Calculated of expected frequencies (E):

$$\begin{aligned}
 \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \mid \text{Column Total}}{\text{Grand Total}} \\
 &= \frac{56 \mid 25}{100} \\
 &= 14
 \end{aligned}$$

Similarly,

	$R_1C_2 = 19.60$	$R_1C_3 = 22.40$
$R_2C_1 = 6$	$R_2C_2 = 8.40$	$R_2C_3 = 9.60$
$R_3C_1 = 5$	$R_3C_2 = 7$	$R_3C_3 = 8$

### Test of Chi-square:

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{f_0 - E}{E}$
11	14	-3	0.64286
23	19.60	3.40	0.58980
22	22.40	-0.40	0.00714
8	6	2	0.66667
7	8.40	-1.40	0.23333
9	9.60	-0.6	0.0375
6	5	1	0.2
5	7	-2	0.57143
9	8	1	0.125
Total			3.07373

$$\begin{aligned}\text{Calculated value of Chi-square} &= \sum \frac{f_0 - E}{E} \\ &= 3.07373\end{aligned}$$

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

Tabulated value of  $\chi^2$  at 5% level of significance for 4 degree of freedom is 9.488.

**Decision:** since tabulated value of  $\chi^2$  is greater than calculated value (i.e.  $9.488 > 3.0733$ ), the null hypothesis is accepted which means that there is no significance difference between observed and expected opinions regarding reasons to invest on debt securities.

### 7. Debentures having the features of warrant attached and conversion:

Out of 100 respondents, 57% of them are familiar with the debentures having the features of warrant attached and conversion. 43% of respondents gave their opinion that they are not familiar with the debentures having the features of warrant attached and conversion.

#### Testing of Hypothesis:

To test whether the difference in opinions of respondents is significant, chi-square ( $\chi^2$ ) test is employed. In the random samples of 100 respondents following distribution of opinions has been obtained during the field survey.

**Table 34 : Opinion of Respondents Regarding the familiar with the debentures having the features of warrant attached and conversion**

Statements	Listed companies	Individual investors	Brokers, market makers and other experts	Total
Yes	22	6	29	57
No	3	29	11	43
Total	25	35	40	100

Source: Field Survey

**Hypothesis setting:**

**Null Hypothesis (H<sub>0</sub>) :** There is no significant difference between observed and expected opinions regarding the familiar with the debentures having the features of warrant attached and conversion.

**Alternative Hypothesis (H<sub>1</sub>):** There is significant difference between observed and expected opinions regarding the familiar with the debentures having the features of warrant attached and conversion.

Fixing the level of significance at 5%.

Calculation of expected frequencies (E):

$$\begin{aligned}
 \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \mid \text{Column Total}}{\text{Grand Total}} \\
 &= \frac{57 \mid 25}{100} \\
 &= 14.25
 \end{aligned}$$

Similarly,

$$\begin{array}{lll}
 R_1C_2 = 19.95 & & R_1C_3 = 22.80 \\
 R_2C_1 = 10.75 & R_2C_2 = 15.05 & R_2C_3 = 17.20
 \end{array}$$

### Test of chi-square:

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{fO - ZE}{E}$
22	14.25	7.75	4.21491
6	19.95	-13.95	9.75451
29	22.80	6.20	1.68597
3	10.75	-7.75	5.58721
29	15.05	13.95	12.93040
11	17.20	-6.20	2.23488
Total			36.40788

$$\begin{aligned}\text{Calculated value of Chi-square} &= \sum \frac{fO - ZE}{E} \\ &= 36.40788\end{aligned}$$

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

Tabulated value of  $\chi^2$  at 5% level of significance for 2 degree of freedom is 5.991

**Decision :** Since calculated value of  $\chi^2$  is greater than tabulated value of  $\chi^2$  (i.e. 36.40788 > 5.991), the null hypothesis is rejected and alternative hypothesis is accepted which means that there is significant difference between observed and expected opinions regarding the familiar with the debentures having the features of warrant attached and conversion.

### 8. Sufficiency of legal provision regarding debt securities market in Nepal:

Out of 100 respondents, 26% of them agree that the existing legal provisions are sufficient for the growth of debt market in Nepal. While 51% respondents disagree about sufficiency of legal provision for the growth of debt market in Nepal and rest of 23% respondents don't know about it.

### Testing of Hypothesis:

To test whether the difference in the opinions of respondents is significant, chi-square ( $\chi^2$ ) test is employed. In the random samples of 100 respondents following distribution of opinions has been obtained during the field survey.

**Table 35: Opinion of Respondents regarding to the sufficiency of legal provision related to debt securities market in Nepal**

Statements	Listed companies	Individual investors	Brokers, market makers and other experts	Total
Sufficient	6	11	9	26
Insufficient	15	14	22	51
Don't know	4	10	9	23
Total	25	35	40	100

Source: Field Survey

### Hypothesis setting:

**Null Hypothesis ( $H_0$ ):** There is no significant difference between observed and expected opinions regarding to the sufficiency of legal provision related to debt securities market in Nepal.

**Alternative Hypothesis ( $H_1$ ):** There is significant difference between observed and expected opinions regarding to the sufficiency of legal provision related to debt securities market in Nepal.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

$$\begin{aligned} \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \mid \text{Column Total}}{\text{Grand Total}} \\ &= \frac{26 \mid 25}{100} = 6.50 \end{aligned}$$

Similarly,

$$\begin{array}{lll} R_1C_2 = 9.10 & & R_1C_3 = 10.40 \\ R_2C_1 = 12.75 & R_2C_2 = 17.85 & R_2C_3 = 20.40 \\ R_3C_1 = 5.75 & R_3C_2 = 8.05 & R_3C_3 = 9.20 \end{array}$$

### Testing of Chi-square:

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{fO - ZE}{E}$
6	6.50	-0.50	0.03846
11	9.10	1.90	0.39670
9	10.40	-1.40	0.18846
15	12.75	2.25	0.39706
14	17.85	-3.85	0.83039
22	20.40	1.60	0.12549
4	5.75	-1.75	0.53261
10	8.05	1.95	0.47236
9	9.20	-0.20	0.004435
Total			2.98588

$$\begin{aligned}\text{Calculated value of Chi-square} &= \sum \frac{fO - ZE}{E} \\ &= 2.985588\end{aligned}$$

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

Tabulated value of  $\chi^2$  at 5% level of significance for 4 degree of freedom is 9.488.

**Decision :** Since tabulated value of  $\chi^2$  is greater than calculated value of  $\chi^2$  (i.e.  $9.488 > 2.98588$ ), the null hypothesis is accepted which means that there is no significance difference between observed and expected opinions regarding to the sufficiency of legal provision related to debt securities market in Nepal.

### 9. Systematism of government debt securities market in Nepal:

Out of 100 respondents, 21% of them think that government debt securities market in Nepal is systematic. 63% of respondents gave their opinions that government debt securities market is not systematic in Nepal and rest of 16% does not know about it.

### **Testing of Hypothesis:**

To test whether the difference in the opinion of respondents is significant, chi-square ( $\chi^2$ ) test is employed. In the random samples of 100 respondents following distribution of opinions has been obtained during the field survey.

**Table 36: Opinion of respondents regarding to the systematism of government debt securities market in Nepal**

Statements	Listed companies	Individual investors	Brokers, market makers and other experts	Total
Systematic	6	8	7	21
Not systematic	17	18	28	63
Don't know	2	9	5	16
Total	25	35	40	100

Source: Field Survey

### **Hypothesis setting:**

**Null Hypothesis ( $H_0$ ):** There is no significant difference between observed and expected opinions regarding to the systematic of government debt securities market in Nepal.

**Alternative hypothesis ( $H_1$ ):** There is significant difference between observed and expected opinion regarding to the systematism of government debt securities market in Nepal.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

$$\begin{aligned} \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \mid \text{Column Total}}{\text{Grand Total}} \\ &= \frac{21 \mid 25}{100} \\ &= 5.25 \end{aligned}$$

Similarly,

$$R_1C_2 = 7.35$$

$$R_1C_3 = 8.40$$

$$R_2C_1=15.75 \quad R_2C_2 = 22.05 \quad R_2C_3 = 25.20$$

$$R_3C_1=4.00 \quad R_3C_2 = 5.60 \quad R_3C_3 = 6.40$$

**Testing of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{f_0 - E}{E}$
6	5.25	0.75	0.10714
8	7.35	0.65	0.05748
7	8.40	-1.40	0.245
17	15.75	1.25	0.09921
18	22.05	-4.05	0.74388
28	25.20	2.80	0.3111
2 } 9 } 11	4.00 } 5.60 } 9.60	1.40	0.20417
5	6.40	-1.40	0.30625
Total			2.07424

$$\text{Calculated value of Chi-square} = \sum \frac{f_0 - E}{E}$$

$$= 2.07424$$

$$\text{Degree of freedom (d.f.)} = (R-1)(C-1) - 1 \text{ [Since 1 d.f. loss due to pooling]}$$

$$= 3$$

Tabulated value of  $\chi^2$  at 5% level of significance for 3 degree of freedom is 7.815.

**Decision:** Since tabulated value of  $\chi^2$  is greater than calculated value of  $\chi^2$  (i.e.  $7.815 > 2.07428$ ), the null hypothesis is accepted which means that there is no significance difference between observed and expected opinions regarding to the systematism of government debt securities market in Nepal.

**10. Requirement of corporate bond rating agency to boost the confidence of investors towards Nepalese corporate debenture:**

Out of 100 respondents, the majority of respondents (70%) agreed on the point that corporate bond rating will be helpful in boosting the confidence of investors toward Nepalese corporate debenture market. They believe that an independent rating agency helps them to analyze the past performance, to forecast the future prospects by using different financial and statistical tools. Only 9% of respondents disagreed about the requirement of rating agency and rest of 21% does not know about the requirement and role of corporate bond rating agency.

**Testing of Hypothesis:**

To test whether the opinions of the respondents is significant, the chi-square ( $\chi^2$ ) test is employed. In the random samples of 100 respondents, following distribution of opinions has been obtained during the field survey.

**Table 37: Opinion of Respondents regarding the requirement of corporate bond rating agency to boost the confidence of investors towards Nepalese corporate debenture market**

Statements	Listed companies	Individual investors	Brokers, market makers and other experts	Total
Agree	20	19	31	70
Disagree	2	5	2	9
Don't know	3	11	7	21
Total	25	35	40	100

Source: Field Survey

**Hypothesis setting:**

**Null Hypothesis ( $H_0$ ):** There is no significant difference between observed and expected opinions regarding requirement of corporate bond rating agency to boost the confidence of investors towards Nepalese corporate debenture market.

**Alternative hypothesis ( $H_1$ ):** There is significant difference between observed and expected opinions regarding requirement of corporate bond rating agency to boost the confidence of investors towards Nepalese corporate debenture market.

rating agency to boost the confidence of investors towards Nepalese corporate debenture market.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

$$\begin{aligned} \text{Expected frequency of } R_1C_1 &= \frac{\text{Row Total} \mid \text{Column Total}}{\text{Grand Total}} \\ &= \frac{70 \mid 25}{100} \\ &= 17.50 \end{aligned}$$

Similarly,

$$\begin{array}{lll} R_1C_2 = 24.50 & & R_1C_3 = 28 \\ R_2C_1 = 2.25 & R_2C_2 = 3.15 & R_2C_3 = 3.60 \\ R_3C_1 = 5.25 & R_3C_2 = 7.37 & R_3C_3 = 8.40 \end{array}$$

**Test of Chi-square:**

Observed frequencies (O)	Expected frequencies (E)	O-E	$\frac{fO - ZE}{E}$
20	17.50	2.50	0.35714
19	24.50	-5.50	1.23450
31	28	3	0.32143
2 } 5 } 2 } 12 3 }	2.25 } 3.15 } 3.60 } 14.25 5.25 }	-2.25	0.35526
11	7.37	3.63	1.78791
7	8.40	-1.40	0.23333
Total			4.28957

$$\begin{aligned} \text{Calculated value of Chi-square} &= \sum \frac{fO - ZE}{E} \\ &= 4.28957 \end{aligned}$$

$$\begin{aligned} \text{Degree of freedom (d.f.)} &= (R-1)(C-1) - 3 \text{ [Since 3 d.f. loss due to pooling]} \\ &= 1 \end{aligned}$$

Tabulated value of  $\chi^2$  at 5% level of significance for 1 degree of freedom is 3.841.

**Decision :** Since calculated value of  $\chi^2$  is greater than tabulated value of  $\chi^2$  (i.e.  $4.28957 > 3.841$ ), the null hypothesis is rejected and alternative hypothesis is accepted, which means there is significant difference between observed and expected frequencies regarding the requirement of corporate bond rating agency to boost the confidence of investors towards Nepalese corporate debenture market.

### **4.3 Major Findings:**

#### **4.3.1 Major Findings through secondary data:**

- The total volume of securities issued from 1996/97 to 2007/08 shows increasing trend. The major portion of securities market is covered by debt securities; it is also in increasing trend. Government debt securities are main dominant securities in sense of volume, which cover more than 97% of total securities market and issuing regularly throughout the observation period. But participation of corporate debt securities in securities market is very small, unsatisfactory and irregular. Only eight issuance can be seen from 1996/97 to 2007/08.
- While analyzing the ownership pattern of government bonds and T-Bills. It is found that major holder of these securities was Nepal Rastra Bank in previous years of observation and in latter years, commercial banks are the main holders of these securities. Participation of financial institutions, issuance corporation individuals and other organizations in purchasing government debt securities is comparatively low.
- By observing the trend of government debt securities, the amount of these securities is increased every year, which is good sign for debt securities market. The forecasted amount of government debt securities forms 2009 to 2012 shows increasing trend. If government maintain this trend in future, it will be helpful to reduce external debt and to

mobilize internal debt in productive sectors by which nation will be benefited.

- The trend of T-Bill issued during the observation period seems to be increasing. The forecasted amount of T-Bill in coming years also shows increasing trend. That means money market of government debt securities is effectively growing, which is good sign for overall debt securities market.
- The trend of development bond was decreasing trend in starting period of observation, increasing in middle period of observation and again decreasing in last year of the observation. The forecasted amount of development bond for coming years shows increasing trend, which is sign of a good prospect of debt securities market.
- The trend of national saving bond shows increasing in first 7 years of observation, but it has been showing decreasing trend in last 5 years of observation. The main holders of national saving bond are individual investors, if this decreasing trend continues in the future periods, participation of individual investors will be decreased (that happened in last 5 years of observation) which is a problem for debt securities market. But forecasted amount shows increasing trend but very low rate and we can estimate that more and more individual investors will be involved to invest in national saving bond.
- The trend of special bond is increasing in the precious years of observation but shows decreasing trend in recent years. The forecasted amount of special bond shows decreasing trend, which is not good sign for debt securities market.
- Government has issued another issue another debt instrument named public saving card since 2001/02 which can be sold only by Nepalese citizens. The trend of public saving card is increasing. The forecasted amount of public saving card show increasing trend, which is good sign for Nepalese debt securities market.

- In the context of corporate bodies, bottlers Nepal Limited, Jyoti Spinning Mills, SRSM, HBL, NIBL, EBL, BOKL, NIC and SBI have issued debentures. At the time of issuing SRSM's debenture, participation of individual investors were 88.30%. Participation of individual investors in purchasing HBL, NIBL, EBL, BOKL, NIC and SBI debentures (which is around 2.70-36.06 percent) is lower in comparison to SRSM debentures. The main reason for lower participation of individual investors is subscribe through private placement to the limited no of investors (mainly institutional investors).
- During the study period from year 1996/97 to 2007/08, only eight issues are made through debentures. But issuing trend of debentures is increasing and being regular form year 2003/04. The forecasted amount of issuing debentures is an increasing trend. Which is good sign for bright prospects of the corporate debentures market in Nepal.

#### **4.3.2 Finding through Questionnaire Survey:**

- In respect of preference for types of securities, respondents gave the first priority (80%) to common stock. The informal interview with respondents in this respect reveals that common stock is more marketable than other securities. They also suggest to strengthen the secondary market of debt securities in order to provide marketability for debt securities and to attract more investors towards debt securities.
- With respect to preference regarding various sectors' debt securities, the majority of respondents choose banking sector's debenture (85%). Only least percent of respondents stated that they were willing to invest in other sectors debt securities. Least preference on other sector's debt securities create dangerous problem in growth of debt securities market, as these sector's need more debt capital by issuing debt securities then banking sectors because huge public deposit can be used by bank, therefore they rarely need to issue debenture.
- With respect to reason regarding slow growth of debt securities market, respondents gave first priority to lack of investor's awareness (75%) and second priority to insufficient supply of quality debt securities (20%).

According to them, if quality bonds are available in market, there will be very low chance of under subscription.

- With respect to opinion of respondents regarding the issuing procedure of debenture and common stock, majority of respondents agreed that issuance procedure of common stock is easier than the issuance procedure of debenture. According to them, due to compulsory involvement of trustee and lack of efficient issue managers, issuance procedure of debenture is difficult.
- With respect to reason regarding Nepalese organizations prefer bank loan instead of issuing debenture, respondents gave first priority to bank loan (55%) is easily available and second priority to issuing debenture (25%) is difficult process. It is the problem faced by debt securities market of Nepal.
- With respect to reason of investor's performance to invest on debt securities, majority of respondents gave the first priority to its fixed income (55%), and second priority to less risk involvement (30%). Respondents gave least priority to debenture giving higher interest rate than market interest rate.
- With respect to opinion regarding the familiar with the debentures having the features of warrant attached and conversion, most of the respondents are familiar with it. Which is good sign for future growth of debenture market in Nepal.
- With respect to sufficiency of legal provisions regarding debt securities market of Nepal, majority of the respondents agreed that the existing legal provisions are insufficient. It also indicates the problem of debt securities market growth in Nepal.
- With respect to opinion regarding to the systematization of government debt securities market in Nepal, the majority of respondents gave their opinion that government debt securities market is not systematic. It is a problem for debt securities market growth in Nepal.
- With respect to opinion regarding the requirement of corporate bond rating agency to boost the confidence of investors towards Nepalese corporate debenture market, the majority of respondents agreed on the

point that corporate bond rating will be helpful in boosting the confidence of investors toward Nepalese corporate debenture market. They believe that an independent rating agency helps them to analyse the past performance and to forecast the future prospects by using different financial and statistical tools.

# CHAPTER - V

## SUMMARY, CONCLUSION AND RECOMMENDATIONS

This is the last chapter of the study. The research study completely concentrates around status of debt securities market in Nepal and this chapter summarizes the overall study and draws conclusion from the study. Some necessary recommendations and suggestions are also provided for systematic growth of Nepalese debt securities market.

### 5.1 Summary:

For the growth of economic development of country, capital market is extremely necessary because it collects and mobilizes necessary funds to industrialization process. Since debt securities market being significant contributor in capital market development, it should be well developed and well functioned. The history of Nepalese debt securities market is very short and it is at initial stage of development. In the previous decades, limited efforts were made to develop debt securities market. But government and corporate debt securities are not going according to country demand till now.

This study has some specific objectives which are: i. to identify the position of debt securities market in the Nepalese securities market ii. To identify the major problems of debt securities market growth in Nepal iii. To analyze trend and ownership pattern of government debt securities iv. To examine key investors, characteristic and trend of Nepalese corporate debt securities V. To provide recommendation for systematic growth in Nepalese debt securities market.

This study is based on secondary as well as primary data. The study on position of debt securities in total securities market was accomplished by using secondary data for the period of 1996/97 to 2007/08. The ownership pattern and trend of government securities were also analyzed by using secondary data for the period of 1996 to 2008. This study also examines the key investors, characteristics and trend of Nepalese corporate debt securities by using

secondary data obtained from SEBO and issuing companies. Time series model is used to analyse secondary data.

Total 100 samples were drawn from different strata for the purpose of finding problems related to the debt securities market by questionnaire survey. The questionnaire contains 10 different questions relating to Nepalese government and corporate debt securities market. Out of 100 respondents, 25 were listed companies, 35 were individual investors and 40 were brokers, market makers and other experts especially staff of NEPSE, SEBO and NRB. The personal interviews were also conducted to support the data. The data obtained from questionnaire survey were analyzed using chi-square test.

By analyzing secondary data, researcher found various issues related to the debt securities market. From 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 issuing regularly and only small portion of securities market is covered by it. From analysis of ownership pattern of government debt securities, it is found that major portion of government securities are held by NRB and commercial banks, participation of individual investors in purchasing government securities is not a satisfactory level. The trend of issuing government securities is increasing. It is also found that the participation of individual investors in purchasing corporate debt securities is not at satisfactory level and if the issuing companies issue more debentures through public offering rather than private placement, the participation of individual investors is expected to increase.

The researcher has found many problems related to the Nepalese debt securities market such as low preference of investors to invest in debt securities in comparison to common stock, lack of investors awareness towards debt securities, limited supply of quality bonds, difficult process of issuing debenture, high preference of investors in banking sector's debenture and low preference in other sector's debentures, insufficient legal provision, political instability, few issuances of debt securities in spite of good public responses, unsystematic government debt securities market. Another major problem is the

problem of our whole economy, our economy is not a huge and there are lacks of large business organizations due to which various kinds of debt instruments are not properly practiced.

## **5.2 Conclusion:**

Nepalese debt securities market is still at infant state. Government debt securities market is slightly at maturity state in comparison to corporate debt securities market. So, that emphasis should be given in the development of corporate debt securities market and if it is done, corporate debt securities market will grow up very soon because there are some positive signals felt by researcher such as declining interest rate on deposit of commercial banks, growing participate of banking sector in issuing debentures. Researcher also come into conclusion that there are a number of problems due to which debt securities market of Nepal is not growing smoothly. Mainly the problems are investor's increasing attraction towards common stock, lack of public awareness, limited supply of quality bonds, difficult process of issuing debenture, high preference in purchasing banking sector's debentures and low preference in other sectors debentures, political instability, unsystematic government debt securities market, lack of large business organization, insufficient legal provision and few issuances of corporate debt securities in spite of encouraging public response.

## **5.3 Recommendations:**

The researcher found so may scattered weaknesses in all area and overall system of debt securities market. The researcher desires to give some suggestions to the stakeholders such as government, investors, and corporate sectors for growth of Nepalese debt securities market.

### **1. To Government:**

Government has responsibilities in promoting desirable activities and restricting undesirable activities. Since debt securities market growth being vital need of a country, Nepalese government should also involve in this

direction. Government should do following activities for debenture market reform and growth:

- ) Political stability should be maintained.
- ) Heavy reliance on external debt should be minimized and try to borrow required fund through internal sources as much as possible.
- ) Nepal government should give tax exemption in income for debt securities. By which investors will be attracted towards debt securities and needed funds will be easily available for government as well as corporate sectors.
- ) Existing legal provisions regarding debt securities should be reform as market demand.
- ) Since participation of individual investors in purchasing debt securities is very low government should issue national saving bond and public saving card (which focuses mainly the individual investors) as much as possible to collect required funds.
- ) Mass population is unknown about government securities. So government should initiate effective promotional activities to remove this problem.

## **2. To investors:**

There are two types of investors in the debt securities market, which are: individual investors and institutional investors. It is given following suggestions to investors (mainly individual investors):

- ) It is found that Nepalese investors are not aware about their investment scheme. Therefore it is suggested that they should be aware about their investment scheme by properly analyzing risk and return.
- ) Investors should change the perception towards other sectors debentures (i.e. manufacturing and trading sectors mainly). All manufacturing and trading companies may not be weak. So

that, they should identify strong companies and their debentures issue should be taken positively.

### **3. To Corporate Sector:**

Corporate Sector is an important stake holder of debt securities market. If they don't issue debentures, growth of corporate debt securities will be impossible. The researcher gives following suggestions to corporate sector:

- ) They should understand market demand and grab the opportunity by issuing debentures to fulfill the cash requirement.
- ) Huge portion of issued debentures should be subscribed through public offering rather than private placement. So that more and more investors can purchase it.
- ) Provision of trustee should be made in debenture issue.
- ) Companies should give priority to issue secured debenture.
- ) True financial condition and future plan should be disclosed at the time of issuance.
- ) Price sensitive information should completely disclose.
- ) Number of minimum debentures to be purchased should be minimized, so that poor people may also buy it.

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## Appendix-I

### Calculation of Forecasted Values of Total Government Securities

(Rs in Million)

Year (X)	x=X-2002	Y= amount of total government securities (in Rs.)	x <sup>2</sup>	x.y
1996	-6	34241.8	36	-205450.8
1997	-5	35890.8	25	-179454
1998	-4	38406.6	16	-153626.4
1999	-3	49669.7	9	-149009.1
2000	-2	54357	4	-108714
2001	-1	60043.8	1	-60043.8
2002	0	73621	0	0
2003	1	81148.3	1	81148.3
2004	2	86133.7	4	172267.4
2005	3	87564.3	9	262692.9
2006	4	89954.9	16	359819.6
2007	5	99303.80	25	496519
2008	6	111239.1	36	667434.6
	$\phi x=0$	$\phi y=901574.8$	$\phi x^2=182$	$\phi xy= 1183583.7$

The equation of trend line is,  $y = a+bx$  .....(i)

Since,

$$\phi x = 0$$

$$a = \frac{\phi y}{N} \times \frac{901574.8}{13} = 69351.91$$

$$b = \frac{\phi x.y}{\phi x^2} \times \frac{1183583.7}{182} = 6503.21$$

Where,

N = number of years from 1996 to 2008 = 13

Putting the value of a and b in equation (i), we get

$$Y = 69351.91 + 6503.21x$$

Now,

Forecasted amount for year 2009,

$$x = 9$$

$$Y_{2009} = 69351.91 + 6503.21 \times 9$$

$$= \text{Rs. } 127880.80 \text{ million}$$

Forecasted amount for year 2010,

$$x = 10$$

$$Y_{2010} = 69351.91 + 6503.21 \times 10$$

$$= \text{Rs } 134384.01 \text{ million}$$

Forecasted amount for year 2011,

$$X = 11$$

$$Y_{2011} = 69351.91 + 6503.21 \times 11$$

$$= \text{Rs } 140887.22 \text{ million}$$

Forecasted amount for year 2012,

$$x = 12$$

$$Y_{2012} = 69351.91 + 6503.21 \times 12$$

$$= \text{Rs. } 147390.43 \text{ million}$$

## Appendix-II

### Calculation of Forecasted Values of T-Bills

(Rs. in Million)

Year (X)	x=X-2002	Y= amount of T-Bills (in Rs.)	$x^2$	x.y
1996	-6	7142.5	36	-42855.0
1997	-5	8092.5	25	-40462.5
1998	-4	9182.5	16	-36730.0
1999	-3	17586.9	9	-52760.7
2000	-2	21026.9	4	-42053.8
2001	-1	27610.8	1	-27610.8
2002	0	41106.6	0	0
2003	1	46844.9	1	46844.9
2004	2	49429.6	4	98859.2
2005	3	51383.1	9	154149.3
2006	4	62970.3	16	251881.2
2007	5	74445.3	25	372226.5
2008	6	85033.0	36	510198.0
	$\phi x=0$	$\phi y=501854.9$	$\phi x^2=182$	$\phi xy=1191686.3$

The equation of trend line is,  $y = a+bx$  .....(i)

Since,

$$\phi x = 0$$

$$a = \frac{\phi y}{N} \times \frac{501854.9}{13} = 38604.22$$

$$b = \frac{\phi x.y}{\phi x^2} \times \frac{1191686.3}{182} = 6547.73$$

Where,

N = number of years from 1996 to 2008 = 13

Putting the value of a and b in equation (i), we get

$$Y = 38604.22 + 6547.73x$$

Now,

Forecasted amount for year 2009,

$$x = 9$$

$$Y_{2009} = 38604.22 + 6547.73 \times 9$$

$$= \text{Rs. } 97533.79 \text{ million}$$

Forecasted amount for year 2010,

$$x = 10$$

$$Y_{2010} = 38604.22 + 6547.73 \times 10$$

$$= \text{Rs } 104081.52 \text{ million}$$

Forecasted amount for year 2011,

$$X = 11$$

$$Y_{2011} = 38604.22 + 6547.73 \times 11$$

$$= \text{Rs } 110629.25 \text{ million}$$

Forecasted amount for year 2012,

$$x = 12$$

$$Y_{2012} = 38604.22 + 6547.73 \times 12$$

$$= \text{Rs. } 117176.98 \text{ million}$$

### Appendix-III

#### Calculation of Forecasted Values of Development Bond

(Rs in Million)

Year (X)	x=X-2002	Y= amount of Development Bond (in Rs.)	$x^2$	x.y
1996	-6	3672.2	36	-22033.2
1997	-5	3042.2	25	-15211.0
1998	-4	3302.2	16	-13208.8
1999	-3	3872.2	9	-11616.6
2000	-2	4262.2	4	-8524.4
2001	-1	5962.3	1	-5962.3
2002	0	11090.7	0	0
2003	1	13090.7	1	13090.7
2004	2	17549.2	4	35098.4
2005	3	19999.2	9	59997.6
2006	4	17959.2	16	71836.8
2007	5	19177.1	25	95885.5
2008	6	21735.4	36	130412.4
	$\phi x=0$	$\phi y=144714.8$	$\phi x^2=182$	$\phi xy= 329765.1$

The equation of trend line is,  $y = a+bx$  .....(i)

Since,

$$\phi x = 0$$

$$a = \frac{\phi y}{N} = \frac{144714.8}{13} = 11131.91$$

$$b = \frac{\phi x.y}{\phi x^2} = \frac{329765.1}{182} = 1811.90$$

Where,

N = number of years from 1996 to 2008 = 13

Putting the value of a and b in equation (i), we get

$$Y = 11131.91 + 1811.90x$$

Now,

Forecasted amount for year 2009,

$$x = 9$$

$$Y_{2009} = 11131.91 + 1811.90 \times 9$$

$$= \text{Rs. } 27439.01 \text{ million}$$

Forecasted amount for year 2010,

$$x = 10$$

$$Y_{2010} = 11131.91 + 1811.90 \times 10$$

$$= \text{Rs } 29250.91 \text{ million}$$

Forecasted amount for year 2011,

$$X = 11$$

$$Y_{2011} = 11131.91 + 1811.90 \times 11$$

$$= \text{Rs } 31062.81 \text{ million}$$

Forecasted amount for year 2012,

$$x = 12$$

$$Y_{2012} = 11131.91 + 1811.9 \times 12$$

$$= \text{Rs. } 32874.71 \text{ million}$$

## Appendix-IV

### Calculation of Forecasted Values of National Saving Bond

(Rs in Million)

Year (X)	x=X-2002	Y= amount of National Saving Bond (in Rs.)	$x^2$	x.y
1996	-6	7376.5	36	-44259.0
1997	-5	8736.5	25	-43682.5
1998	-4	9886.4	16	-39545.6
1999	-3	10426.4	9	-31279.2
2000	-2	11526.5	4	-23053.0
2001	-1	12476.4	1	-12476.4
2002	0	11536.3	0	0
2003	1	10659.9	1	10659.9
2004	2	9029.8	4	18059.6
2005	3	6576.8	9	19730.4
2006	4	3876.8	16	15507.2
2007	5	1516.9	25	7584.5
2008	6	1116.9	36	6701.4
	$\phi x=0$	$\phi y= 104742.1$	$\phi x^2=182$	$\phi xy= -116052.7$

The equation of trend line is,  $y = a+bx$  .....(i)

Since,

$$\phi x = 0$$

$$a = \frac{\phi y}{N} \times \frac{104742.1}{13} = 8057.08$$

$$b = \frac{\phi x.y}{\phi x^2} \times \frac{-116052.7}{182} = -637.65$$

Where,

N = number of years from 1996 to 2008 = 13

Putting the value of a and b in equation (i), we get

$$Y = 8057.08 + (-637.65)x$$

Now,

Forecasted amount for year 2009,

$$x = 9$$

$$Y_{2009} = 8057.08 - 637.65 \times 9$$

$$= \text{Rs. } 2318.23 \text{ million}$$

Forecasted amount for year 2010,

$$x = 10$$

$$Y_{2010} = 8057.08 - 637.65 \times 10$$

$$= \text{Rs } 1680.58 \text{ million}$$

Forecasted amount for year 2011,

$$X = 11$$

$$Y_{2011} = 8057.08 - 637.65 \times 11$$

$$= \text{Rs } 1042.93 \text{ million}$$

Forecasted amount for year 2012,

$$x = 12$$

$$Y_{2012} = 8057.08 - 637.65 \times 12$$

$$= \text{Rs. } 405.28 \text{ million}$$

## Appendix-V

### Calculation of Forecasted Values of Special bond

(Rs in Million)

Year (X)	x=X-2002	Y= Amount of Special Bond (in Rs.)	$x^2$	x.y
1996	-6	16050.6	36	-96303.6
1997	-5	16019.6	25	-80098.0
1998	-4	16035.5	16	-64142.0
1999	-3	17784.2	9	-53352.6
2000	-2	17541.4	4	-35082.8
2001	-1	13994.3	1	-13994.3
2002	0	9259.3	0	0
2003	1	9621.7	1	9621.7
2004	2	8946.2	4	17892.4
2005	3	8176.3	9	24528.9
2006	4	3469.8	16	13879.2
2007	5	2773.5	25	13867.5
2008	6	339.4	36	2036.4
	$\phi x=0$	$\phi y=140011.8$	$\phi x^2=182$	$\phi xy= -261147.2$

The equation of trend line is,  $y = a+bx$  .....(i)

Since,

$$\phi x = 0$$

$$a = \frac{\phi y}{N} \times \frac{140011.8}{13} = 10770.14$$

$$b = \frac{\phi x.y}{\phi x^2} \times \frac{-261147.2}{182} = -1434.87$$

Where,

N = number of years from 1996 to 2008 = 13

Putting the value of a and b in equation (i), we get

$$Y = 10770.14 + (-1434.87) x$$

Now,

Forecasted amount for year 2009,

$$x = 9$$

$$Y_{2009} = 10770.14 - 1434.87 x 9$$

$$= \text{Rs. } -2143.69 \text{ million}$$

Forecasted amount for year 2010,

$$x = 10$$

$$Y_{2010} = 10770.14 - 1434.87 x 10$$

$$= \text{Rs } -3578.56 \text{ million}$$

Forecasted amount for year 2011,

$$X = 11$$

$$Y_{2011} = 10770.14 - 1434.87 x 11$$

$$= \text{Rs } -5013.43 \text{ million}$$

Forecasted amount for year 2012,

$$x = 12$$

$$Y_{2012} = 10770.14 - 1434.87 x 12$$

$$= \text{Rs. } -6448.3 \text{ million}$$

## Appendix-VI

### Calculation of Forecasted Values of Public saving card

(Rs in Million)

Year (X)	x=X-2005	Y= amount of Public Savind Card (in Rs.)	$x^2$	x.y
2002	-3	628.1	9	-1884.3
2003	-2	931.1	4	-1862.2
2004	-1	1178.9	1	-1178.9
2005	0	1428.9	0	0
2006	1	1678.9	1	1678.9
2007	2	1391.0	4	2782.0
2008	3	3014.3	9	9042.9
	$\phi x=0$	$\phi y=10251.2$	$\phi x^2=28$	$\phi xy= 8578.4$

The equation of trend line is,  $y = a+bx$  .....(i)

Since,

$$\phi x = 0$$

$$a = \frac{\phi y}{N} \times \frac{10251.2}{7} = 1464.46$$

$$b = \frac{\phi x.y}{\phi x^2} \times \frac{8578.4}{28} = 306.37$$

Where,

N = number of years from 2002 to 2008 =7

Putting the value of a and b in equation (i), we get

$$Y = 1464.46 + 306.37 x$$

Now,

Forecasted amount for year 2009,

$$x = 4$$

$$Y_{2009} = 1464.46 + 306.37 \times 4$$

$$= \text{Rs. } 2689.94 \text{ million}$$

Forecasted amount for year 2010,

$$x = 5$$

$$Y_{2010} = 1464.46 + 306.37 \times 5$$

$$= \text{Rs } 2996.31 \text{ million}$$

Forecasted amount for year 2011,

$$X = 6$$

$$Y_{2011} = 1464.46 + 306.37 \times 6$$

$$= \text{Rs } 3302.68 \text{ million}$$

Forecasted amount for year 2012,

$$x = 7$$

$$Y_{2012} = 1464.46 + 306.37 \times 7$$

$$= \text{Rs. } 3609.05 \text{ million}$$

**Appendix - VII**  
**Questionnaire**

Dear Respondents

I have been conducting a research on "**Status of Debt Securities Market in Nepal**" as a requirement of the partial fulfillment of the degree of Master of Business Studies (MBS). In this regard, to seek the views of all stakeholders, a list of questionnaire has been prepared.

I humbly request you to fill up at the best of your knowledge according to the given instructions. Your cooperation in this regard will be immense contribution for my academic work.

Thank You,

Researcher

Tulasha Siwakoti

ShankerDev Campus, T.U.

**Respondents**

Name (Optional):..... Address: .....

Office : ..... Date: .....

Post: ..... Signature: .....

**Instruction:** Please tick ( ) in appropriate place.

1. In your opinion, what types of securities do you generally prefer to invest?
  - a. Common Stock
  - b. Preference share
  - c. Corporate debenture
  - d. Government debt
  
2. Which sectors' debt securities, generally do you prefer to investment?
  - a. Banking sector
  - b. Manufacturing sector
  - c. Hotel sector
  - d. Trading sectorAnd why, give reason .....
  
3. What are the main reasons for slow growth of debt securities market?
  - a. Insufficient supply of debt securities
  - b. Lack of investors' awareness
  - c. Unsuitable interest rate
  - d. Lack of capital gain opportunity

4. Is the issuance procedure of stock easier than the debenture issuance procedure?
  - a. Yes
  - b. No.
  - c. Don't know
5. Why does the Nepalese organizations refer bank loan instead of issuing debenture?
  - a. Bank loan is easy to available
  - b. Cost of bank loan is less than cost of debenture
  - c. Issuing debenture is a difficult process
  - d. Due to volatility market interest rate
6. In your opinion, why do the investors generally prefer to invest on debt securities?
  - a. It provides fixed income
  - b. It gives higher rate of return than market
  - c. It involves less risk
7. Are you familiar with the debentures having the features of warrant attached and conversion?
  - a. Yes
  - b. No.
8. Do you think that the legal provisions regarding the debt securities market of Nepal are sufficient?
  - a. Sufficient
  - b. Insufficient
  - c. Don't know
9. Do you think that government debt securities market is systematic in Nepal?
  - a. Yes
  - b. No.
  - c. Don't know
10. Do you agree that corporate bond-rating agency will be helpful in boosting the confidence of investors towards Nepalese corporate debenture?
  - a. Agree
  - b. Disagree
  - c. Don't know