CHAPTER-I

INTRODUCTION

1.1 General background of the study:

In the capital market debt securities are important financial instruments. The debt securities are promised by the issuing firm or government to repay the principle amount as well as interest amount on the unpaid balance at a fixed date. 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. It means that debt securities represent a piece of paper as financial claim (Brigham & Gapenski, 1985:6).

The debt issuer or a corporation or a unit of government uses the proceeds of its sales to finance various projects. The market for debt securities are divided into two segments: the primary market and the secondary market. New issues are made in the primary market whereas outstanding issues are traded in the secondary market. Secondary market can be divided into wholesale and retail parts (Chandra, 1996:551). The wholesale market is the market in which professions, including institutional investors trade with one another and transaction are usually large. The retail market is the market in which the individual investors buy and sell debt securities.

The word "Debenture" is brought from the Latin word "Debere", which means " being borrower". Generally, debt has face value of Rs. 1000 and holder of debt securities get interest on their invested amount, before the stockholder get dividends. The payment procedure of interest and principal is stated in bond indenture. Even though the issuing agency suffers loss or turns into bankruptcy, the debt holders can take action to liquidate the company. And the funds from liquidation must be used to pay these claims before any distribution can be made to

preferred stocks as well as common stock investors. Therefore, generally risk averter investors want to invest their money in debenture/bond.

A long-term debt and short term debt requires government too. Government can supply its short-term fund requirement by issuing Treasury Bill. Treasury note can be issued for fund supplying more than 1 and less than 10 years. Treasury bond can be issued for more than 10 year to supply long term loan.

Business organization can supply working capital from sort-term borrowing issuing commercial paper, spontaneous sources and other secured short-term loans. They can use equity financing instrument and debt financing instrument especially in supply of long term or fixed capital. Equity financing is inevitable sources, which may not be profitable depending fully on it. Hence, debt financing is another economical source of long term financing. Fund required for the conducting even long term project might be financed cheaply and easily from debentures issue.

1.2 Introduction of debt securities market of Nepal:

Nepal is a developing country in which financial market is also at developing stage. Nepalese capital market as well as debt securities market has not reached its maturity stage. There is not proper exercise of debt securities till now. 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.

Presently, the public debt act 2059 and its laws and by laws are active in regulating Nepalese government debt securities market. While talking about the corporate debt securities, the debt of NIDC and the debt of Bottlers Nepal Limited are 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 Govt.

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. So, 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 debt securities market. Government raises fund from market to conduct the regular activities to conduct development programs, to recover the deficit budget etc.

In Nepal, Nepal Rastra Bank has been actively issuing various government securities in the country 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 highly liquid. They are easily converted to cash and sold at low transaction cost and with not much price risk. They are the short term money market instrument of the government. It normally matures in 91 days while some mature in 364 days. Thus, treasury bills are issued to meet short term financial requirement of the government. Treasury bills are sold to the bidders in the order that one who bids with the expectation of low interest rate.

In Nepal, Government of Nepal initiated the process of selling treasury bills to banks, financial institutions and individuals since 2018 and through an auction process since 2045. Till 2063 Poush, GoN has Rs. 654,502.82 Lakhs liability on treasury bills (Rastra

Rin Khabar Patra, 2063 Chaitra.)

ii. Development Bond:

It is long term government bond. It is issued to perform the development works. It is a kind of long-term government bond. It matures normally in five years or more. The holder can be used as collateral if holders need to take loan. It has fixed and minimum interest rate. The payments of the interest are paid on semiannual basis. The income from these bonds is taxable. Development bond is purchased by individuals and institutions.

In Nepal, Government of Nepal initiated the process of selling development bond since 2020. Till 2063 Poush, GoN has Rs. 180,771.21 Lakhs liability on development bond (Rastra Rin Khabar Patra, 2063 Chaitra)

iii. National Saving Bond:

This is also a long-term bond and it normally bears maturity period of five years. These bonds are normally tax free bonds and having high interest rates. The main holders of these bonds are general public because it is focused to the individual investors but also organizations and financial institutions etc can purchase it, as they have right to purchase national saving bonds. It has fixed interest rate payable semiannually.

GoN initiated the process of selling National Saving Bond since 2040. Till 2063 Poush, GoN has Rs. 38,769.59 Lakhs liability on National Saving Bond (Rastra Rin Khabar Patra, 2063 Chaitra)

iv. Special bond:

By definition, 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.

GoN initiated the process of selling special since 2023. Till 2063 Poush, GoN has Rs. 34,703.20 Lakhs liability on special bond (Rastra Rin Khabar Patra, 2063 Chaitra.)

v. Public Saving Card:

It is also a long term debt instrument of government which normally matures in five years. The characteristic of the public saving card is same as the other long term bonds. The only difference is that it can not be used as collateral. It can be purchased only by Nepalese Citizens. It has also fixed interest rate and payable semiannually. It is also a taxable government bond.

GoN initiated the process of selling public saving card since 2059. Till 2063 Poush,GoN has Rs. 12,609.72 Lakhs liability on citizen saving bond (Rastra Rin Khabar Patra, 2063 Chaitra).

b. Corporate debt securities market:

Corporate debt securities market is very new and initial stage in Nepal. Firstly, Bottlers Nepal issued debenture of Rs. 5 million in fiscal year 1986/87 and was redeemed at maturity. Similarly, Shree Ram Sugar Mills Ltd. has issued debenture worth Rs. 93 millions in the fiscal year 1997/98 A.D. It was convertible in nature and having 14% coupon rate annually. But due to insufficient public response it failed in its target. The whole money was refunded before maturity.

While talking about involvement of banking sector in debt securities market of Nepal, following banks have issued debentures which have following features.

Rs. in million

Institutions	Date of Issue	Amount	Interest Rate	Maturity period
Nepal Investment bank Ltd	25 March 2002	300	8.5	7 years
Himalayan Bank Ltd	25 March 2002	360	8.5	5 years

Everest Bank Ltd	29 November 2004	300	6.0	7 years
Bank of Kathmandu Ltd	7 September 2005	200	6.0	7 years
Nepal Investment Bank Ltd	30 May 2006	250	6.0	7 years
Nepal Industrial and Commercial Bank Ltd*	31 May 2006	200	6.0	7 years
Nepal SBI Bank Ltd	25 June 2006	200	6.0	7 years

*Nepal Industrial and Commercial Bank Ltd is yet to be listed.

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

There has been made some important legislative provisions, which are directly and indirectly concern on debt securities market of Nepal which are:

1. Prevailing Securities legislation:
   - Security exchange act, 1983
   - Security allotment guidelines, 1994
   - Issues management guidelines, 1997
   - Securities regulation and issue approval guidelines, 2000.
2. Other relative acts:
   - Company act, 1997
   - Insurance act, 1992
   - Commercial bank act, 1994
   - Finance company act, 1986 etc.

1.3 Statement of the problems:

Debt securities are assumed least risky securities of investment. There is fixed regular interest income in such securities and very few chances of losing principal and interest even in liquidation of company. Funds

required in the process of industrial expansion and growth can be received from issuing debt securities. Government and other local authorities also can receive fund required in development of country and local community. So, it is important types of securities, but Nepalese debt securities market is not being able to grow significantly. Even having so many opportunities, only few concerns arises on it, due to which there may be lack of information about the debt securities market to the investors and even to the issuing agencies. So it is necessary to study about debt securities market. This study is mainly related to debt securities market of Nepal.

Nepalese economy is at underdeveloped stage. There is lack of appropriate investment opportunities, due to which investor can not found suitable sector to invest their funds. On the other side, 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.

The investor who invest in debt securities and the deposit holders who make deposit at commercial bank are the same group of people; both of them get fixed income (i.e. interest). While studying trend of average interest rate on deposit of commercial banks, it is gradually decreasing, but the potential savers are not so interested towards debt securities.

In corporate sector, there is only few issuance of debenture. In each issuance, there is over subscription from these exercises. It may be, due to few issuances or public concern towards debt securities market is increasing. Anyway, there are too much confusion for investors and issuing agencies. Now the question may arise, there may be inadequate legal provision or absence of large business organization or limited supply of quality bonds due to which Nepalese debt securities market is in under developed stage.

The general conclusion that the development of debt 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 Question:

Since research to be made on some specific problems, here are underlined some specific research questions which are desired to research.

a. What is the position of debt securities market in the structure of Nepalese securities market?

b. Who are the key investors and what are the key features of Nepalese corporate debt securities?

c. What are the main problems of existing debt securities market in Nepal?

d. What should be done for systematic growth of Nepalese debt securities market?

1.5 Objectives:

In development of nation trade and industry, capital is as important as blood requires for human beings. Debt is an important source of capital market. If debt is properly managed, it can promote private sector participation. Nepal was already taken some steps towards liberalization. In smoothly development of liberalization and privatization process, debentures market development is vital. Nepalese debt market and another one is corporate debt securities market. The corporate debt securities market is still very small in comparison of equity market.

The specific objectives of this study are as follows:

a. To study the position of debt securities market in the structure of Nepalese securities market

b. To analyze the trend and ownership pattern of government securities.

c. To examine key investors and characteristics of Nepalese corporate debt securities.

d. To identify the major problems of debt securities market growth in Nepal.

e. To provide recommendation for systematic growth in Nepalese debt securities market.

1.6 Significance of the study:

This study is concerned with the Problem & Prospects of Debt Market In Nepal. Debt securities market is the important part of capital market. Debt securities are means of maximizing value of firm. But Nepalese organization prefer bank loan instead of issuing debenture. People must be conceptually clear about capital market. In Nepal the capital market is not efficient. Most of the investors are investing without any proper knowledge and information. This study will make clear about the debt securities market and its present conditions and problems.

It is indispensable 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. In the current condition investment in debt securities is very important for providing fixed income. So, I hope the output of this study will be helpful for potential investors, corporate bodies, governing bodies, brokers, researcher, students, market makers etc.

1.7 Limitation of the study:

Every research have more or less limitations. Due to the various constraints this study is focused to analyze the only certain aspects of debt securities market in Nepal. The researcher has experienced following limitations in this research.:

1. This study focus on the relevant data & information for short period.

2. The present study is based on pure aspect of debt securities market. This study relates to analyze of debt only collect from debt securities, other types of debt such as receivable debt, bank loan, inventory loan, informal borrowing, overdraft etc have not been covered.

3. In the context of Nepal, data problem is acute in corporate and government level. Related sector still feel burden to provide required data of all necessary. There is not any systematic data base which makes it difficult to carryout on any research in Nepal; this problem is also incorporated with this study.

4. This study is based on both primary and secondary data.

5. The main limitations are the time constraint, financial problems and lack of research experience.

1.8 Organization of the study:

This study has been organized into five chapters. The titles of each chapter are as follows:

Chapter One	:	Introduction
Chapter Two	:	Literature Review
Chapter Three	:	Research Methodology
Chapter Four	:	Data Presentation & Analysis
Chapter Five	:	Summary, Conclusion & Recommendation

The contents of each of chapters of the study are briefly mentioned below:

Chapter One contains the ***"Introduction"*** of the study where it includes back ground of the study, introduction of Nepalese debt securities market, statement of the problems, significance of the study, limitation of the study and organization of the study itself.

Chapter Two consists of ***"Review of Literature"***. This chapter is divided into two section viz. conceptual framework of the study and review of related studies.

Chapter Three explains the ***"Research Methodology"*** used in this research to find the result for meeting the objectives set in the Chapter One.

Chapter Four focuses on the ***"Data presentation & Analysis"***. This is the main and key chapter of the research study.

Chapter Five states the ***"Summary, Conclusion & Recommendation"*** of the study.

CHAPTER-II

REVIEW OF LITERATURE

Review of literatures provides the background information about the area of study. Researcher has reviewed various Books, Journals and Newspapers, Policy researches and Thesis that were found while studying about the problems and prospects of debt market in Nepal. The literature review section consists of two parts. Firstly it has reviewed literature for theoretical framework which help to develop concept about what is debt market, what theories are developed on it. It covers the area of research work and the theoretical concept which are developed by various scholars and writers. Another part is review of related studies, which includes review of journals, articles and review of thesis about debt securities market and related terms to it. It also helps the researcher to find out the research gap.

2.1 Conceptual Framework:

2.1.1 Debt Securities Market:

Among the different types of market, financial market is one of the important market, where trading of financial assets are held. Financial market may be segregated into money market and capital market.

Money markets are the type of market which is meant for a short term and for highly liquid debt securities. Money market typically involves financial assets that have a life span of one year or less. Money market instruments include short-term marketable, liquid, and low-risk securities. Money market instruments, sometimes, are also called cash equivalents, or just cash. Money markets deal in short term debt instrument like treasury bills, inter-bank deposits and commercial papers issued by non-financial corporation.

Capital markets are the markets meant for long-term securities issued by the government or a corporation. Capital markets typically involve

financial assets that have life spans of greater than one year. For example the issued by the Kumari bank are traded in the capital market whereas the treasury bills issued by the Nepal Rastra Bank (NRB) are traded in the money market. Long term debt securities are traded in capital market. Capital markets exist in order to bring together buyers and sellers of securities i.e. they are mechanisms created to facilitate the exchange of financial assets (Sharpe et al, 2001:128).

Debt securities market is an essential part of capital market, where trading of debt securities are held. The market for debt securities are divided into two segments. i.e. primary and secondary market.

The primary is that part of the capital markets that deals with the issuance of new securities. Companies, governments or public sector institutions can obtain funding through the sale of a new stock or bond issue. This is typically done through a syndicate of securities dealers. The process of selling new issues to investors is called underwriting. In the case of a new stock issue, this sale is an initial public offering (IPO). Dealers earn a commission that is built into the price of the security offering, though it can be found in the prospectus. Features of Primary Market are:

a. This is the market for new long term capital. The primary market is the market where the securities are sold for the first time. Therefore it is also called New Issue Market (NIM)

b. In a primary issue, the securities are issued by the company directly to investors.

c. The company receives the money and issue new security certificates to the investors.

d. Primary issues are used by companies for the purpose of setting up new business or for expanding or modernizing the existing business.

e. The primary market performs the crucial function of facilitating capital formation in the economy.

f. The new issue market does not include certain other sources of new long term external finance, such as loans from financial institutions. Borrowers in the new issue market may be raising capital for converting private capital into public capital; this is known as 'going public.

Similarly secondary markets are for trading debt and equity securities after they are originally sold (Stephen, 1993:21). Alternatively, secondary market can refer to the market for any kind of used goods. The market that exists in a new security just after the new issue, is often referred to as the aftermarket. Once a newly issued stock is listed on a stock exchange, investors and speculators can easily trade on the exchange, as market makers provide bids and offers in the new stock. In secondary market, securities are sold by and transferred from one investor or speculator to another. It is therefore important that the secondary market be highly liquid and transparent.

Similarly, divided into primary and secondary markets, new securities are usually issued by corporation and governmental bodies in what is called the primary market. After the securities have been issued, they are traded in the secondary market (Fransis, 1986:7).

Debt market in any country can be divided into two types, corporate debt market and government debt market.

Government Debt Securities Market:

Government needs funds for various purposes like education, security, health, infrastructure development, generate electricity etc. To fulfill the requirement fund government of any country has to collect the financial sources by issuing / selling the debt securities.

Government securities are issues to meet the financial requirement and

to fulfill the deficit budget. The fund raise by the government from public is known as internal debt. Internal debt is issued to control inflation, to create infrastructure, to increase productivity & to generate wealth for critical situation. Moreover, new debt must be issued in order to get the necessary funds to pay off old debt that comes due (Sharpe et al, 1987:157).

Government securities are issued with various maturities: Short-term (Treasury bill), intermediate-term (Treasury rates), long term (treasury bonds) and also issues saving bonds to individual investors.

For develop the debt market the government should participate itself in this field. In many developing nations the government itself is engaged in many developmental projects such as construction dams, irrigation, cannals, power plants and even the establishment of the factories and so on. For doing so, it needs a lot of money or if not, it should have prominent source of money. Those sources were foreign borrowings. Foreign borrowing supplies huge sum of fund easily but with the high cost . Government of Nepal should think critically as well as creatively about the foreign debt. Similar type of debt can be raised in domestic market and utilized in the development work. The repayment of debt is possible after the successful completion of the project. It help to develop nation, provide employment and create high economic trading, and then help in further development of the debt market.

Corporate Debt Securities Market:

Corporate debt securities market generally includes short term debt instruments, such as commercial paper and long term debt securities, such as private sector bonds/debentures (with maturity of more than one year). 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 (Van Horne, 2000:97)

In meeting its need for long-term finance, the firm has a choice between debt and equity source one of the most important debt financial securities is bond. A corporate bond is a security resenting 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 (Hamton, 1973:328)

Corporate bonds come in several different forms. The basic classification includes collateralized (secured) and uncollateralized (unsecured), senior and junior, callable and non callable and convertible bonds. Business firms issue many types of bonds. However, smaller firms deal directly with lenders such as Banks, Insurance Companies (Schall & Halley, 1991:129). 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 issuances of bonds & debentures (Easter Wood & Kadapakkam, 1991:50).

2.1.2 Interest Rate & Inflation

Interest Rate

Interest is the cost of using money over time. From the lenders view point, interest is the excess money that is received over the amount that was loaned. From the borrowers view point, interest is excess money that was borrowed (Link & Woeltel, 1995:243). Interest expenses (or interest revenue) equals the interest rates times the carrying value of liability (or receivable) at the beginning of the period. Interest rates

features are stated in the terms of the par values of the related obligation. The contract value is directly related to interest rates (Shim & Siegal, 1989:243). From the lenders view point, interest is the excess money that is received over the amount that was loaned. From the borrowers view point, interest is excess money that was borrowed. Interest expenses (or interest revenue) equals the interest rates times the carrying value of liability (or receivable) at the beginning of the period.

The bond market is driven by interest rates. In fact, the behavior of interest rate is the single most important force in the bond market. These rates determine not only the amount of current income that investors will make, but also the amount of capital gain (or loss) that bond holders will incur. It is not surprising, therefore, that interest rates are so closely followed by market participants, and that bond market performance is general portrayed in terms of interest rates. (Gitman & Joetinlc, 1960:372)

Different theories of interest are explained differently. Expectation theory deals with long term interest rate are a geometric average of short term interest rates while liquidity preference theory explained that short term bonds have stable prices & are more liquid than long term bonds. This advantages (less risk) would indicates that the interest of short term bonds should be lower than those of long term bonds. Similarly, Market Segmentation theory says, the interest that is determined by supply and demand conditions in each market. In a free market economy, interest rates will adjust until the total amount of capital demanded by producers equals the amount that owners of wealth are willing to supply.

Inflation

One of the main factors behind the rise & pull of market interest rates is the inflation rate. Simply stated, when the inflation rate rise to a high level, interest rates tend to rise to high levels too. When the interest rate falls to a low level that tends to pull all interest rates down to a low level (Bajracharya Kamala, 2006:31).

Inflation is most important variable while calculating the Real Interest Rate. Purchasing power risk is the variability of return an investor suffers because of inflation. So inflation is use while considering purchasing power risk (Bhattari Sandip, 2003:27).

According to Sharpe & Alexander inflation is an increase in the amount of currency in circulation, resulting in a relatively sharp and sudden full in its value and raise in price. Purchasing power risk denotes the fact that an investor's money assets (such as cash, savings and investments) may lose their purchasing power because of inflation.

Economists measure the rate of inflation by using a price index that they construct. In other words, the rate of inflation between month t and month t+1 is calculated as below:

$$q = \frac{(\text{CPI for month } t+1) - (\text{CPI for month } t)}{\text{CPI for the month } t}$$

Where, q = inflation rate

CPI = Consumer Price Index

And the annualized inflation rate = (1+per month q) 12

Investors should compare interest rates to the inflation rate to control their purchasing power risk.

Nominal rate of return are money rates of return that are not adjusted real rate of return, during some period is calculated by removing the rate of inflation from the nominal return, as shown in below equation. The real return is denoted rr. Nominal return is denoted r.

$$1.0 + rr = \frac{1.0 + r}{1.0 + q}$$

Simplified the equation by multiplying both sides of the equation by the quantity (1.0 + q)

$$1.0 + r = (1.0 + rr)\ (1.0 + q)$$

$$1.0 + r = 1.0 + rr + q + (q)\ (rr)$$

$$r = rr + q + (q)\ (rr)$$

The product of (q) and (rr) will often be a tiny value that can usually be ignored with little loss of accuracy. So the equation is simplified form is as below.

$$r = rr + q$$

$$\text{or, } rr = r - q$$

Hence, when the inflation rate is low provide an easy way to closely approximate the nominal and real rates of return.

2.1.3 Investment Bankers/Underwriters of Securities:

The agent responsible for finding buyer for brand new securities is called the Investment Banker or Underwriters (Francis, 1986:48). An investment banker is a firm that serves as a middle person between financial markets and demander of capital. The investment banker specializes on underwriting and selling new securities and advising corporate clients. First, the members of the issuing firm and the investment banker hold pre-underwriting contract at which they discuss the amount of capital to be raised, the type of security to be issued and the term of agreement. When the investigations are completed underwriting agreements are drawn up by the investment bankers. Investment bankers changes fees commonly referred to as floatation costs for designing underwriting and selling securities.

A security issue may be completely underwritten by an investment banker and the other members of the syndicate. If it is, the issuing corporations receives the public offering prices less a stated percentage spread. The underwriters in turn sell the securities at the public offering price (or less) and may buy some of the securities themselves. Underwriter who provide this sort of firm commitment bear all the risk, because public may not be willing to buy the entire issue (Sharpe et al,

1998:27).

2.1.4 Duration of the Bond:

The duration is 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 1963, therefore, it is also called as Macaulay duration. Moreover, the duration is the average term to maturity of the bond. Duration is also known as the sensitivity of bond's price to change in interest rates. Several factors, such as coupon interest, maturity period and prevailing level of interest rates determine the price of a bond.

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

According to Sharpe, a measure of the average time prior to the receipt of payments is obtained by calculating bonds duration. This is simply weighted average of the lengths of time prior to the payments. Using the relative present values of the payments as weights. According to Cheney and Moses, duration is a function of term, coupon, maturity value and yield to maturity. Bonds with low coupons and 'long' terms will have durations greater than bonds with high coupons and 'short' terms. Also, as yield to maturity increases; duration will decrease.

Macaulay's duration can be defined mathematically as follows:

$$MD = \frac{1+y}{y} - \frac{(1+y) + T(c-y)}{c[(1+y)T-1] + y}$$

Where,

MD= Macualay's duration

Y= Yield to maturity

T= Time period

C = Coupon rate

Duration is an indication of systematic risk for bonds. It is useful in analyzing managing the risk of bond portfolios.

2.1.5 Valuation of Bond:

According to Surendra Pradhan in his book "Basic of Financial Management", the value of Bond is sum of present value of the periodical interest payments and the par value that is due at the end of bond life. The bond value (V_b) is a function of several factors presented below:

$$V_b = f (F, P_m, N, I, K_b)$$

Where,

F = Face value or par value

N = Maturity period

I = coupon interest rate

P_m = Market price of bond.

K_b = Market interest rate

According to Pradhan, there are three types of bonds **(a) Ordinary bonds (b) Callable bonds (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:

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

Where,

V_b = Present value of bond

I_t = Interest payments during 't' periods

k = Market interest rate

F = 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:

$$V_b = \sum_{t=1}^{m} \frac{I_t}{(1+k)^t} + \frac{P_c}{(1+k)^m}$$

Where,

m = No. of periods to call period

P_c = call price

A perpetual bond is the one that is never redeemed by the issuer, but the issuer pay inters for an indefinite period. The issuer is never required to pay the par value of the bond holders. For an infinite series, the value of bond may be expressed as follows:

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

Where,

I = Interest payment each yr.

K = The appropriate interest rate on bond.

2.1.6 Yield to maturity (YTM):

According to Surendra Pradhan, the yield to maturing of a bond represents the annual rate of return that will occur if certain condition are satisfied. In computing the yield to maturity, several important assumption are made:

i. The bond will be held to maturity

ii. All cash flows will occur as indicated in the indenture (i.e. the issuer will not default on the contractual obligation)

iii. The bond will not be called or redeem by the issuer before the specified date.

iv. Coupon receipts will be reinvested at a rate of return equal to the yield to maturity.

The YTM can be calculated by using following equation.

õ= ***By approximation formula method:***

$$YTM = \frac{\text{Interest} + \frac{\text{Face value - Purchase price}}{\text{Years to maturity}}}{\frac{\text{Face value} + 2 \times \text{Purchase price}}{3}}$$

By trial and error method:

The market price of debt (P_0)

$$= \sum_{t=1}^{n} \frac{\text{Interest}}{(1 + YTM)^t} + \frac{\text{Maturing value}}{(1 + YTM)^n}$$

2.1.7 Key characteristics of Debt Securities:

Debt securities do not have the same contractual features. Although all bonds Bonds have some common characteristics which are discussed below.

Par value

The par value is the stated face value of the bond, which is paid at maturity. It usually is set at Rs 1000 per bond, although multiple of Rs 1000 are also used. But according to Company Act 2053 (1997 AD), par value of corporate bonds must be Rs 1000. The par value generally represents the amount of money the firm borrows and promised to repay on the maturity date. It is the par value at which coupon is computed.

Coupon Interest Rate

The bond requires the issuer to pay a fixed amount of interest at the end of each period (year or six months). This amount is called coupon payment. When coupon payment is divided by the par value, the result is the coupon interest rate. In other words, coupon interest rate is the stated interest rate in the indenture and generally remains constant through the life of bond. In some cases, however, a bond's coupon payment may vary over times. Such types of bonds are called floating rate bonds in which coupon rate is adjusted according to market interest rate. There are some bonds in which coupon rate is adjusted according to market interest rate. There are some bonds in which no interest is paid at all, but sold at heavy discount. These bonds are called zero coupon bonds. Some bonds pay very low interest and cannot be issued at par. Such bond, which ae originally offered at a price significantly below its par value, is called an original issue discount bonds.

Maturity Date

Bonds generally have a specified maturity date on which the par value must be repaid. Most bonds have original maturities (the maturity at the time the bond is issued) ranging from 10 to 40 years, but any maturity is legally permissible.

Call Provision

A provision specified in the indenture, which gives the issuer the right to call the bonds prior to maturity, is known as call provision. Generally,

company pays the bondholders an amount greater than the par value if they are called before maturity. The amount that is paid to the bondholder is called call price and excess amount over par value is called call premium. However, bonds are often not callable until specified date (or period) after they were issued. This is known as a deferred call and the bonds are said to have call protection period. When interest rate in the market decreases, bonds having call provision are called i.e. the issuer redeems back the call price to the bondholders before bonds mature. Hence call provision increases risk to the bondholders.

Indenture

An indenture is a legal document or contract that contains terms and conditions of bond issue. It includes details of debt issue, specifies manner in which the principal must be repaid, lists restrictions (or covenants) placed on the firm by the lenders, rights and responsibilities of both borrower and lender.

Sinking Fund

Sinking fund provision is a special provision in a bond contract that facilitate the orderly retirement of the bond. In some cases, the firm may be required to deposit money with trustee, which invests the funds and then uses the accumulated sum to redeem the bonds at maturity. But in most cases, the firm is given the right to use the sinking fund either to redeem a certain percentage of the bonds at par/at premium each year or to buy the required number of bonds on the open market. This provision reduces risk to investor.

Trustee

A trustee is the representative of the bond holders, who deals with the issuing company. Usually a commercial bank or trust company is appointed as a trustee, which is responsible for ensuring that all the terms and covenants set forth in the indenture agreement are fulfilled by the issuing company.

Convertibility

The convertible feature can be added to a bond as a "sweetener" to the investors. This feature may also advantageous to the issuer; it improves the marketability of the bond & adds flexibility to the capital structure of the issuers. At the option of the investor, the bond can be exchanged for common stock, using a specified fixed conversion ratio or conversion ratio or conversion price. The issuer can offer a lower coupon rate than would be the case for a "straight" (non-convertible) bond with similar characteristics.

2.1.8 Types of debt instruments financing:

Long-term debt instruments are generally classified as follows.

Debentures: A debenture is and unsecured bond and as such provides no lien on specific property as security for the obligation. Thus, debenture holders are those creditors whose claim is protected by property not otherwise pledged. The use of debenture depended on the nature of the firm's assets and its general credit strength. A firm whose credit position is exceptionally strong can issue debentures; it simply does not need specifies security. But if the credit position of a company may be so weak that it has no alternative to use of debentures all its property may already be encumbered.

Sub-ordinate debentures: This type of 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 trustees takes over the

property and sell it, using the proceeds to pay bonds.

Income bond: A company's earning are sufficient to meet the interest obligations, then only a firm must pay interest on an income bond. However, the principal must be paid when due. Therefore income bonds provide flexibility to the firm. 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 instruments is provides its holder an option on common stock with debt + warrants; the debt holder has an option to purchase the common stock of the company or continues to hold the debt instruments by giving an option on common stock with debt warrants. The most important of the special features relates to how many shares of stock a convertible holder receives by converting.

Treasury bills: 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. All bills are issued in book entry form, where the buyer receives a receipt all time of purchase and the bill's face value at maturity.

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

2.2 Review of Related Studies:

2.2.1 Review from Journals:

Shree Prasad Poudel in his article, "Government Securities Markets: Rational and Development in Nepal" has stated that, security markets are centre of the financial system. Private corporations and government can issue debt securities. If securities can not be traded in secondary market, those are call non marketable securities. Special bonds issued by NRB are such types of securities. Holders of debt securities receive interest payment at predetermined dates and principal payment at the maturity of the debt instruments. Periodic interest payments and capital gains are the incentives in bond investments. Debt securities market in Nepal is highly dominated by government debt securities. Corporate debt securities in Nepal are extremely limited. Government in less developed country usually borrow at lower rate than the market rate of interest on the one hand while on the other hand securities are exchanged in the face value even if their value is appreciated in the market. More over, international loans substitute bonds in emerging markets. In Nepal, international loan use to substitute the domestic debt securities market of government. Bonds price should be determined competitively in market, which is lacking for the government debt so there may be problem of corporate and soveiring bond market development. The market paved the way for debt security market development. When market interest rates goes down price of previously issued bonds at higher coupon rate goes up and investors receive capital gains. While government borrows at rate lower than market rate of interest, the government interest rates some times provide real return on government debt security in negative at a time when the coupon rate is lower than inflation rate. Risk associated with bond investment reduces the value of bond. Issuing and exchange of corporate bonds is virtually absent in Nepal. Market makers facilitate the secondary market transaction of marketable securities. Settlement of payments is made through NRB. NEPSE has not started transacting government securities in its floor. Buy and sell can not be placed through electronics means and exchange of government securities is hindered by the fixed price of

the securing. Securitized government debt, as percentage of GDP is low. Marketable government securities are lower than non marketable securities. All these factors are the impediments of developing cheep and vibrant debt securities market in Nepal. Further he has given that NRB and commercial banks are main holders of government bonds. Higher proportion of ownership of government security needs to be transferred to the households sector for secondary market development.

Rabindra Bhattarai (2004) in his article "Debentures are welcome" 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 oversubscription 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.

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

- If the cost of servicing the debt accounts for a large part of the government revenue, the scope for public spending on desirable items such as health, education and infrastructure is correspondingly diminished.
- If the government preempts a large part of the saving of its residents, it may reduce the amount the private sector can borrow or raise in the capital market, thus crowding-up private investment.
- Excessive borrowing can also increase interest rates deterring investment by making it more expensive.

- If government finances its deficit by borrowing to much from central bank, through money creation, it stokes up inflation.
- The building up of excessive debt today entails higher servicing costs on future generation who suffer higher taxation.
- Excessive domestic debt can effect a country's credit rating and therefore increase the cost of its future borrowing.

This section tries to have good look at the empirical works published on financial journals & articles of foreign author.

The Outlook for U.S. Treasury Securities

Mobilization of resources to finance the increasing development activities is an extremely difficult problem in a developing economy. Because of limitation of taxation in such economy, public borrowings are the only solution to them. The growth of public debts also helps the development of money market as well as capital market. Treasury bill is obviously a most effective tool of monitory policy. C.Richard Youngdahal analyzed U.S. Treasury Securities in order to desirable the money markets condition and discussed about the forces that may disturb the stability of yields on Treasury securities.

According to writer "Largely because of international pressures on the dollar and the resulting large gold losses, the Federal Resource could not risk permitting short-term yields to decline in 1961. The year 1916, therefore, was characterized by exceptional stability for short term yields, typified by the narrow range of from 15/8 percent to 6/5 percent on 3 month Treasury bills that has prevailed since mid 1960. Yields on intermediate and longer term Treasury securities likewise showed a high resistance to dramatic moves either up or down in 1961. The Federal Reserve buying in the intermediate-term area took little or no net buying pressure from the short-term market, since those who sold to the Federal Reserve typically invested the receipts of their sales in the short term treasury market. Very few investors sold Treasuries in order to buy

corporate bond.

The writer also predicted about the potential changes in credit demand. As per the guess of economists and businessmen, economy will move ahead at a reasonably rapid pace in 1962 but that we shall not see a super boom. Under these circumstances the demand for credit in the long-term capital market may be little changed in the aggregate from the high level prevailing this year. In the area of shorter-term credit, however, demand could enlarge. Demand for consumer installment credit, which has declines so far in 1961, perhaps rather strongly, reflecting further rebuilding of business inventories and the other business needs for funds that follow along with a higher level of economic activity.

The treasury's cash needs will probably continue to put pressure on the credit market in 1962. The second half of a year is typically a period of seasonal Treasury deficit and 1962 should prove on exception in that respect. For the year 1962 as a whole, thus, the Treasury will be a substantial net borrower possibly more that $5 billion.

The major change in the supply credit in 1962 may take place at commercial banks. At a somewhat later phase of the business recovery, however, the Federal Reserve may well become relevant to promote further monetary expansion and in this event it would modify its present policy or credit ease. Under these conditions we may expect an orderly, moderate increase in yields on U.S. Treasury securities, particularly in the short and intermediate-term sectors of the market.

There is, however, a consideration that could at any time upset the expectation of a fairly orderly upward move in yields on Treasury securities. There is always a danger that some thing may happen to disturb confidence in the dollar sufficiently to set a large gold out flow in motion again. In this event, immediate defensive measures would need to be taken. One of these would almost certainly be a tightening in monetary policy. To be affective as a stopgap defense under conditions, however, monetary action might needs to be on the drastic side, and that

would mean sharply higher interest rates, both short-term and long term.

2.2.2 Review of Thesis:

Sandip Mohan Bhattarai (2003) in thesis "problem & prospects of debt market growth in Nepal". He state that the Nepalese debt securities market is still at underdeveloped stage. Government debt securities market is slightly at maturity stage as compared with corporate debt securities market. He founds many problems regarding the debt market growth. According to him "lack of information about the debt market to the investors and the issuing agencies, inadequate legal provisions, absence of large business organization, limited supply of quality bonds, investors dominant by credit oriented transaction, feeling of non-existence of debt market etc. are the major problem of not growing the Nepalese debt market. He also stated the there are some prospects which shows the future growth of Nepalese debt market. They are investors attraction towards liquid assets like debt securities, desire to invest on debenture of any potential issuance, attraction towards convertible debenture, increasing trend of amount of government securities etc.

D.R. Kafle (2003) in his thesis "Problem and prospect of debt market growth in Nepal" has summarized, "capital market of Nepal is in infant stage and debt securities market of corporate bodies is limited in existence. The government debt securities market is growing but it is not growing as expected. The heavy reliance of government in foreign debt has created huge problem in debt securities market growth in Nepal." According to him, in Nepal, investments 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 than other government bonds. He has also concluded that due to over supply of deposits by customers in commercial banks, they do not issue debt securities. On the other hand top-tier corporate bodies could get loan easily from banks at lower cost so they are not required to issue debt instruments for raising the funds. Low-tier firm have been facing the

problem in raising the fund from bank and market as well. Tedious and lengthy process of issuing the debt securities is another problem with debt securities market growth.

Indra Tribicram Pahari (2003) in his thesis entitled “Problem & prospects of debt market growth in Nepal” has summarized debt securities markets bring savers and investors together more explicitly than do banks. Debt securities, especially bonds with maturities of greater than a year are generally cost effective for long term, large scale and opportunistic financing by issuers with high credit rating. In this studies he shows the high credit rating. In this studies he shows the relationship of nominal interest rate with inflation rate, real rate of return and risk premium. In his view, it is important to understand the various determinants of interest rate because it is a most important variable depend upon the developed debt securities market.

According to him “interest is affects by inflation and real rate of return. Similary, while bearing risk, investors cannot get any premium because interest rate is adversely affects by the risk premium”. He concluded that the major problem face by Nepalese debt securities market is most of the companies prefer to issue common stock than debenture. It is because the companies can get the required funds easily from bank and also the debenture may not be sold in the market. He also found that the companies felt difficulties in dealing with large number of investors. He further concluded that government securities are unable to create benchmark yield curve for their own securities as well as corporate debt securities.

Nirmal Kumar Mainali (2003) in his studied "Problem and prospect of Debenture Market growth in Nepal". The researcher has found many problems in Nepalese debenture and bond market, growth. According to him, there are many problems such as insufficient legislative provision regarding Nepalese debenture market, political instability, poor price sensitivity, insufficient information disclosure, investor's low preference on debenture etc in Nepalese debenture market growth. Not only

problems, but researcher also found many prospects of debenture market growth. Additional capital supply, tax saving, interest income, means of meeting deficit budget, growth on public debt are some plus point which signifies the prospects of debt market growth.

Sudip Amatya (2005) on his thesis "present status of Nepalese debt securities market" presents the current status of Nepalese debt securities market. He stated that the debt market of corporate bodies is limited in existence. He found only three issuance of debenture/bond in corporate sector from 1993/94 to 2003/04. He further explained that the government debt securities are main dominant securities in sense of volume, which cover more than 98% of total securities market. He observed the trend of T-bills, development bond, national saving bond, special bond & public saving card. And he concluded that money market of government debt securities is effectively growing in his study period and the forecasted amount of development bond, national saving bond and special bond was in increasing trend, which indicates a good sign for development of government securities market. The researcher concluded that as most of the investors are willing to invest in banking sectors debenture, the future market of banking sector's debt securities is quite prosperous.

Kamala Bajracharya (2006) in her thesis ""Problem and prospect of Debenture Market growth in Nepal" has summarized Nepalese debt securities market in still at an underdeveloped stage. Her analysis shows corporate debt securities market, government debt securities market is slightly move at maturity stage. Many factors shows that the corporate debt securities market has started to grow in comparison to the past. She also found that the number of issuing agencies are increasing, but on the other hand, the number of investors is decreasing.

From this research, she has concluded that there are some reasons that the public are showing poorer response to the debenture issued. The

continuously decreasing interest rate of debt securities is the main reasons of poor responses. Another reason is the increasing number of finance companies, which are offering higher interest rates on deposits. Her study also found that there are a number of problems, which are restricting the growth prospects of debt securities market. Lack of public awareness is a serious problem of existing Nepalese debt market. Public is not sufficiently aware about the debt securities and its benefits such as low risk, fixed income etc.

Research Gab

Very few researchers have been made on topic "problems & prospects of debt market growth in Nepal. Most of research was conducted regarding the system & procedures of public debt, problems & prospects of government debt etc. The previous researcher with the topic of "problem & prospects of debt market growth" has covered all the area of debt securities market. The researcher has also try to point out the determinants of corporate debt securities market development along with the major impediment to the debt securities market growth. Most of the previous researches have explained the situation of corporate debt securities while this research is trying to find out the present problem & solution to remove the impediments regarding debt securities market growth. So, this research covers both corporate & government debt securities market and an attempt has been made to overtake research gap remained in previous research.

CHAPTER-III

RESEARCH METHODOLOGY

Research means to get new things, techniques and to verify existing tools, techniques by hypothesis and other relevant information. Methodology is the research method used to complete the study systematically and test the hypothesis. This chapter aims to familiarize the relevant techniques of data collection, analysis of data using statistical tools and techniques required for preparation of research report and include research design, population and samples of the study, source of data & research methods.

3.1 Research Design:

Research design means to the entire process of planning and carrying out a research study. This research study attempts to analyze the present status of Nepalese Debt Securities Market. Primary data as well as secondary data are used to fulfill the objective. This study has been adopted descriptive cum analytical research approach. Descriptive approach has been utilized mainly for conceptualization of the associated problems of debt securities market in Nepal. Analytical approach has been followed mainly to examine ownership pattern and trend of government debt securities. Various statistical tools such

as time series analysis, curvilinear model and chi-square test for testing hypothesis are applied to interpret and come to conclusion.

3.2. Population and Samples of the Study:

This study is related to find out the present status of Nepalese debt securities market. So, this research covers vast area. On one side there are three practices of corporate debt securities and many government securities issuance practice are held from 1962 A.D. In another side, the population of this study comprised all the listed companies which are the potential issuance companies of debenture. They are 162 in number in fiscal year 2005/06. Likewise all the holders of debt securities, are also considering as population. Government bodies, concerned staff and experts, the brokerage firms and market makers are considering as the population of this study from which, a questionnaire survey is conducted. In another side, These all practices are also taken as population of the study.

A use of 25 listed companies from various sectors using Judgmental sampling, a list of individual investors included corporate debt holder as well as government securities holders are taken total 50 using random sampling. Again, 20 brokers and market makers and 20 other experts mainly staff of NRB, SEBO and NEPSE have been taken as samples. To analyze the position of debt securities market in the structure of securities market the issuances of securities from 1997 to 2006 are taken as sample. Similarly for analysis of ownership pattern of government securities, the issuances of government securities from 1996 to 2006 are taken as sample for

study. To analyze the trend of government securities a sample of issuances from 1987 to 2006 are taken as sample.

3.3 Source of Data:

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. This study is based on both primary and secondary data.

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

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

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

1. Nepal Rastra Bank:
   - Various Quarterly Bulletins.
   - Rastra Rin Khabar Patra.
   - Various Economic Reports.
   - Various Budget Speeches etc.

2. SEBO Nepal:
   - Various Annual Reports.
   - Prospectus of SRSM
   - Prospectus of NIBL.
   - Various Publication of NEPSE.

3. Past researches and other aforementioned publications of the concerned bodies.

4. Academic and non academic books.

5. Prevailing laws and by laws.

3.4 Analysis Methods:

Since data analysis is based on explanation and statistical analysis and interpretation. Separate techniques are utilized in order to analyze the data statistically and present them systematically.

- Hypothesis testing
- Time Series Analysis
- Curvilinear model etc

Above analysis has been done in order to represent the reliability of data.

3.4.1 Testing of Hypothesis:

The Chi-Square test of hypothesis is used to examine the problems of Nepalese debt securities market. The Chi-square test is an important test among the several tests of significance developed by statisticians. Group of listed companies, are selected for judgmental sampling. Individual/institutional investors are randomly selected according to their education, locations etc. Another group is broker & market makers which are randomly selected

and the last group is staff of SEBO & NRB.

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

$$\text{Expected frequencies} = \frac{\text{Row total x Column total}}{\text{Grand total}}$$

And the calculated values of ℜ² were calculated by the following formula: $\Re^2 = \phi|\frac{(O-E)^2}{E}$

Where,

O = Observed Frequency

E = Expected Frequency

3.4.2 Time Series Analysis:

Time Series Analysis is utilized in order to find out the forecasted value of T-Bills, Development Bond, Special Bond and National Saving Bond from the year 2007 to 2011, with the help of equation:

$Y = a + bx$

Where,

y = total forecasted value

a = minimum value

b = change rate per period

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

3.4.3 Curvilinear Model:

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

The equation of curvilinear model is as below:

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

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

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

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

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

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

CHAPTER-IV

PRESENTATION AND ANALYSIS OF DATA

The main aim of this chapter is presenting and analyzing data according to research methodology to attain the objectives of this study. In this chapter, presentation and analysis are shown as : Analysis of secondary data and Analysis of primary data.

4.1 Analysis of Secondary data

4.1.1 Position of Debt Securities Market in the Structure of Nepalese Securities Market:

Securities market is the back-bone of capital market in both developed and developing countries. Securities markets are built on some basic elements; a number of issuers with financing needs, investors with need to place savings or other liquid funds in securities, intermediaries that bring together investors and issuer and an infrastructure that provides a conductive environment for securities and settlement of transactions. The development and composition of securities market in Nepal are presented in ***Table-1***.

Table: 1

Issue Approval by SEBO/N (instrument wise) and Government Securities

('Rs' in million)

Year / Instrument	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	Total
Ordinary shares	227.90 (0.74%)	204.21 (0.63%)	224.74 (0.65%)	57.00 (0.16%)	119.40 (0.31%)	148.00 (0.30%)	412.46 (0.75%)	268.50 (0.44%)	528.76 (0.70%)	551.50 (0.65%)	657.5 (0.80%)	377.48 (0.43%)	579.83 (0.64%)	4357.28
Right Shares	-	-	69.00 (0.20%)	275.20 (10.76%)	249.96 (0.64%)	30.00 (0.06%)	124.60 (0.23%)	365.79 (0.60%)	387.87 (0.52%)	162.24 (0.19%)	70.00 (0.09%)	949.34 (1.08%)	1013.45 (1.13%)	3697.45
Preference shares	16.50 (0.05%)	-	-	-	-	80.00 (0.16%)	-	-	140.00 (0.19%)	-	-	-		236.50
Debentures	-	-	-	-	93.00 (0.24%)	-	-	-	360.00 (0.48%)	-	300 (0.37%)	300 (0.34%)	850 (0.94%)	1903.00
Mutual fund	100.00 (0.32%)	50 (0.15%)	-	-	-	-	-	-	-	100.00 (0.12%)	-	-	-	250.00
Government securities	30631.2 (98.89%)	32057.9 (99.15%)	34241.8 (99.21)	35890.8 (99.08%)	38406.5 (99.81%)	49669.7 (99.48%)	54357.0 (99.02%)	60043.8 (98.96%)	7320.7 (98.11%)	84645.3 (99.05%)	81148.30 (98.75%)	86133.70 (98.15%)	87564.30 (97.29%)	5190492.00
Total	39975.6 (100%)	32312.11 (100%)	34535.54 (100%)	36223.0 (100%)	38868.96 (100%)	49927.7 (100%)	54894.06 (100%)	60678.09 (100%)	75037.33 (100%)	85459.04 (100%)	82175.80 (100%)	86133.70 (100%)	90007.58 (100%)	5200936.00

Source: *Annual report SEBO/N 2005/06 and quarterly economic bulleting NRB Mid July 2007.*

Table No. 1 shows that total capitalization of shares, bonds is dominated by government securities. The government securities represent 98.89% in 1993/94 and 97.29% in 2005/06. Whereas, corporate bonds and stock market represents only 1.11% in 1993/94 and 2.95% in 2005/06. It shows that corporate securities market in Nepal is at initial stage. The equity shares are getting more and more popular among the corporate securities in the period of time. The equity issues approved by SEBO in 1993/94 was Rs. 227.90 million and it was Rs. 579.83 million in 2005/06. The right share also issued for Rs. 69 million in 1995/96 and Rs. 1013.45 million for 2005/06. However, the preference shares and debentures are not yet popular in Nepal. So far, there has been only three issue of preference shares and seven issues of debentures during the period of 1993/94 to 2005/06. As listed in SEBO/N, the first issuance of debenture was made by Sri Ram Sugar Mill (SRSM) in 1997/98 and followed by Himalayan Bank Limited (HBL) in 2001/02, Nepal Investment Bank Limited (NIBL) in 2003/04, Everest Bank Ltd in 2004/05. Besides these issuances, recently in 2005/06, Bank of Kathmandu Ltd., Nepal Investment Bank Limited, Nepal Investment & Commercial Bank Ltd. & Nepal SBI Ltd. has issued debentures of Rs. 850 million.

Whatever, above table also indicates that corporate sectors securities market is dominated by equity shares. Government securities and corporate equity shares were issued regularly over time. But other types of securities were not issued regularly. Limited issuance made as debentures and preference share.

From the above table it is clear that corporate debt

securities are still unpopular in Nepal, just debentures of Rs. 1903.00 million is issued from 1993/94 to 2005/06. There are following number of reasons for a dismal state of corporate debt securities, market in Nepal.

a. the population of corporate bodies which can sell debentures in the market is small.

b. listed companies shows that a significant number of them belong to banking, insurance and finance companies (out of 150, they are 119) which can mobilize public money in their own ways and hence not need to issue debentures to raise debt funds.

c. out remaining companies (i.e. 31), most of them are incurring heavy loss and hence are not in a position of raise funds from the market.

d. Nepalese organization heavily rely on bank loan instead of using loan from debt instrument. The small size of financial requirements of organization also discourage the use of debentures because of high flotation cost associated with these securities.

4.1.2 Ownership pattern of government securities and T-Bills:

Total bonds and T-Bills of Nepalese government consists of Treasure bill, Development bonds, National saving bonds, Special bonds and newly practiced public saving card. The ownership pattern of GoN bonds and T-Bills deals with the portion of total government bonds and T-Bills purchased by different institutions and individuals.

Table No. 2 shows that in the year 1997, Nepal Rastra

Bank's share in the total purchase of government securities was Rs. 188066.0 million or 51.33% of total issued. The share of NRB has gone up to Rs. 15965.0 million in year 1998 which was 41.57% of total issued amount. Again it increased to Rs. 22115.8 million (i.e. 44.53%) in year 1999. But then its share has been decreasing and reached to Rs. 11049.2 million (i.e.12.28%) in year 2006. Therefore it shows that the participation of NRB is in fluctuation trend. In comparison to commercial banks, the share of NRB is higher in the earlier years of observation. But from the year 2001, the participation of NRB has been decreasing.

The next substantial contributors to the purchase of government bonds and T-Bills are commercial banks whose purchase has increased from Rs. 7737.8 million in year 1997 to Rs. 58461.4 million in the year 2006. It clearly shows that the participation of commercial banks has been increasing. Commercial bank has contributed more than 50% in purchasing government bond & T-bills in F/Y 2004 & 2005.

Similarly, the contribution of financial institution with Insurance Corporation and provident fund has shown erratic trend. In year 1997 it was Rs. 3301.2 million, then increased to Rs. 4295.4 million in yr. 1998 and then showing decreasing trend till year 2001, again it has been starting to increase and reached to Rs. 8601.5 million in year 2005. Then after, it decreased to 74151 million i.e. 8.24% of total issued amount.

Contribution of business enterprises and private business enterprises to purchase of government securities has not been significant. Table: 2, shows that only 1% to 3% of total issued amount of government

securities has been purchasing by these sectors over the period of observation. In year 2006, these enterprises have only 0.72% share out of total issued amount.

Another important contributors to the purchase of HMG bonds and T-Bills are individuals, whose contribution has been increasing gradually. In year 1997, contribution of this group was only Rs. 2605.5 million (i.e. 7.26% out of total issued amount). Then showing increasing trend till year 2005. In the last year observation it decreased to Rs. 4550.2 which is 5.06% out of total issued amount.

Table: 2

Ownership pattern of Government Bond and T-Bills

('Rs.' in million)

Year / Owner's Name	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Nepal Rastra Bank	18066.0 (50.34%)	16965.0 (41.57%)	22115.8 (44.53%)	20908.8 (38.47%)	17949.7 (19.89%)	25504.1 (34.64%)	23685.7 (27.98%)	19138.7 (22.22%)	17457.4 (19.93%)	11049.2 (12.28%)
Commercial Bank	7737.8 (21.56%)	10280.6 (26.77%)	12659.1 (25.49%)	18176.6 (33.44%)	25392.9 (42.29%)	29361.2 (39.88%)	39469.3 (46.63%)	43796.3 (50.85%)	48550.7 (55.44%)	58461.4 (64.99%)
Financial Institutions, Insurance corporation and provident fund	3304.2 (9.02%)	4295.4 (11.18%)	4102.8 (8.26%)	3735.1 (6.87%)	3716.3 (6.87%)	4756.6 (6.46%)	7184 (8.49%)	7501.9 (8.71%)	8601.5 (9.82%)	7415.1 (8.24%)
Government business enterprises and private business enterprises	871.5 (2.43%)	1236.6 (3.22%)	1404.2 (2.83%)	1245.7 (2.29%)	927.7 (1.55%)	1079.1 (1.47%)	864.8 (1.02%)	824.9 (0.96%)	658.7 (0.75%)	648.5 (0.72%)
Individuals	2605.5 (7.26%)	2854.7 (7.43%)	3499.5 (7.04%)	5101.9 (9.39%)	6618.9 (11.02%)	6240.4 (8.48%)	6994.5 (8.26%)	6635.3 (7.703%)	6941.1 (7.93%)	4550.2 (5.06%)
Others	3305.8	3774.3	5888.3	5188.9	5438.3	6679.3	6447	8276.0	5354.9	7830.3

	(9.21%)	(9.83%)	(11.85%)	(9.54%)	(9.06%)	(9.07%)	(7.62%)	(9.60%)	(6.11%)	(8.72%)
Total	35890.8 (100%)	38406.6 (100%)	49669.7 (100%)	54357.0 (100%)	60043.8 (100%)	73620.7 (100%)	84645.3 (100%)	86133.7 (100%)	87564.3 (100%)	89954.7 (100%)

Source: *NRB Quarterly Economic Bulletin Mid July 2007.*

4.1.3 Trend and Amount of Government Securities Issued in Nepal:

Government of Nepal has started to borrow from the internal sources to fulfill the resource gap in the budget since 1961. In the initial year 1961, the government issued only T-Bills for internal borrowings. Now the government issued various kind of securities such as T-Bills, Development bonds, special bonds, national saving bonds and public saving cards.

Table: 3. shows substantial increment occurred in the structure of government securities during the period of 1987-2006. The total amount of government securities amounted to Rs. 8997.4 million in 1987. In the end year 2006, the total amount of government securities reached to Rs. 89954.9 million.

By the Observation of growth rate, the average growth rate is 13.32 where as highest growth in year 1988 and lowest growth in year 2005. Although amount is in increasing trend, the growth rate shows the fluctuating trend.

Table : 3

Trend of total government securities from 1987 to 2006.

('Rs' in million)

Year	Total amount of government securities (Rs.)	Growth rate* (in %)
1987	8997.4	-
1988	11636.0	29.33
1989	12887.9	10.76
1990	14673.1	13.85
1991	20855.9	42.14

Year	Total amount of government securities (Rs.)	Growth rate* (in %)
1992	23234.9	11.41
1993	25456.0	9.56
1994	30631.2	20.133
1995	32057.9	4.66
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	73620.7	22.61
2003	81148.3	10.22
2004	86133.7	6.14
2005	87564.3	1.66
2006	89954.9	2.73
Total	**871461.9**	**253.07**

Source: *NRB, Quarterly Economic Bulletin, Mid July 2007.*

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

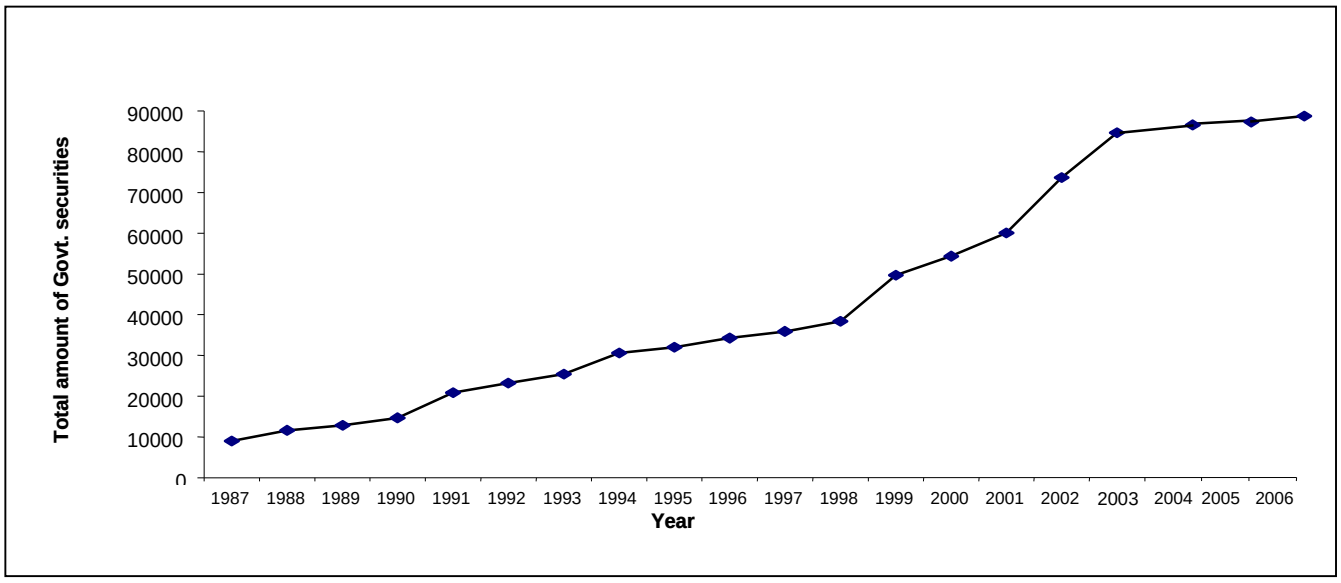
Average growth rate= Total growth rate / no. of year

= 253.07/19 = 13.32

Figure:1

Trend line of total government securities

(Rs. in million)



The amount of government bonds shows the increasing trend and its growth rate is positive in each year. So, to find out the forecasted amount of government debt securities, curvilinear model is used.

Table:4

Growth Trend of Govt. Securities fitted in Curvilinear Model

('Rs' in million)

Year	x =No. of year	y = Amount of Govt. Securities (Rs.)	xy	x^2	x^3	x^4	x^2y
1987	1	8997.4	8997.4	1	1	1	8997.4
1988	2	11636.0	23272.0	4	8	16	46544.0
1989	3	12887.9	38663.7	9	27	81	115991.1
1990	4	14673.1	58692.4	16	64	256	234769.6
1991	5	20855.9	104279.5	25	125	625	521397.5
1992	6	23234.9	139409.4	36	216	1296	836456.4
1993	7	25456.0	178192.0	49	343	2401	1247344.0
1994	8	30631.2	245049.6	64	512	4096	1960396.8

1995	9	32057.9	288521.1	81	729	6561	2596689.9
1996	10	34241.8	342418.0	100	1000	10000	3424180.0
1997	11	35890.8	394798.8	121	1331	14641	4342786.8
1998	12	38406.6	40879.2	144	1728	20736	5530550.4
1999	13	49669.7	645706.1	169	2197	28561	8394179.3
2000	14	54357.0	760998.0	196	2744	38416	10653072.0
2001	15	60043.8	900657.0	225	3375	50625	13509855.0
2002	16	73620.7	1177931.2	256	4096	65536	18846899.2
2003	17	81148.3	1379521.1	289	4913	83521	23451858.7
2004	18	86133.7	1550406.6	324	5832	104976	27907318.8
2005	19	87564.3	1663721.7	361	6859	130321	31610712.3
2006	20	89954.9	1799098	400	8000	160000	35981960
Total	**210**	**871461.9**	**12161212.8**	**2870**	**23409**	**722666**	**192233492.2**

The equations of curvilinear model is as below:

$y = a + b\,x + c\,x^2$ ..... (i)

$\phi y = Na + b\,\phi x + c\phi X^2$ ..... (ii)

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

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

Where,

$\phi x = 156$

$\phi y = 871461.9$

$\phi x^2 = 2870$

$\phi x^3 = 44100$

$\phi x^4 = 722666$

$\phi xy = 12161212.8$

$\phi x^2 y = 192233492.2$

$N = 20$

Substituting the values in eq^n (ii), (iii) and (iv), we get

$871461.9 = 20a + 210b + 2870c$ ..... (v)

12161212.8 = 210a + 2870b + 44100c ..... (vi)

192233492.2 = 2870a + 44100b + 722666c ..... (vii)

By solving the equations (see appendix:1)

The value of

a = 13360.5

b = - 198.02

c = 225.03

Now substituting the value of a, b and c in eq^{n} (i), we get

$y = 13360.5 + (-198.02)x + 225.03\ x^2$

Now,

The above equation is used to forecast the amount of government debt securities for the year 2007, 2008, 2009, 2010 and 2011.

The forecasted amount of government debt securities for 2004.

For year 2007, x = 21

y_{2007} = 13360.5 + (-198.02) × 21 + 225.03 ×441

= Rs. 108440.31 million

Similarly,

y_{2008} = Rs. 117918.58 million

y_{2009} = Rs. 127846.91 million

y_{2010} = Rs. 138225.30 million

y_{2011} = Rs. 149053.75 million

Table:5

Forecasted amount of Govt. Securities from 2007 to 2011

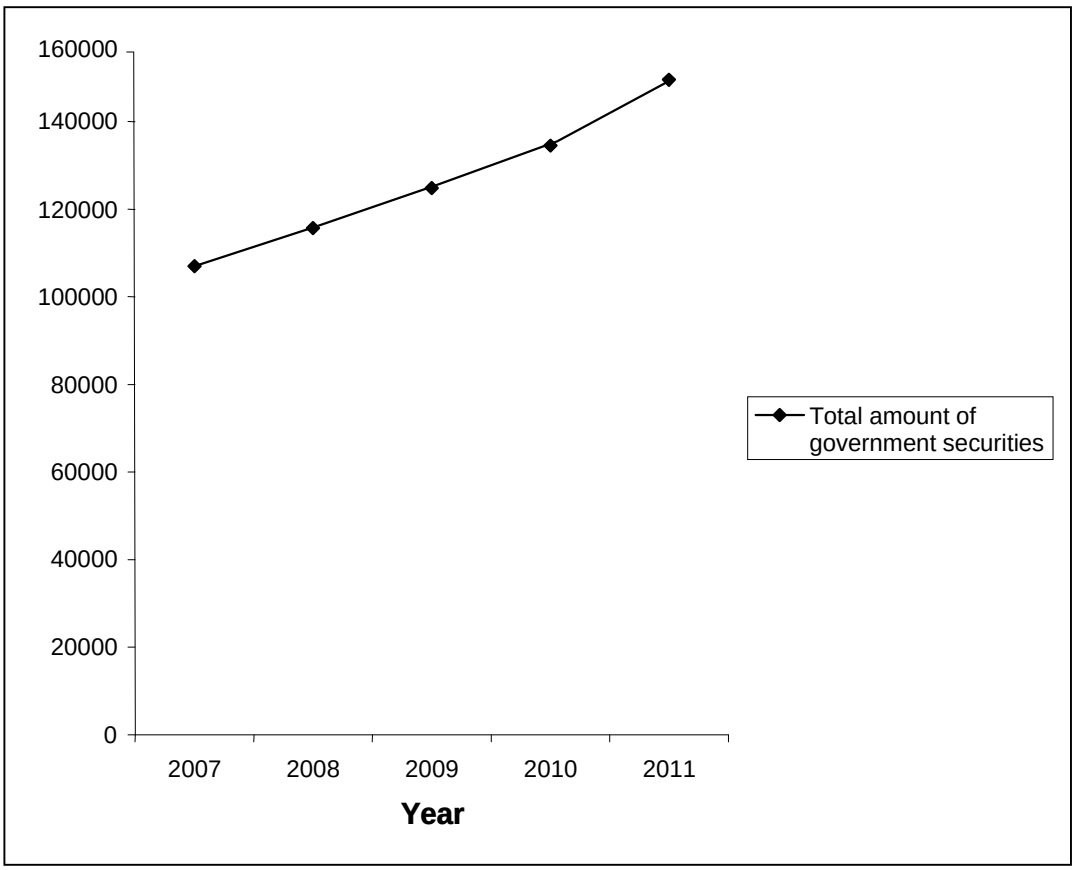
('Rs' in million)

Year	Total amount of government securities (Rs.)
2007	108440.31

2008	117918.58
2009	127846.91
2010	138225.30
2011	149053.75

Figure:2

Trend line of Forecasted amount of Govt. Securities from 2007 to 2011.



4.1.3.1 Trend of Treasury Bills:

Treasury bill is the short term money market instrument issued by the government . Main holder of T-bills are Nepal Rastra Bank and Commercial Banks. The given below table shows the amount of T-Bills issued by the government to collect the required fund in 20 years period.

By Observation of growth rate, the average growth rate is 22.29 where as highest growth in year 1999 and deficit growth

in year 1989.

Table:6

T-Bills issued by the government from 1987-2006

('Rs' in million)

Year	Total amount of treasury bills (in Rs.)	Growth rate* (in %)
1987	3440.0	-
1988	4090.0	18.90
1989	1171.0	- 71.37
1990	1821.0	55.51
1991	2351.0	29.10
1992	3483.2	48.16
1993	4403.2	26.41
1994	5216.3	18.47
1995	6392.5	22.55
1996	7142.5	11.73
1997	8092.5	13.30
1998	9182.5	13.47
1999	17586.9	91.53
2000	21026.9	19.56
2001	27610.8	31.31
2002	41106.5	48.88
2003	46844.9	13.95
2004	49429.6	5.52
2005	51383.1	3.95
2006	62970.3	22.55
Total	371304.80	423.48

Source: *NRB, Quarterly Economic Bulletin, Mid July 2007.*

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

Average growth rate= Total growth rate / no. of year

= 423.48/19 = 22.29

Figure:3

Trend line of T-Bills

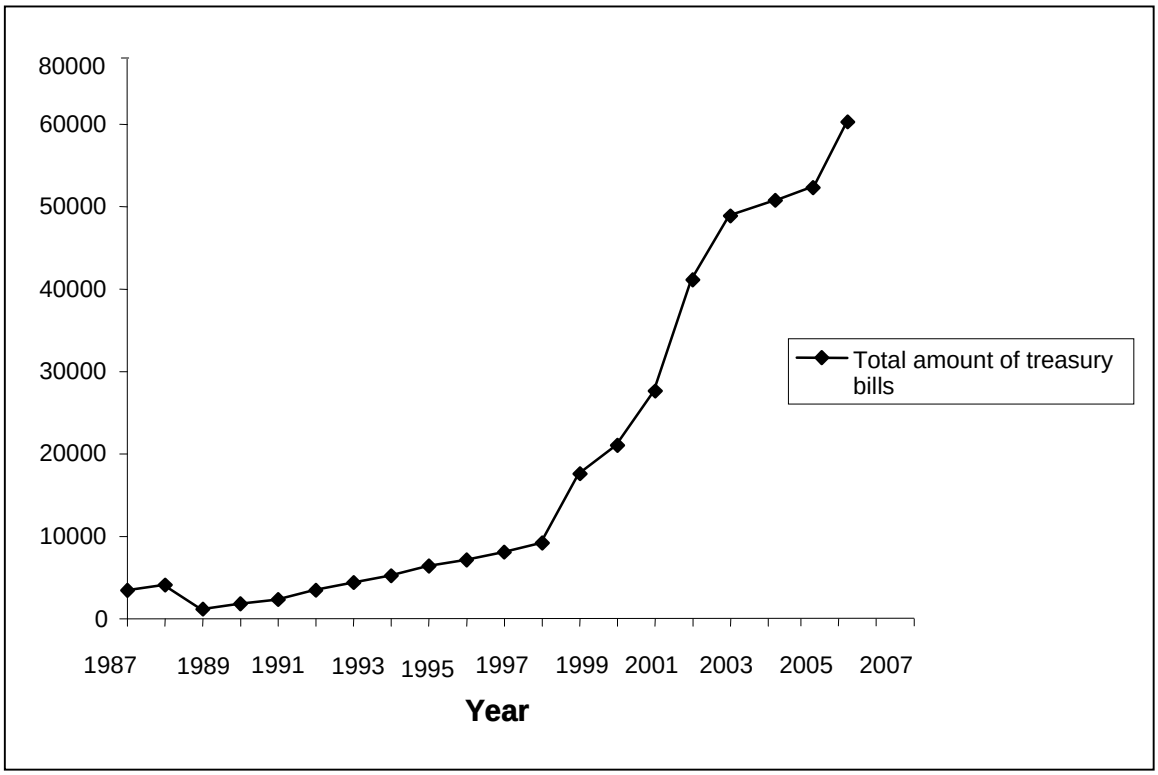


Table:6 shows the total amount of treasury bills issued by the government during the past 20 years (i.e. 1987-2006). The total amount of treasury bills is increasing from Rs. 3440 million in 1987 to Rs. 62970.3 million in 2006 (Except in the yr. 1989). The observing growth rate column shows the maximum increment (i. e. 91.53%) in year 1999. The main holders of T-Bills are Nepal Rastra Bank and commercial banks.

In the year 2006, out of the total outstanding T-Bills, amounting Rs. 62970.3 million, 14.62% (i.e. Rs. 9209.3 million) was held by NRB, 81.38% (i.e. Rs 51245.8 million) was held by commercial banks and 3.99% (i.e. Rs. 2515.2) was held by others. (see appendix:2)

The Forecasted amount of T-Bills from 2007 to 2010 is given

below:

Table:7

Forecasted Amount of T-Bills from 2007 - 2011

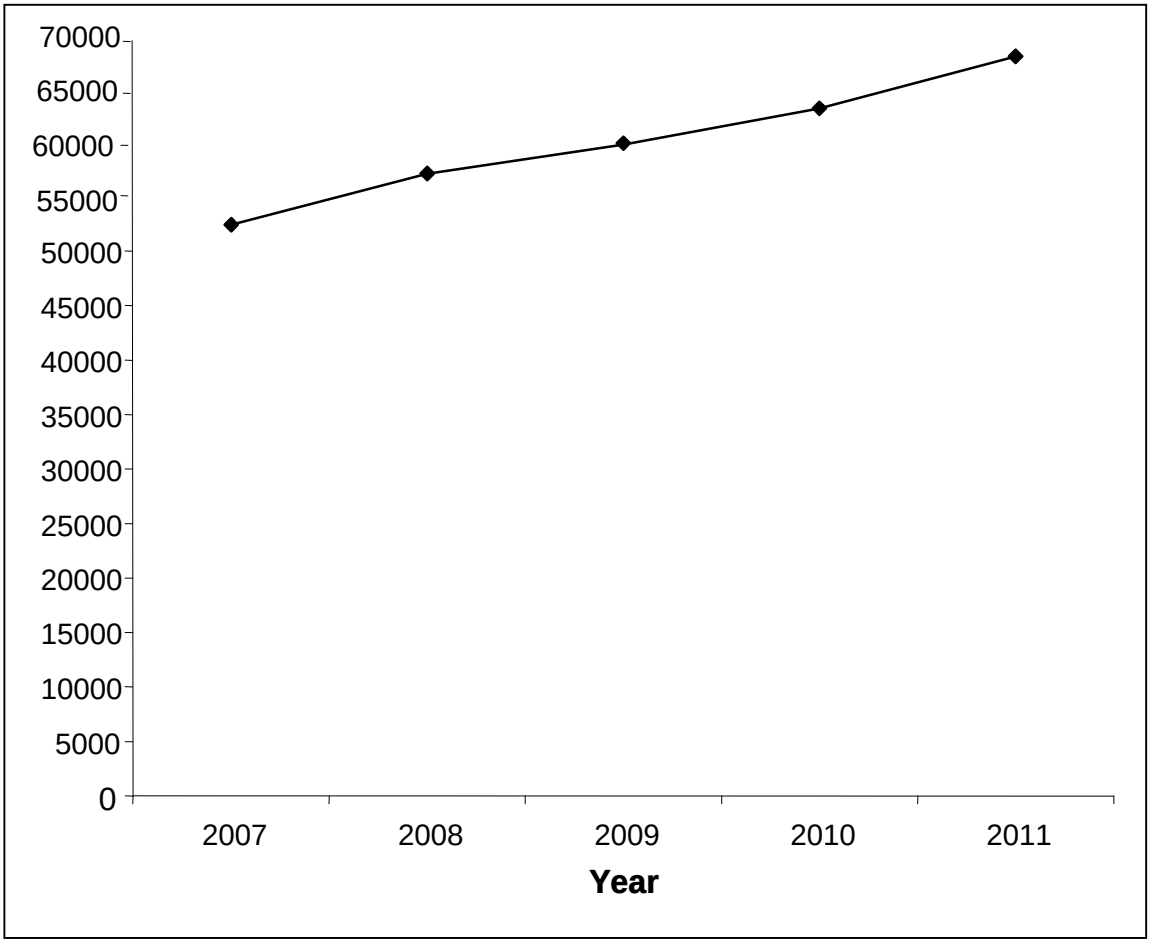
'Rs' in million

Year	Forecasted Amount of T-Bills
2007	52606.46
2008	55912.87
2009	59219.28
2010	62525.69
2011	65832.10

Source: *Appendix - 3*

Figure: 4

Trend line of Forecasted amount of T- Bills from 2007-2011



4.1.3.2 Trend of Development Bond:

Development bond issued by the government to collect the required fund in 20 years periods which is shown below table.

By the Observation of growth rate, the average growth rate is 11.27 where as highest growth in year 2001 and deficit growth in year 1997.

Table:8

Development Bond Issued by the government from 1987-2006

('Rs.' in million)

Year	Total Amount of Development Bond (Rs.)	Grow Rate* (in %)
1987	2990.0	-
1988	4651.7	55.58
1989	5088.6	9.39
1990	5388.6	5.89
1991	5482.30	1.74
1992	5132.20	-6.39
1993	5132.20	0.00
1994	4732.20	-7.79
1995	4122.20	-12.89
1996	3672.20	-10.92
1997	3042.20	-17.16
1998	3302.20	8.55
1999	3872.20	17.26
2000	4262.20	10.03
2001	5962.30	39.89
2002	11090.70	86.01
2003	13059.20	18.03
2004	17549.2	13.06
2005	19999.2	13.96

2006	**17959.2**	**-10.20**
Total	**143532.30**	**214.04**

Source: *NRB Quarterly Economic Bulletin, Mid July 2007.*

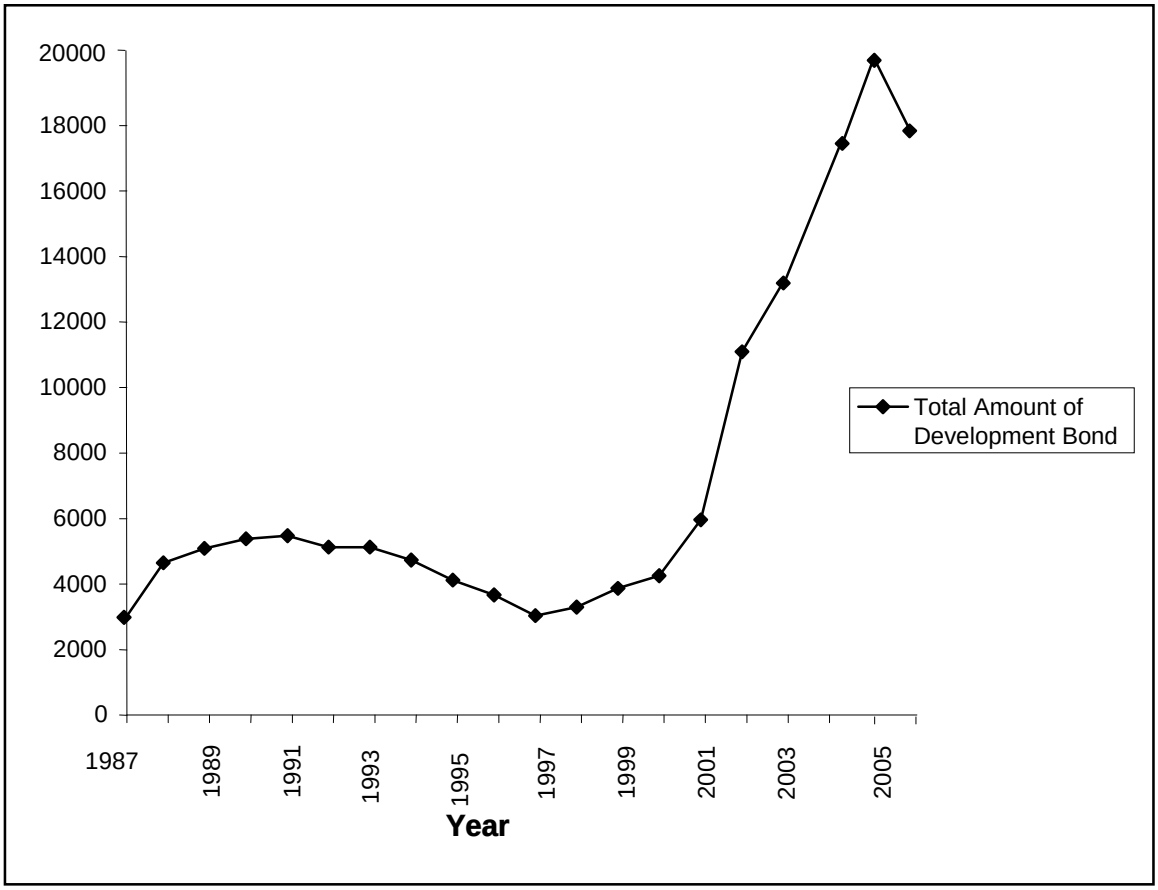
* Growth rate is calculated by taking previous as base year.

Average growth rate= Total growth rate / no. of year

= 214.04/19 = 11.27

Figure: 5

Trend Line of Development Bond



The above given table shows the amount of Development bond issued by the government during the past 20 yrs (i.e 1987-2006) which is in increasing trend in first five years and reached to Rs. 5482.30 million in year 1991. After then the

trend shows decreasing and reached to Rs. 3042.20 million in the year 1997 (except for the yr 1993), where there is no change as compared to previous year. From 1998, growth rate again shows positive trend up to 2005 and then decreased. The main holders of this bond are NRB and commercial banks. In the year 2006, out of total issued amount, NRB held 8.46% (i.e. 1518.6) and commercial bank held 34.92% (see appendix:2)

The forecasted amount of development bond from 2007 to 2011 is given below:

Table:9

Forecasted amount of development bonds from 2007-2011

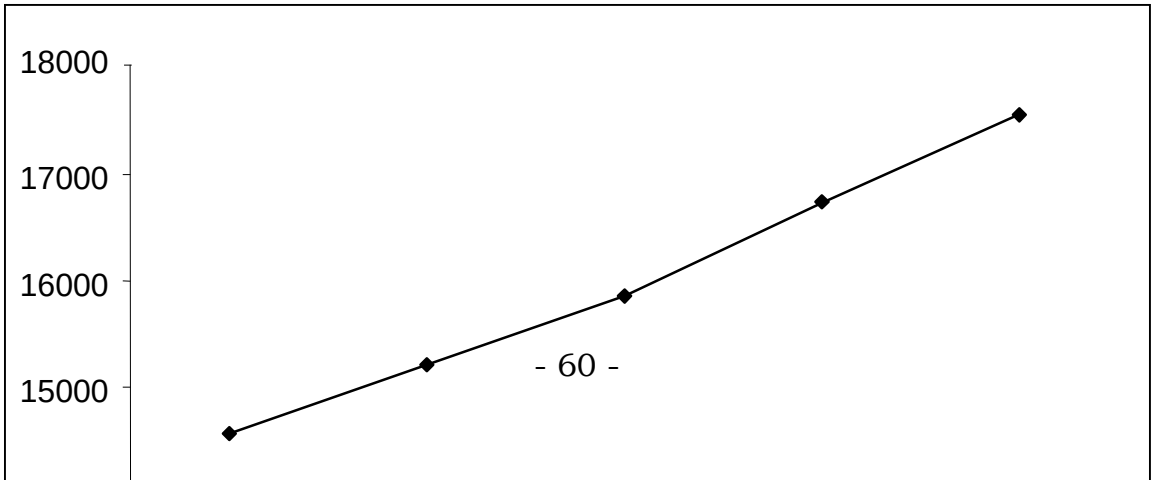
('Rs.' in million)

Year	Forecasted Amount of development bonds
2007	14583.45
2008	15286.36
2009	15989.27
2010	16692.19
2011	17395.10

Source: *Appendix - 4*

Figure: 6

Forecasted amount of development bond.



4.1.3.3 Trend of National Saving Bond:

The given below table shows the amount of national saving bond issued by the government to collect the required fund in 20 years periods.

The average growth rate is 5.22 by observation of growth rate where as highest growth in year 1990 and deficit growth in year 2006.

Table: 10

National Saving Bond issued by government from 1987-2006

('Rs' in million)

Year	Total amount of national saving bond (Rs.)	Growth Rate* (in %)
1987	1940.00	-
1988	2196.50	13.22
1989	2196.50	0.00
1990	2896.50	31.87
1991	3646.50	29.89
1992	4546.30	24.68
1993	4901.50	7.81
1994	5691.50	16.12
1995	6076.40	6.76
1996	7376.50	21.40
1997	8736.50	18.44
1998	9886.40	13.16
1999	10426.40	5.46
2000	11526.50	10.55
2001	12476.40	8.24
2002	11536.10	-7.54

2003	10659.9	-16.52
2004	9029.8	-15.29
2005	6576.8	-27.16
2006	3816.8	-41.96
Total	134260	99.13

Source: *NRB Quarterly Economic Bulletin, Mid July 2007.*

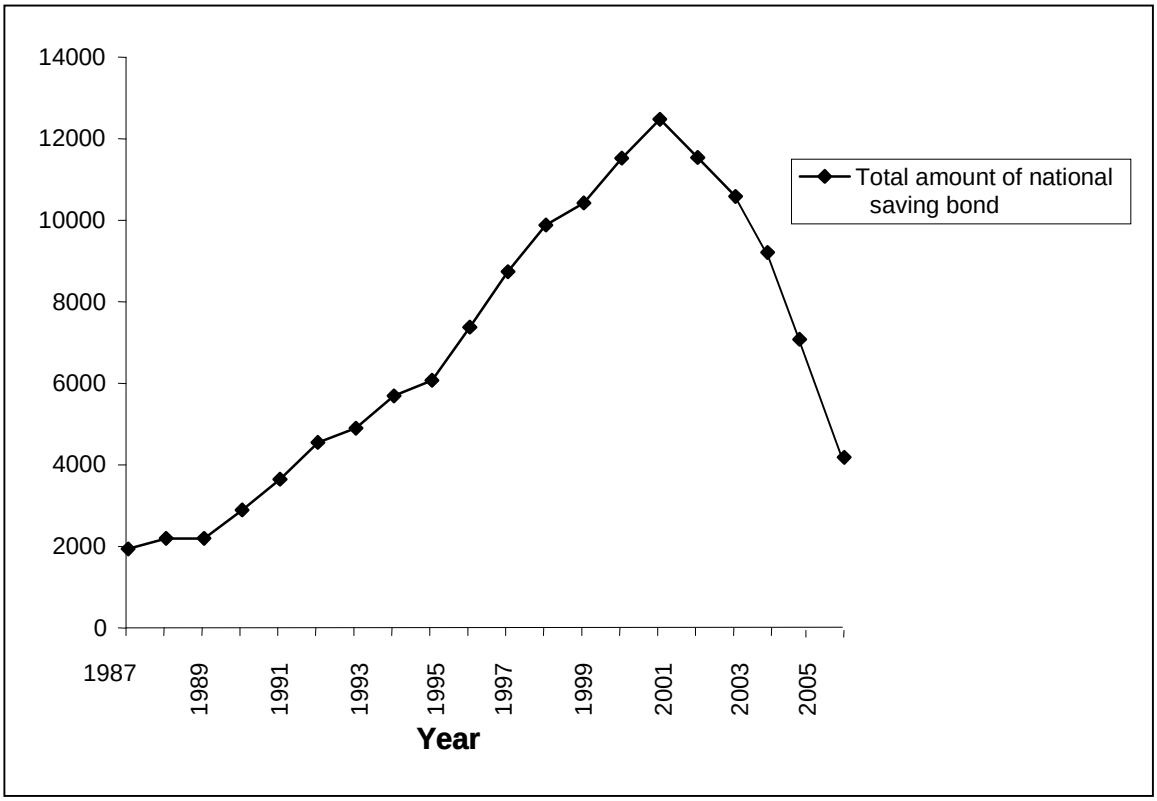
* Growth rate is calculated by taking previous year as base year.

Average growth rate= Total growth rate / no. of year

= 99.13/ 19 = 5.22

Figure:7

Trend line of National Saving Bond



The above given table: 10 shows the the total amount of national saving bond issued by the government during the past 20 yrs (1987-2006) which is in increasing trend up to the

year 2001 (expect in 1989, which is constant as compared to the previous year) as shown in the graph. In the year 2002 trend line has started decreasing and reached up to Rs. 3876.8. Observing the growth rate column the year 1990 maximum growth rate of 31.87%.

The main holders of national saving bonds are individuals. In year. 2006, out of the total issued amount of NSB (i.e. Rs. 3876.8 million), 63.06% (i.e. 2407.2 million) was purchased by individuals.

The forecasted amount of national saving bond from year 2006 to year 2011 is given below:

Table: 11

Forecasted amount of National Saving Bond from 2007-2011

(Rs. in million)

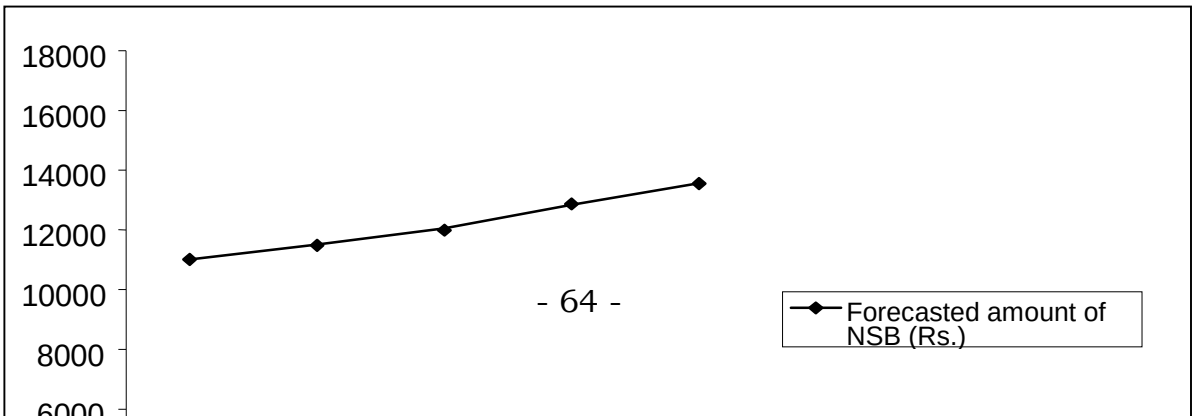
Year	Forecasted amount of NSB (Rs.)
2007	11086.37
2008	11488.38
2009	11890.38
2010	12292.39
2011	12694.39

Source: *Appendix-5*

Figure 8

Trend line of forecasted amount of NSB from 2007-2011

(Rs. in million)



4.1.3.4 Trend of special bond

Since, 1960 A.D. the government initiated the process of selling bond. The given below table shows the amount of special bonds issued by the government to collect the required fund in 20 yrs. periods.

By the Observation of growth rate, the average growth rate is 33.74 where as highest growth in year 1989 and deficit growth rate in year 2006.

Table:12
Special Bond Issued by the Government from 1987-2006

('Rs' in million)

Year	Total amount of special bond (Rs.)	Growth Rate* (in %)
1987	627.40	-
1988	697.80	11.22
1989	4431.80	535.11
1990	4567.00	3.05
1991	9376.10	105.30
1992	10073.20	7.43
1993	11019.10	9.39
1994	14991.20	36.05
1995	15466.80	3.17
1996	16050.60	3.77
1997	16019.60	-0.19
1998	16035.50	0.10
1999	17784.20	10.91
2000	17541.40	-1.37
2001	13994.30	20.22
2002	9259.30	-33.84
2003	9621.7	3.91
2004	8946.2	-7.02

2005	8176.3	-8.60
2006	3469.8	-57.56
Total	207522	641.05

Source: *NRB Quarterly economic bulletin, Mid July 2007.*

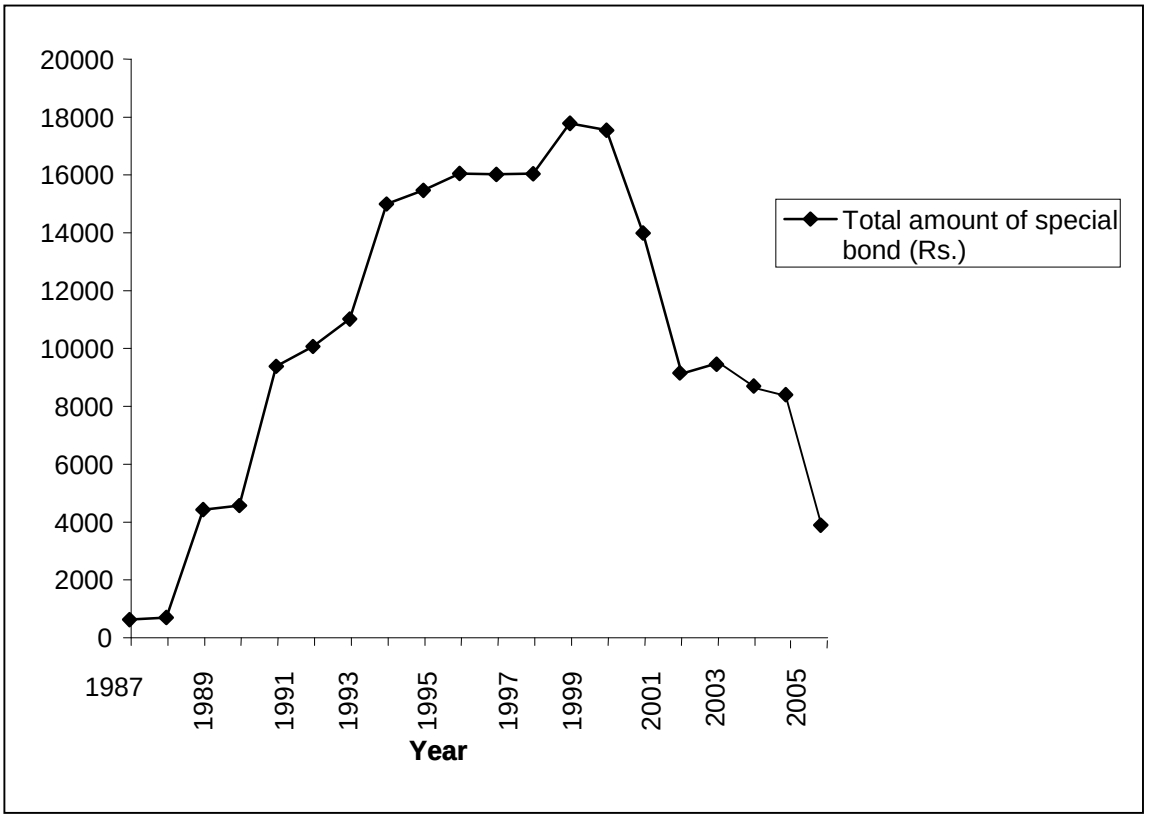
* Growth rate is calculated by taking previous year as base year.

Average growth rate= Total growth rate / no. of year

= 641.05/ 19 = 33.74

Figure:9

Trend Line of Special Bond



The above given table shows the amount of special bond issued by the government during the past 20 yrs. (i.e. 1987-2006) which is in increasing trend up to the year 1999 (Except in 1997, which is decreasing as compared to the previous year). But the trend line goes downward of

observation. In the year 1989, it shows maximum growth rate of 535.11% as compare to the previous year's amount.

The main holders of the special bonds are NRB and commercial banks. In the year, 2006 out of total issued amount of special bonds (i.e. Rs. 3469.8 million) and 27.22% (i.e. Rs. 944.6 million) was held by commercial bank (see appendix:2)

The forecasted amount of special bond from year 2007 to 2011 is given below:

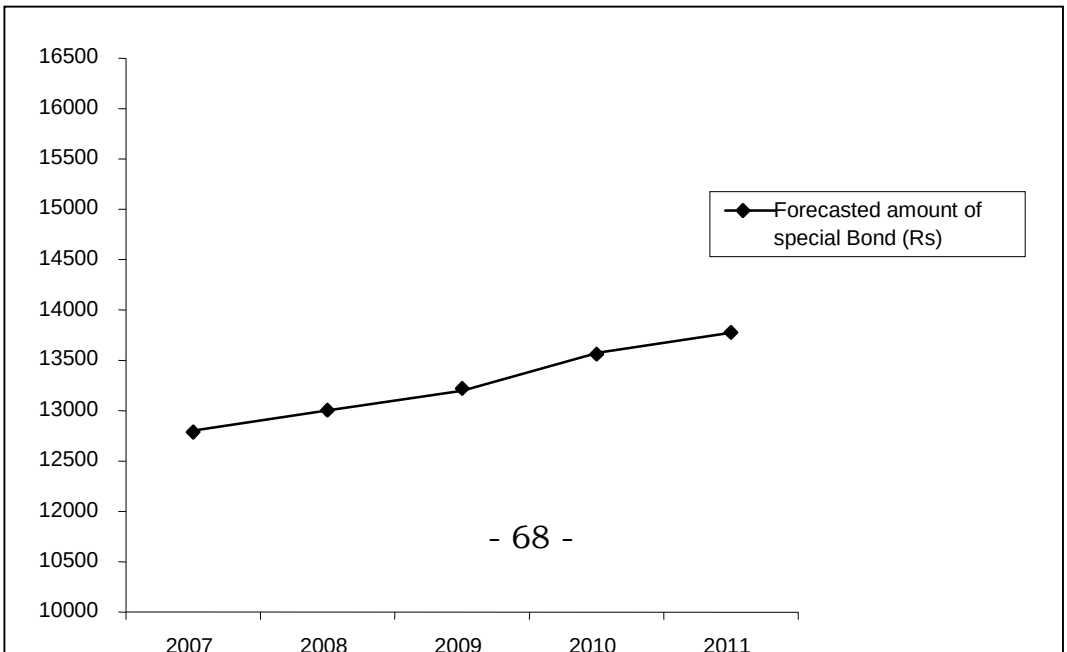
Table: 13
Forecasted amount of special bond from 2007-2011

('Rs' in million)

Year	Forecasted amount of special Bond (Rs)
2007	12801.76
2008	12989.71
2009	13177.67
2010	13365.62
2011	13553.57

Source: *Appendix-7*

Figure: 10
Trend line of forecasted special bonds from 2007-2011



4.1.3.5 Trend of public saving card

The initiation of Public Saving Card has initiated the new step in the growth of government bonds. Mainly this card is owned by personal area. In the year 2006, out of total issued amount of public saving card (i.e. Rs. 1678.9 million) 100% was held by personal area (see appendix: 2). This card can be sold only by Nepalese citizen.

The average growth rate is 28.39 where as highest growth in year 2003 and lowest growth rate in year 2004 by observation Table 14.

The given below table shows the amount of Public Saving Card issued by the government to collect the required funds.

Table:14

Public Saving Card issued by the from 2002-2006

('Rs' in million)

Year	Amount of public saving card	Growth Rate* (in %)
2002	628.1	-
2003	931.1	48.24
2004	1178.9	26.61
2005	1428.9	21.21
2006	1678.9	17.49
Total	5845.9	113.55

Source: *NRB Quarterly economic bulletin, Mid July 2007.*

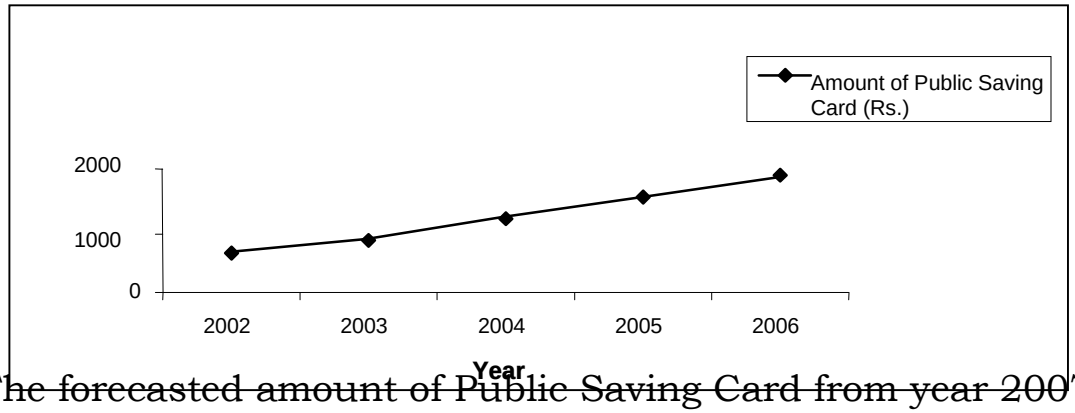
* Growth rate is calculated by taking previous year as base year.

Average growth rate= Total growth rate / no. of year

= 113.55/4 = 28.39

Figure:11

Trend Line of Public Saving Card



The forecasted amount of Public Saving Card from year 2007 to 2010 is given below.

Table: 15

Forecasted amount of Public Saving Card from 2007-2011

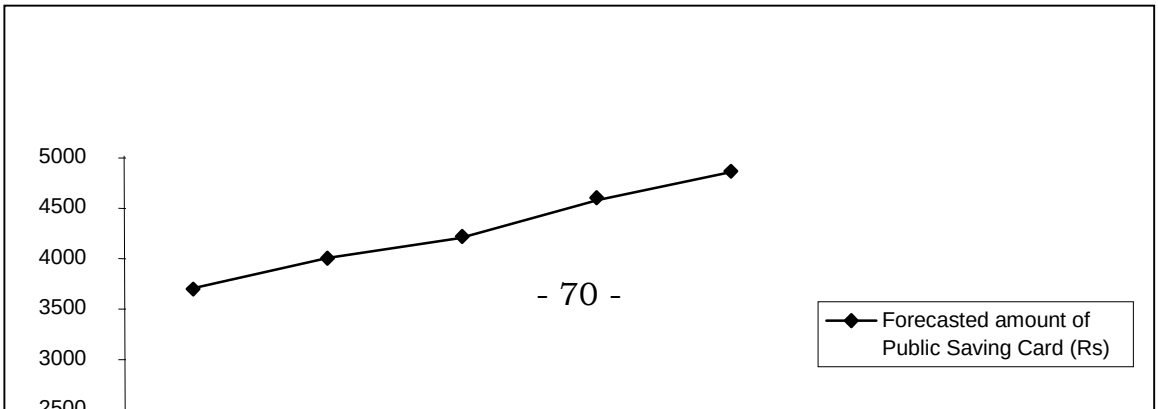
('Rs' in million)

Year	Forecasted amount of Public Saving Card (Rs)
2007	3768.58
2008	4028.52
2009	4288.46
2010	4548.40
2011	4808.34

Source: *Appendix-6*

Figure: 12

Trend line of forecasted Public Saving Card from 2007-2011



4.1.4 Trend of Corporate Debt Securities

Different corporate bodies have issued various kinds of securities. In F/Y 1986/87 Bottlers Nepal has introduced debenture of amount Rs. 5 million and provide 18% interest rate. In 1992/93 Jyoti Spinning Mills Ltd. has also issued debenture of Rs. 20 million and provide 14% interest rate. Another manufacture company i.e. Shree Ram Sugar Mill has also issued convertible debenture in 1997/98, which was unfortunately heavily under subscribed and redeemed before maturity. Then after some banking sector has issued redeemable debenture, which were heavily oversubscribed.

The given below table shows the portion of amount of debenture issued by the corporate bodies out of the amount of securities issued from fiscal year 1993/94 to 2005/06.

Table 16

Portion of amount of debenture, issued by the corporate bodies out of the total amount of securities issued from F/Y 1993/94 to 2005/2006.

Rs. in million

Year	Total no. of issue	No. of debenture	Total amount of issuance	Amount of debt issue	% of debt on total issue of security
1993/94	17	-	344.4	-	
1994/95	12	-	254.21	-	
1995/96	12	-	293.74	-	
1996/97	5	-	332.2	-	
1997/98	12	1	462.36	93	20.114
1998/99	5	-	258.00	-	
1999/2000	9	-	630.31	-	
2000/01	10	-	717.20	-	
2001/02	16	1	1555.11	360	23.15
2002/03	17	-	853.83	-	-
2003/04	16	1	1547.20	300	19.39
2004/05	12	1	1315.80	300	22.8
2005/06	29	4	2443.28	850	34.79

Source: SEBO/N annual report 2005/2006.

This above table clearly shows that the no. of debenture is only 4 (from fiscal year 1997/98 to 2005/06. From fiscal year 1993/94 no. debenture was issued till the fiscal year 1996/97. Similarly from fiscal year 1998/99 to 2000/2001, and in the fiscal year 2002/2003, no. debenture was issued. Among the 4 debenture, 3 of them are issued by banking sector, i.e. Himalayan Bank, Investment Bank and Everest Bank.

Besides these, in the fiscal year 2005, Everest Bank has again issued debenture of Rs. 300 million. In the fiscal year 2006, Nepal Investment Bank has issued debenture of Rs. 250 million. In the same year, Nepal Industrial Bank has issued Rs. 200 million & Nepal SBI Bank has also issued debenture of Rs. 200 million .

The given table shows the characteristics of Nepalese

corporate debt securities.

Table 17

Characteristics of Nepalese Corporate Debt Securities

S.N.	Characteristics	SRSM	HBL bond 2066	NIBL Bond 2067	EBL Bond	NIBIL Bond 2070	SBI Bond 2070	NIC Bond 2070
1.	Par value	Rs. 1000/-	Rs. 1000/-	Rs. 1000/-	Rs. 1000/-	Rs. 1000/-	Rs. 1000/-	Rs. 1000/-
2.	No. of debentures	93000	360000	300000	300000	250000	200000	200000
3.	Coupon rate	14%	8.5%	7.5%	6%	6%	6%	6%
4.	Maturity period	4yrs	7yrs	7yrs	7yrs	7yrs	7yrs	7yrs
5.	Nature of interest payment	Semi-annually	Semi-annually	Semi-annually	Semi-annually	Semi-annually	Semi-annually	Semi-annually
6.	Purpose of Issuance	Expansion of production capacity	To follow NRBS direction and to fulfillment of supplementary capital	To follow NRBS direction and to fulfillment of supplementary capital	To follow NRBS direction and to fulfillment of supplementary capital	To follow NRBS direction and to fulfillment of supplementary capital	To follow NRBS direction and to fulfillment of supplementary capital	To follow NRBS direction and to fulfillment of supplementary capital
7.	Nature of Placement	Public offering	Private placement & public offering	Private placement & public offering	Private placement & public offering	Private placement & public offering	Private placement & public offering	Private placement & public offering
8.	Minimum No. of Debenture to be purchased	1	25	25	25	25	25	25
9.	Debenture redemption fund		Rs. 51.429 million each year	Rs. 43 million each year	Rs. 300 million for 7 year	Rs. 35715000 each year	Rs. 28571429 each year	Rs. 40 million each year (3 yrs of issuing bond)

10.	**Issue Managers**	**NIDC Capital Market**	**Nepal Merchant Bank**	**ACE Finance Co.**	**Citizen Investment Trust**	**ACE Finance Co.**	**Citizen Investment Trust**	**ACE Finance Co**

***Source**: Prospectus of debentures and SEBO annual report.*

4.2 Analysis of Primary Data

4.2.1 Analysis of Questionnaire:

A set of Questionnaires was prepared to find the major problem faced by the debt securities market of Nepal and also to give the probable recommendations.

There are total 10 questions (see appendix: 8) and 100 respondents included in analysis. The respondents are 25 listed companies, 20 brokers & market makers, 35 individual investors and 20 other experts mainly the staff of SEBO, NEPSE and NRB.

1. Choice of Securities:

   Out of 100 respondents, 51% of them gave their opinion that Nepalese investors prefer to invest on common stock. 27% of them gave their opinion in favor of debt securities. 7% of them choose mutual fund and 15% choose preference shares.

2. Major factors responsible for slow growth of debt securities:

   Out of the total 100 respondents, 53% of them give their opinion that the major factor is lack of investor's awareness, 36% of them agree with the factor that limited supply of Quality bond is main cause and rest of them opined that lack of capital gain opportunity is main reason.

3. Choice of various sector's debenture:

   Out of the 50 respondents, 27% of them give their opinion that banking sector's debenture is most

preferable for investment. 5% of them give their opinion in favor of manufacturing sector's debenture. 3% of them chose hotel sector's debentures and 15% of them chose other sector's like insurance company, finance company's, trading sector etc.

4. Reason behind use of bank loan instead of issuing debenture:

Out of 100 respondents, 43% 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. While 25% of them give their view that due to difficult process of issuing debenture, Nepalese organization use bank loan. Another 26% agree lower cost incurred in bank loan than issuance of debenture is main reason. Rest 6% give different reasons such as secrecy of financial transaction, dealing with large no. of investors on issuance of debenture which cause difficult to administer, risk regarding market response (i.e. risk of under subscription) etc.

5. Few practices of debt instruments in Nepal:

Out of 65 respondents, 41.45% of them agreed with the large business organization, while 35.38% agreed with the lack of legal provisions, which result the few debt instruments are available in the market. And 18.64% respondents agreed with public unawareness, which results the few practices of debt instruments. Rest 4.6% respondents gave some other reasons of not

practicing debt instrument properly in Nepal, such as corporate interest & awareness.

6. Sufficiency of legislation regarding debt securities market in Nepal:

Out of 100 respondents, 25% of them agrees that the existing legal provisions are sufficient for the growth of debt market of Nepal. While 75% respondents, disagree about sufficiency of legal provision for the growth of debt market in Nepal.

7. Political instability and debt securities market growth:

Out of 100 respondents, 80% of them agree with the fact that political stability generally requires for all sector's systematic development and debt securities market may not be exception of this. Only 20% respondents responded no relevancy of political situation in this regard.

8. Problem facing by corporate debenture in secondary market.

Out of 100 respondents, 80% agree that the Nepalese corporate debenture is still facing a lot of problems in the secondary market. Rest has i.e. 20% agreed that the Nepalese corporate debentures has no problems in secondary market.

9. Systematize of government debt securities market:

One of the questions, asked to the respondent is

whether the government debt securities market is systematic or not. In this connection, out of 100, 29% of respondents felt the government securities market is systematic while 71% of the respondents, opined that government securities market is not systematic and they gave some reasons.

- The government securities will be traded on NEPSE floor, still the government bonds are not traded on the floor of NEPSE.
- It has no country wide trading system.
- Buying & selling of government securities are not based on demand & supply.

10. Issue of debenture in present market situation:

Out of 100 respondents, 73% of them suggest other organization to issue debenture in order to fulfill their cash requirement. Rest 27% respondents suggest not to issue debenture.

4.2.2. Test of Hypothesis:

Hypothesis-1:

In 100 random samples of respondents, it contains the following distribution which was noted on the basis of related fields, the test is to draw the choice of securities by Nepalese investors.

Table: 18

Hypothesis test regarding to the choice of securities

Opinions	Listed	Brokers	Individu	Other	Tota

	Companies	& Market Makers	al Investors	experts	l
Common Stock	15	11	14	11	51
Debt Securities	6	5	10	6	27
Mutual Fund	2	1	2	2	7
Preference Share	2	3	9	1	15
Total	25	20	35	20	100

Source: *Field Survey*

Hypothesis Settings:

Null Hypothesis(H_o): There is no significant difference between observed and expected frequencies regarding to the choice of securities:

Alternative Hypothesis (H_1): There is significant difference between observed and expected frequencies regarding to the choice of securities.

Fixing the level of significance at 5%.

Calculation of expected frequencies (E):

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

$$= \frac{63 \times 25}{100} = 15.75$$

Similarly,

$R_2C_1 = 6.25$ $R_3C_1 = 1.25$ $R_4C_1 = 1.75$

$R_1C_2 = 12.60$ $R_2C_2 = 5$ $R_3C_2 = 1$ $R_4C_2 = 1.4$

$R_1C_3 = 22.05$ $R_2C_3 = 8.75$ $R_3C_3 = 1.75$ $R_4C_3 = 2.45$

$R_1C_4 = 12.60$ $R_2C_4 = 5$ $R_3C_4 = 1$ $R_4C_4 = 1.4$

Test of Chi-Square:

Observed frequencies (O)	Expected frequencies (E)	(O - E)	$\frac{(O-E)^2}{E}$
15	15.75	-0.75	0.03571
11	12.60	-1.6	0.20317
25	22.50	-2.95	0.39467
12	12.60	-0.60	0.02857
6	6.25	-0.25	0.01
5	5.00	0.00	0.00
8	8.75	-0.75	0.06428
6	5.00	1.00	
3	1.25		
2 (7)	1.00 (5)	2	0.8
1	1.75		
1	1.00		
1	1.75		
2 (5)	1.40 (7)	12	0.57142
1	2.45		
1	1.40		

Total	2.16782

Test Statistics:

$\Re$ - Calculated = $\phi \frac{(O-E)^2}{E}$ = 2.16782

d.f = (R-1) (C-1) -6 [Since 6 d.f loss due to pooling]

= (4-1) (4-1) - 6

= 3

$\Re$ - tabulated at 5% level of significance for 3 d.f is 7.815.

Decision: Since the tabulated value of $\Re$ at 5% level of significance for 3 d.f is greater than calculated value (i.e. 7.815 > 2.16782), the null hypothesis is accepted which means that there is no significance difference between observed and expected frequencies regarding to the choice of the securities.

Hypothesis-2

In 100 random samples of respondents, it contains the following distribution, which was noted on the basis of related fields. The test is to draw the factors due to which Nepalese debt securities market can not growth smoothly.

Table :19

Hypothesis test regarding to the reason for the slow

growth of debt securities market.

Opinions	Listed Companies	Brokers & Market Makers	Individual Investors	Other experts	Total
Lack of investor's awareness	15	9	17	12	53
Limited supply of quality bond	7	9	13	7	36
Lack of capital gain opportunity	3	2	5	1	1
Total	**25**	**20**	**35**	**20**	**100**

Source: *Field Survey.*

Hypothesis Settings:

Null Hypothesis (H_o): There is no significant difference between observed and expected opinions regarding to the reason for the slow growth of debt securities market.

Alternative Hypothesis: There is significant difference between observed and expected opinions regarding to the reason for the slow growth of debt securities market.

Fixing level of significance at 5%.

Calculation of expected frequencies (E):

Expected frequency of R_1C_1 =

$$\frac{\text{Row total} \mid \text{Column total}}{\text{Grand total}}$$

$$= \frac{53 \mid 25}{100} = 13.25$$

Similarly,

$R_2C_1 = 9.00$ $R_3C_1 = 2.75$

$R_1C_2 = 10.6$ $R_2C_2 = 7.20$ $R_3C_2 = 2.20$

$R_1C_3 = 18.55$ $R_2C_3 = 12.60$ $R_3C_3 = 3.85$

$R_1C_4 = 10.6$ $R_2C_4 = 7.20$ $R_3C_4 = 2.20$

Test of Chi-Square:

Observed Frequencies (O)	**Expected Frequencies (E)**	**(O-E)**	**$\frac{(O-E)^2}{E}$**
15	11.00	1.75	0.23113
9	8.80	-1.6	0.24150
17	15.40	-1.55	0.12951
12	8.80	1.4	0.18490
7	10.00	-2.00	0.44444
9	8.00	1.80	0.45
13	14.00	0.40	0.01269
7	7.20	-0.20	0.00555
3 2) 5	2.75 2.20) 4.95	0.05	0.00050
5 1) 6	3.85 2.20) 6.50	-0.5	0.0384

Total	**1.73868**

Test Statistics:

$\Re$ - Calculated = $\phi \frac{(O-E)^2}{E}$ = 1.73868

d.f = (R-1) (C-1) -2 [Since 2 d.f loss due to pooling]

= (3-1) (4-1) -2

= 4

$\Re$ - tabulated at 5% level of significance for 4 d.f is 9.488

Decision: Since tabulated value of $\Re$ is greater than calculated value of $\Re$ (i.e. 9.488 > 1.73868), null hypothesis is accepted which means that there is no significant between observed and expected opinion regarding the reason for slow grow of debt securities market in Nepal.

Hypothesis-3

Out of 50 respondents, it contains the following distribution which was noted on the basis of related fields. The test is to draw the choice of various sector's debenture.

Table :20

Hypothesis test regarding to the choice of various sector's debenture.

Opinions	Individual Investors
Government debt securities	27
Manufacturing sector debt securities	5
Any debt securities of banking	15

sector	
Others	3
Total	**50**

Source: *Field Survey*

Hypothesis Settings:

Null Hypothesis (H_0): There is no significant difference between observed and expected frequencies regarding the choice of various sector's debenture.

Alternative Hypothesis (H_1): There is significant difference between observed and expected frequencies regarding the choice of various sector's debenture.

Fixing level of significance at 5%

Test of Chi-Square:

Observed Frequencies (O)	**Expected Frequencies (E)**	**(O-E)**	**$\frac{(O-E)^2}{E}$**
27	13.25	1.75	0.2311
5	10.60	-0.60	0.0339
15 3] 18	18.55 10.60] 25	-7	1.96
$\phi O=50$	$\phi E=50$		$\phi\frac{(O-E)^2}{E}$ =**23.28**

Test Statistics:

Calculation of expected frequency(E):

$E = \frac{\phi 0}{n} = 23.28$

d.f = n-1

= 4-1

= 3

$\Re$ - tabulated at 5% level of significance for3 d.f is 7.815

Decision: Since tabulated value of $\Re$ is greater than calculated value of $\Re$ (i.e 7.815<23.28), the null hypothesis is accepted which means that there is no significant difference between observed and expected frequencies regarding choice of various sector's debenture.

Hypothesis-4

In 65 random samples of respondents, it contains the following distribution, which was noted on the basis of related fields. The test is to draw the reason regarding use of bank loan instead of issuing debenture.

Table : 21

Hypothesis test regarding use of bank loan instead of debenture.

Opinions	Listed Companies	Brokers & Market Makers	Individual Investors	Total
Bank loan is easily available	7	9	9	25
Issuing debenture is difficult process	9	5	4	18
Cost of bank loan is less than issuing	7	5	5	17

debenture				
Others	2	1	2	5
Total	**25**	**20**	**35**	**65**

Source: Field Survey

Hypothesis settings:

Null Hypothesis (H_0): There is no significant difference between observed and expected opinion regarding to the use of bank loan instead of issuing debenture.

Alternative Hypothesis (H_1): There is significant difference between observed and expected opinion regarding to the use of bank loan instead of issuing debenture.

Fixing level of Significance at 5%.

Calculation of expected frequencies (E):

Expected frequencies of $R_1C_1 = \frac{(RT \mid CT)}{GT} = \frac{25 \mid 25}{65} = 9.61$

Similarly,

$R_2C_1 = 6.92$ $R_3C_1 = 6.54$ $R_4C_1 = 1.92$

$R_1C_2 = 7.69$ $R_2C_2 = 5.54$ $R_3C_2 = 5.23$ $R_4C_2 = 1.538$

$R_1C_3 = 7.69$ $R_2C_3 = 5.54$ $R_3C_3 = 5.23$ $R_4C_3 = 1.538$

Test of Chi-Square:

Observed Frequencies (O)	**Expected Frequencies (E)**	**(O-E)**	**$\frac{(O-E)^2}{E}$**
7	9.61	-2.61	0.0238
9	7.69	1.31	0.0429

9	7.69	1.31	0.1966
9	6.92	2.08	0.3048
5	5.54	-0.5	0.0385
4	5.54	-1.5	0.0077
7	6.54	0.4	0.3967
5	5.23	-0.23	0.9308
5	5.23	-0.23	0.0385
2 1 5 2	1.92 1.538 4.996 1.538	0.004	0.0000032
Total			$\Sigma\frac{(O-E)^2}{E}$ **= 2.31**

Test statistics:

$\Re$ - calculated = $\phi\frac{(O-E)^2}{E}$ = 2.31

d.f = (R-1) (C-1) – 2 [Since 2 d.f loss due to pooling]

= (4-1) (4-1) - 2

= 4

$\Re$- tabulated at 5% level of significant for 8 d.f is 9.488

Decision: Since tabulated value of $\Re$ is greater than calculated value of $\Re$ (i.e. 9.488> 2.31), the null hypothesis is accepted, which mean there is no significant difference between observed and expected frequencies regarding to the use of bank loan instead of issuing debenture.

Hypothesis-5

In 65 random samples of respondents, it contains the following distribution, which was noted on the basis of related fields. The test is to draw the opinion regarding the reasons of few practices of debt instruments in Nepal.

Table:22

Hypothesis test regarding the reasons of few practices of debt instruments

Opinions	Listed Companies	Brokers and Market Markers	Total
Lack of large business	10	8	27
Lack of legal provision	9	7	23
Public unawareness	4	5	12
Any others	2	-	3
Total	**25**	**20**	**65**

Source: *Field Survey*

Hypothesis Settings:

Null Hypothesis (Ho): There is no significant difference between observed and expected opinion regarding to the reasons of few practices of debt instruments in Nepal.

Alternative Hypotheses (H_1): There is significant between observed and expected opinion regarding to the reasons of few

practices of debt instruments in Nepal.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

Expected frequency of $R_1C_1 = \frac{RT \times CT}{GT} = \frac{27 \times 25}{65}$

=10.385

Similarly,

$R_2C_1 = 8.85$ $R_3C_1 = 4.62$ $R_4C_1 = 1.154$

$R_1C_2 = 8.31$ $R_2C_2 = 7.076$ $R_3C_2 = 2.00$ $R_4C_2 = 0.92$

$R_1C_3 = 19.25$ $R_2C_3 = 12.25$ $R_3C_3 = 3.50$ $R_4C_3 = 0.92$

Test of chi-square:

Observed Frequencies (O)	**Expected Frequencies (E)**	**(O-E)**	**$\frac{(O-E)^2}{E}$**
10	10.385	0.385	0.0409
8	8.31	- 0.31	0.0909
9	8.31	0.69	0.1591
9	8.85	0.15	0.0000
7	7.076	0.076	0.1786
7 4 (1, 1)	7.076 4.62 (11.69)	0.69 1.31	0.5714 1.4745
5	3.69	1.31	0.4651
3 2 0 1 (6)	2.50 2.00 3.50 2.00 (6.684)	- 0.68	0.069996
	Total		$\Sigma\frac{(O-E)^2}{E}$ = **0.66**

Test statistics:

$\Re$ = calculated = $\phi\frac{(O-E)^2}{E}$ = 0.66

d.f. = (R-1) (C-1) = 4 (Since 4 d.f. loss due to pooling)

= (3 - 1) (4 - 1) - 4

= 2

$\Re$ - tabulated at 5% level of significance for significance for 2

d.f. is 5.991

Decision: Since tabulated value of ℜ is greater than calculated value of ℜ (i.e. 5.991 > 2.5742), the null hypothesis is accepted which means there is no significant difference between observed and expected frequencies regarding to the reasons of few practices of debt instruments in Nepal.

Hypothesis-6

In 100 random samples of respondents, it contains the following distribution, which is noted on the basis of the related fields, the test is to draw the opinion regarding sufficiency of legal provisions related to the debt securities market.

Table:23

Hypothesis regarding to the sufficiency of legal provision related to the debt securities market

Opinions	Listed companies	Brokers & market makers	Individual Investors	Other experts	Total
Sufficient	6	4	12	3	25
Insufficient	19	16	23	17	75
Total	**25**	**20**	**35**	**20**	**100**

Source: *Field survey.*

Hypothesis settings:

Null Hypothesis (Ho): There are not sufficient legal provisions regarding the debt securities market of Nepal.

Alternative Hypothesis (H_1): There are sufficient legal provisions regarding the debt securities market of Nepal.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

Expected frequency of $R_1C_1 = \frac{25 \times 25}{100} = 6.25$

Similarly,

$R_2C_1 = 18.75$

$R_1C_2 = 5.00$ $R_2C_2 = 15.00$

$R_1C_3 = 8.75$ $R_2C_3 = 26.25$

$R_1C_4 = 5.00$ $R_2C_4 = 15.00$

Test of chi-square:

Observed frequencies (O)	**Expected frequencies (E)**	**(O-E)**	$\frac{(O-E)^2}{2}$
6	6.25	- 0.25	0.0100
4	5.00	-1.00	0.2000
12	8.75	3.25	1.2071
3	5.00	-2.00	0.8000
19	18.75	0.25	0.0033
16	15.00	1.00	0.0667
23	26.25	-3.25	0.4024
17	15.00	2.00	0.2667
Total			2.9562

Test statistics:

$\aleph$ - calculated = $\phi\frac{(O-E)^2}{E}$ = 2.9562

d.f = (R-1) (C-1)

= (2-1) (4-1)

= 3

$\aleph$ - tabulated at 5% level of significance for 3 d.f is 7.815.

Decision: Since tabulated value of $\aleph$ is greater than calculated value of $\aleph$ (i.e. 7.815>2.9562), null hypothesis is accepted which means, there are not sufficient legal provision regarding to the debt securities market of Nepal.

Hypothesis-7

In 100 random samples of respondents, it contains the following distribution, which is noted on the basis of related fields. The test is to draw opinion regarding to the relevancy of political instability with debt market growth in Nepal.

Table: 24

Hypothesis test regarding to relevancy of political instability with debt securities market growth.

Opinion	Listed Companies	Brokers & Market Makers	Individual Investors	Other experts	Total
Yes	20	18	28	14	80
No	5	2	7	6	20
Total	**25**	**20**	**35**	**20**	**100**

Source: *Field Survey.*

Hypothesis Settings:

Null Hypothesis (H_o): There is no significant difference between observed and expected opinion regarding to the relevancy of political instability with debt securities market growth.

Alternative Hypothesis (H_1): There is significant difference between observed and expected opinion regarding relevancy of political instability with debt securities market growth.

Fixing level of significance at 5%.

Calculation of expected frequencies (E):

$$\text{Expected frequency of } R_1C_1 = \frac{(\text{Row total} \mid \text{Column total})}{\text{Grand total}}$$

$$= \frac{(80 \mid 25)}{100} = 20$$

Similarly, $R_2C_1 = 5$

$R_1C_2 = 16$ $R_2C_2 = 4$

$R_1C_3 = 28$ $R_2C_3 = 7$

$R_1C_4 = 16$ $R_2C_4 = 4$

Test of Chi-Square:

Observed Frequencies(O)	**Expected Frequencies (E)**	**(O-E)**	**$\frac{(O-E)^2}{2}$**
20	20	0	0.0000
18	16	2	0.2500
28	28	0	0.0000
14	16	-2	0.2500

5 2 } 7	5 4 } 9	-2	0.444
7 6 } 13	7 4 } 11	2	0.571
Total			**1.5154**

Test Statistics:

$\Re$- Calculated = $\phi \frac{(O-E)^2}{E}$ =1.5154

d.f = (R-1) (C-1) -2 [Since 2 d.f loss due to pooling]

= (2-1) (4-1) -2

= 1

$\Re$ - tabulated at 5% level at significance for 1 d.f is 3.841.

Decision: Since tabulate value of $\Re$ is greater than calculated value of $\Re$ (i.e 3.841 > 1.5154), the null hypothesis is accepted, which means that. There is no significant difference between observed and expected opinion regarding to the relevancy of political instability with debt market growth.

Hypothesis-8

In 100 samples of respondents, it contains the following distribution which is noted on the basis of related fields. The test is to draw opinion regarding the problem facing by corporate debentures in secondary market.

Table : 25

Hypothesis test regarding the problem facing by corporate debentures in secondary market

Opinion	Listed Companies	Brokers & Market Makers	Individual Investors	Other experts	Total
Yes	18	16	32	14	80
No	7	4	3	6	20
Total	**25**	**20**	**35**	**20**	**100**

Source: *Field Survey.*

Hypothesis Settings:

Null Hypothesis (H_o): There is no significant difference between observed and expected opinion regarding the problem facing by corporate debentures in secondary market

Alternative Hypothesis (H_1): There is significant difference between observed and expected opinion regarding the problem facing by corporate debentures in secondary market.

Fixing level of significance at 5%

Calculation of Expected Frequencies (E) :

Expected Frequency of $R_1C_1 = \frac{(80 \mid 25)}{100} = 20$

Similarly, $R_2C_1 = 5$

$R_1C_2 = 16$ $R_2C_2 = 4$

$R_1C_3 = 28$ $R_2C_3 = 7$

$R_1C_4 = 16$ $R_2C_4 = 4$

Test of Chi- Square:

Observed Frequencies (O)	**Expected Frequencies (O)**	**(O-E)**	**$\frac{(O-E)^2}{E}$**

18	20	-2	0.2000
16	16	0	0.0000
32	28	4	0.5714
14	16	-2	0.2500
7 4 } 1	5 4 } 9	2	0.4444
3 6 } 9	7 4 } 11	-2	0.363
Total			**1.8294**

Test Statistics:

$$\text{℞ - calculated} = \phi\frac{(O-E)^2}{E} = 1.8294$$

d.f = (R-1) (C-1) - 2 [Since 2 d.f loss due to pooling]

= (2-1) (4-1) -2

= 1

℞ - tabulated at 5% level of significance for 1 d.f is 3.841.

Decision: Since tabulated value of ℞ is greater than calculated value of ℞ (i.e 3.841 > 1.8294), the null hypothesis is accepted, which means that there is no significant difference between observed and expected opinion regarding the problem facing by corporate debentures in secondary market

Hypothesis-9

In 100 random samples of respondents, it contains the

following distribution, which is noted on the basis of related fields, the test is to draw opinion regarding whether government securities market is systematic or not in Nepal.

Table : 25

Hypothesis test regarding to the systematize of Govt. debt securities market.

Opinion	Listed Companies	Broker & Market Makers	Individual Investor	Other experts	Total
Yes	7	4	7	7	25
No	18	16	28	13	75
Total	**25**	**20**	**35**	**20**	**100**

Source: *Field Survey.*

Hypothesis Settings:

Null Hypothesis (H_o): There is no significant difference between observed and expected opinion regarding to the systematize of government debt securities market in Nepal.

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

Fixing level of significance at 5%.

Calculation of Expected Frequencies (E):

Expected Frequency of $R_1C_1 = \frac{(25 \mid 25)}{100}$

$= 6.25$

Similarly, $R_2C_1 = 18.75$

$R_1C_2 = 5.00$ $R_2C_2 = 15.00$

$R_1C_3 = 8.75$ $R_2C_3 = 26.25$

$R_1C_4 = 5.00$ $R_2C_4 = 15.00$

Test of Chi-Square:

Observed Frequencies (O)	**Expected Frequencies (E)**	**(O-E)**	$\frac{(O-E)^2}{E}$
7	6.25	0.75	0.0900
4	5.00	-1.00	0.2000
7	8.75	-1.75	0.3500
7	5.00	2.00	0.8000
18	18.75	-0.75	0.0300
16	15.00	1.00	0.0667
28	26.25	1.75	0.1167
13	15.00	-2.00	0.2667
Total			**1.9201**

Test statistics:

$\Re$ - calculated = $\phi\frac{(O-E)^2}{E} = 1.9201$

d.f = (R-1) (C-1)

= (2-1) (4-1)

= 3

$\Re$ - tabulated at 5% level of significance for 3 d.f is 7.815.

Decision: Since tabulated value of $\Re$ is greater than calculated value of $\Re$ (i.e 7.815 > 71.9201), the null hypothesis is accepted, which means that there is no significant difference between observed and expected

frequencies regarding to the systematize of government debt securities market in Nepal.

Hypothesis-10

In 100 random samples of respondents, it contains following distribution which is noted on the basis of related fields, the test is to draw opinion of related fields, the test is to draw opinion regarding issue of debenture at present market situations.

Table: 27

Hypothesis test regarding to the issue of debenture at present market situation.

Opinion	Listed Companies	Brokers & Market Makers	Individual Investors	Other experts	Total
Yes	19	15	25	14	73
No	6	5	10	6	27
Total	25	20	35	20	100

Source: *Field Survey.*

Hypothesis Settings:

Null Hypothesis (H_o): There is no significant difference between observed and expected opinion regarding to the issue of debenture at present market situation.

Alternative Hypothesis (H_1): There is significant difference between observed and expected opinion regarding to the issue of debenture at present market situation.

Fixing level of significance at 5%

Calculation of Expected Frequencies (E) :

Expected Frequency of $R_1C_1 = \frac{(RT \mid CT)}{GT} = \frac{(67 \mid 25)}{100} = 16.75$

Similarly, $R_2C_1 = 8.25$

$R_1C_2 = 13.40$ $R_2C_2 = 6.60$

$R_1C_3 = 23.45$ $R_2C_3 = 11.55$

$R_1C_4 = 13.40$ $R_2C_4 = 6.60$

Test of Chi-Square:

Observed Frequencies (O)	**Expected Frequencies (E)**	**(O-E)**	**$\frac{(O-E)^2}{2}$**
19	16.75	2.25	0.3022
15	13.40	1.60	0.1910
25	23.45	1.55	0.1025
14	13.40	0.60	0.269
6	8.25	-2.25	0.6136
5	6.60	-1.60	0.3879
10	11.55	-1.55	0.2080
6	6.60	-0.60	0.0545
Total			**1.8866**

Test Statistics:

$\Re$- calculated = $\phi\frac{(O-E)^2}{E} = 1.8866$

d.f = (R-1) (C-1)

= (2-1) (4-1)

= 3

χ^2 - tabulated at 5% level of significance for 3 d.f is 7.815.

Decision: Since tabulated value at χ^2 greater than calculated value of χ^2 (i.e 7.815 > 1.8866), the null hypothesis is accepted, which means that there is no significant difference between observed and expected opinion regarding to the issue of debenture at present marker situation.

4.3 Major findings:

4.3.1 Major findings through secondary data:

1. The total volume of securities issued from 1993/94 to 2006/07 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 98% of total securities market and few participation of corporate debt securities in securities market is very small, unsatisfactory and irregular. Out of total Corporate Securities Only eight issuance can be seen from 1993/94 to 2006/07.

2. 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, insurance corporations and other organizations in purchasing government debt securities is comparatively low. On the other hand, participation of individual investors is increasing but still it isnot sufficiently.

3. 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 from 2007 to 2011 shows increasing trend. Its shows that in future, it

will be helpful to reduce external debt and to mobilize internal debt in productive sectors.

4. The trend of T-Bills issued during the observation period seems to be increasing. The forecasted amount of T-Bill in coming years 2007 to 2011 also shows increasing trend. That means money market of government debt securities is effectively growing, which is good sign for overall debt securities market.

5. The trend of development bond is in fluctuating trend. In starting period of observation, the amount is increasing, decreasing in middle period of observation and again increasing in recent 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.

6. The trend of national saving bond shows increasing in the year 2001. Then it has been showing decreasing trend. 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 2 years of observation) which is creating a problem for the growth of debt securities market. But forecasted amount shows increasing trend from 2007 to 2011. We can estimate that more and more individual investors will be involved to invest in NSB.

7. The trend of special bond is increasing in the previous years of observation but shows decreasing

trend in recent years. The forecasted amount of special bond shows increasing trend, which is good sign for debt securities market.

8. Government has issued another debt instrument named public saving card since 2002 which can be sold only by Nepalese citizens. The initiation of public saving card has initiated the new step in the growth of government bond. The estimated amount for public saving card is also in increasing trend that shows the growth prospect of debt market.

9. The characteristics of Nepalese corporate debt securities are quite worth as necessary to be a quality security.

10. Debenture of SRSM was not fully subscribed (i.e. only 18% debenture was sold). At the time of issuance company's financial condition was not good. So, public could not believe on it. Therefore, it was undersubscribed whereas the debentures of HBL and NIBL were oversubscribed. The recently issued b bonds are EBL bond, NIBL bond, Bank of Kathmandu bond, NIC bond & SBI bond. The no. of applicants in these bonds are decreasing. This results shows the condition of debt securities market is very poor.

11. The SRSM debentures were fully subscribed through 100% public offering, while all the debentures issued by banking sector, were subscribed through private & public offering.

4.3.2 Finding through Questionnaire Survey:

1. With respect to reference regarding choice of securities, the majority of respondents prefer the

common stock. Not only the investors but also the listed company, broker & market maker, other expert's majority preferences are also significantly high in favor of common stock. In the view of investors, common stock is more marketable than other securities. Lack of strength secondary market, low interest rate and few issuance of quality debenture, investors are not interest toward debt securities. Lack of investors' positive attitude in debt securities, has obliged companies to issue common stock.

2. With respect to reason regarding slow growth of debt securities market, the majority preferences are significantly high is investors unawareness. Lack of investor's awareness they were not interested in debt securities. Also a major portion of them give their opinion that limited supply of quality bond is also the main factor. According to this group of respondents, if quality bonds are available in market, the number of investor will increase in purchasing debt securities . The next majority portions are in favor of inferior interest rate in structure. In there opinion, if the interest rate decreases continuously, no doubt that it will eroded the investors confidence and that will impact in the number of applicants. So, in their view increasing trend of interest rate will help in improving the present debt market growth.

3. With respect to preference regarding various sector's debt securities, the majority preferences were significantly high in favor of government debt securities. The second preferences gave to the

banking sector's debt securities. Only least percent of respondents stated that they were willing to invest in other sectors debt securities. It shows that in future, banking sector's debt securities market may be prosperous. But on the other hand, least preference on other sector's debt securities create lot of problem in growth of debt securities market, as these sector's need more debt capital by issuing debt securities than banking organization (huge public deposit can be used by bank, therefore they rarely need to issue debentures.)

4. With respect to reason regarding Nepalese organizations prefer bank loan instead of issuing debenture, majority of respondents feel that bank loan is easily available due to which Nepalese organizations prefer bank loan instead of issuing debentures. Also a major portion of them give their opinion that difficult process for collection of funds by issuing debentures is also the major factor. It is the problem faced by debt securities market of Nepal.

5. With respect to opinion regarding few practices of debt instruments, majority of respondents agree with the view that due to lack of large business organization. The respondents also agreed with lack of legal provision & public unawareness due to which very few debt instruments are not practiced in Nepal. It indicate the problem of Nepalese debt securities market.

6. With respect to sufficiency of legal provisions

regarding debt securities market of Nepal, majority of the respondents agreed that the existing legal provisions regarding debt securities market are insufficient. Some respondents gave their opinion that high broker's commission, poor information disclosure, lack of regulatory provisions regarding the trustee of debenture, etc. shows the insufficiency of legislative provisions of debt securities market growth in Nepal.

7. Most of the respondents agree that political instability is also a huge problem for Nepalese debt securities market growth. According to them if political stability exists in country, sense of certainty would be promoted and demand as well as supply would be improved. So that, overall industrial environment would be promoted. As result of this, debt securities market also would grow rapidly. Political instability in form of domestic war, emergency declaration, strike etc is creating problems in Nepalese debt securities market growth directly and indirectly.

8. One of the question asked to the respondents is whether the corporate debt securities are facing problems in secondary market or not, majority respondents gave their view in favor of 'yes', which discourage the investors in purchasing debt securities. Most of the respondent opined that for the growth of debt securities, development of secondary market is necessary.

9. One of the questions asked to the respondents is whether government debt securities market is systematic or not, the majority of respondents opined that government securities market is not systematic. Some respondents gave their opinion as follows:

- Buying & selling of government securities is not based on supply & demand.
- No country wise trading system.
- Unreliable data recorded system.
- Government bonds are not traded on the floor of NEPSE etc.

These are the reasons that made the government debt securities unsystematic.

10. With respect to issue debenture in present market situation, most of the respondent suggest to issue debenture at present market situation. It indicates a good prospect for debt securities market growth. The informal interview with respondents in this respect reveals that interest rate on deposit of commercial bank is in declining trend due to which investors will attract toward debt securities. Although the huge public wants to buy debt securities (which is proved by oversubscription of HBL and NIBL debentures). And also companies are interested to issue debentures (which is proved by 4 issuances of debentures in F/Y 2006/07) This indicates the growth prospect of debt market.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The research study completely concentrates around present status of Nepalese debt securities market 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 marker 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. The concerned bodies have been given the contribution to some extent for the growth of debt market but it is not sufficient.

This study has some specific objectives which are: i. To study the position of debt securities market in the structure of 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 securities iv. To examine key investors and characteristics 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. To analyze secondary data, some statistical tools such as curvilinear model, time series analysis were used. The ownership pattern and trend of government securities were also analyzed by using secondary data for the period of 1987 to 2006. Primary data is used to find the problems related to the debt securities market. This study also examines the key investors and characteristics of Nepalese corporate debt securities by using secondary data obtained from SEBO and issuing companies.

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, 20 were market makers and brokers, 35 were individual investors and 20 were 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 percent method and 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 at satisfactory level. The trend of issuing government securities is increasing. Mainly the government issues five types of government debt securities, i.e. Treasury bills, Development bond, National Saving Certificates, Special bond & Public Saving Card. And among these instruments the highest portion is covered by Treasury bills.

The trend of issuing corporate debt securities is also increasing but not as satisfactory level. Participation of individual investors in purchasing corporate debt securities is also not at satisfactory level. Though the banking sectors debentures were heavily oversubscribed, the numbers of investors are few. Only the Oversubscription is not enough for the growth of debt market, the huge participation of investors is the pre-requisite condition for the growth of debt market. The general investor shows poor response to the recently issued debenture due to many factors affecting debt securities market.

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 debenture, insufficient legal provision, political instability, few issuances of debt securities inspite of good public response, unsystematic government debt securities market. Another major problem is the problem of our whole

economy, our economy is not so huge and there are lack 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 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. For the development of corporate debt securities market, only oversubscription is not enough. The number of investors as well as number of issuing agencies should be increased. In recent years, many factors shows that the corporate debt securities market has started to grow in comparison to the past. The study found that the number of issuing agencies are increasing, but on the other hand, the number of investors is decreasing. There seems to be a trend of declining response to debenture.

The study found that the Nepalese general investors are not so much interested on investing debt securities. Their attraction is increasing towards common stock. They are not trying to develop a balanced portfolio with medium risk assets (debt securities) limited supply of quality bonds, tedious & lengthy process of issuing debenture, insufficiency of legal provision, lack of proper infrastructure, high preferences in purchasing banking sectors debenture and low preferences in other sector's debentures, few issuance of corporate debt securities, few practices of debt instruments, lack of large business organization and unsystematic government debt securities market etc are some factors due to which Nepalese debt securities market is not growing properly.

On other hand, research also leads to the conclusion that there is also some prospect, which indicates the future growth potential of corporate debt securities market as well as government debt securities market. The increasing trend issuance of corporate debenture, declining interest rate on deposits of commercial banks, growing participation of banking sector in issuing debentures, investor's desire to invest in fixed income & liquid securities, lots of public support towards banking sectors debenture etc. shows the growth prospect of debt securities market.

5.3 Recommendations:

The researcher found so many scattered weaknesses in all areas and overall system of debt securities market. The researcher desires to give some suggestions to the stakeholders such as government, investors, corporate sector 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.

i. Political stability should be maintained.

ii. Heavy reliance on external debt should be minimized and try to borrow required fund through internal sources as much as possible.

iii. GoN should give tax exemption in income from 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.

iv. Existing legal provisions regarding debt securities should be reform as market demand.

v. 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.

vi. Government should initiate the trading of government securities on market principal.

vii. 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)

i. 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.

ii. 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.

i. They should understand market demand and grab the opportunity by issuing debentures to fulfill the cash requirement.

ii. Huge portion of issued debentures should be subscribed through public offering rather than private placement. So that more and more investors can purchase it.

iii. Provision of trustee should be made in debenture issue.

iv. Companies should give priority to issue secured debenture.

v. True financial condition and future plan should be disclosed at the time of issuance.

vi. Price sensitive information should completely disclose.

vii. Number of minimum debentures to be purchased should be minimized, so that poor people may also buy it.

APPENDIX-2

Pattern of Government Bonds and Treasury Bills

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
	3,080	**3,440.0**	**4,090.0**	**1,171**	**1,821**	**2,351**	**3,483.2**	**4,403.2**	**5,216.3**	**6,392.5**	**7,142.5**	**8,092.5**	**9,182.5**	**17,586.9**	**21,026.9**	**27,610.8**	**41,106.5**	**4**
Bank	3,003.8	3,245.1	3,834.0	320.0	1,468.0	1,273.5	5,35.7	2,42.0	3,10.0	1,410.0	1,261.9	1,641.3	0.0	4,696.7	2,794.9	3,050.5	15,263.9	1
anks	61.0	89.5	204.5	821.0	310.0	9,40.0	2,769.5	3,967.4	2,4371.1	4,339.0	4,207.1	5,412.1	8,127.5	10,059.0	15,686	22,267	23,029.8	2
	15.2	105.4	51.5	30.0	43.0	137.5	178.0	193.8	535.2	653.5	1,673.5	1,039.1	1,055.0	2,831.2	2,546.0	2,293.3	2,812.8	2
nds	**2,290.0**	**2,990.0**	**4,651.7**	**5,088.6**	**5,388.6**	**5,482.3**	**5,132.2**	**5,132.2**	**4,732.2**	**4,122.2**	**3672.2**	**3042.2**	**3302.2**	**3872.2**	**4262.2**	**5962.3**	**11,090.7**	**1**
Bank*1	319.6	615.5	1,513.5	2,001.9	2,001.9	2,001.9	1,824.6	1,824.6	1,674.6	1,674.4	1,534.4	1,526.7	1,526.7	1,526.7	20,68.6	28,22.2	34,68.2	
anks	1,770.7	2,210.8	2,947.7	2,900.4	3,222.6	3,324.0	3,177.1	3,177.1	2,937.6	2,330.4	2,046.5	1,052.6	1,211.6	1,658.6	1,549.1	2,184.4	5,426.6	6
tutions*2	95.2	80.9	102.0	101.6	96.5	90.4	88.9	90.1	82.5	81.8	63.1	8.5	110.5	133.5	401.1	539.1	1,403.9	1
ds*3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	500.0	
	19.8	19.6	20.1	9.5	9.5	9.	10.0	10.0	10.0	9.5	8.0	0.0	0.0	0.0	0.0	0.0	0.0	
ss	57.6	40.8	39.8	37.9	31.8	31.6	29.4	28.2	27.4	25.9	20.0	2.0	1.0	1.0	0.0	10.0	11.0	
	11.1	7.7	5.9	3.4	2.5	2.1	2.1	2.1	0.0	0.2	0.2	0.0	0.0	0.0	3.0	3.2	3.1	
	16.0	14.7	22.7	33.9	23.8	22.8	0.1	0.1	0.1	0.0	0.0	452.4	452.4	452.4	65.4	228.4	202.9	
nunication	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	175.0	175.0	75.0	
Bonds	**1500.0**	**1940.0**	**2196.5**	**2196.5**	**2896.5**	**3646.5**	**4546.3**	**4901.5**	**5,691.5**	**6,076.4**	**7,376.5**	**8,736.5**	**9,886.4**	**10,426.4**	**11,526.5**	**12,476.4**	**11,536.1**	**1**
Bank *7	493.0	341.9	194.2	0.0	0.0	0.0	245.6	179.7	354.1	602.5	1288.6	1470.5	663.3	368.7	764.4	343.2	200.5	
tutions*8	26.8	80.2	64.6	63.3	106.0	102.8	132.1	100.5	129.3	192.0	224.8	578.3	1,371.7	1,111.2	771.2	987.9	608.9	
poration	219.2	319.5	442.7	491.9	557.6	691.5	849.3	969.5	1,063.5	1,074.6	1,261.6	1,244.2	1,246.1	1,473.2	1,331.7	713.7	788.2	
ds	447.0	647.1	647.1	667.1	997.7	1,089.6	1,456.4	1,535.0	1,557.9	1,411.5	1,384.6	1,473.2	1,567.1	1,384.9	1,231.1	1,475.6	1,455.6	1
ganizations	62.7	112.6	153.0	189.4	370.6	488.9	65.7	94.0	114.6	210.0	248.8	340.8	3,793.4	1,031.2	929.0	1,268.1	1,059.7	1
	251.3	308.8	462.6	514.1	552.0	853.2	1,090.3	1,259.1	1,566.2	1,694.0	1,999.8	2,605.5	2,854.7	3,499.5	5,098.9	6,615.7	6,237.3	5
ss	0.0	103.4	190.6	229.0	179.5	206.6	197.1	210.6	275.4	297.8	328.5	407.6	411.7	429.8	439.9	343.8	342.2	
s	0.0	0.0	0.0	0.0	91.4	172.2	342.0	385.2	462.6	426.2	472.0	461.9	823.9	973.4	805.8	573.9	725.9	

nks	0.0 0.0	26.5 0.0	41.7 0.0	41.7 0.0	41.7 0.0	41.7 0.0	167.8 0.0	167.9 0.0	167.9 0.0	167.8 0.0	167.8 0.0	154.5 0.0	154.5 0.0	154.5 0.0	154.5 0.0	154.5 0.0	117.8 0.0
rd	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**628.1**
y Market)	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	3.1 625.0
0	**320.2**	**627.4**	**697.8**	**4431.8**	**4567.0**	**9376.1**	**10,073.2**	**11,019.1**	**14,991.2**	**15,466.8**	**16,050.6**	**16,019.6**	**16,035.5**	**17,784.2**	**17,541.4**	**13,994.3**	**9,259.39**
Bank	320.2	627.4	697.8	4,431.8	4,567.0	6,347.0	6,997.5	8,323.4	12,108.6	12,641.2	13,458.5	13,427.5	13,775.0	15,523.7	15,280.9	11,733.8	6,568.4
anks	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	3,029.1 0.0	3,075.7 0.0	2,695.7 0.0	1,49.1 1,473.5	1,352.1 1,473.5	1,118.6 1,473.5	1,118.6 1,473.5	787.0 1,473.5	787.0 1,473.5	787.0 1,473.5	787.0 1,473.5	787.0 1,903.9
easury	**7,190.2**	**8,997.4**	**11,636.0**	**12,887.9**	**14,673.1**	**20,855.5**	**23,234.9**	**25,456.0**	**30,631.2**	**32,057.9**	**34,241.8**	**35,890.8**	**38,406.6**	**49,669.7**	**54,357.0**	**60,043.8**	**73,620.7**
Bank	4,136.6	4,829.9	6,239.5	6,753.7	8,036.9	9,622.4	9,603.4	10,569.7	14,447.3	16,328.1	17,543.4	18,066.0	15,985.0	22,115.8	20,908.5	17,949.7	25,504.1
anks	1,831.7	2,326.8	3,193.9	3,763.1	3,574.3	7,334.8	9,190.1	10,008.1	8,885.7	8,189.3	7,540.0	7,737.8	10,280.6	12,659.1	18,176.6	25,392.9	29,369.2
	1,221.9	1,840.7	2,202.6	2,371.1	3,061.9	3,898.7	4,441.4	4,878.2	7,298.2	7,540.5	9,158.4	10,087.0	12,161.0	14,894.8	15,271.6	16,701.2	18,755.4

pment bonds of a small amount on account of cashier's security deposits.
ndustrial Development Corporation Agricultural Development Bank and National In

nt Fund Corporation and Other.
nent-owned profit seeking enterprises.

*5. Includes profit-seeking enterprises in the private sector.
*6. Includes private and semi-public charitable, educational and religious organizations
*7. Includes various funds of NRB.
*8. Includes Rural Development Bank since FY 1996/97
*9. Includes IMF Promissory Note

Appendix-1

Calculation of Forecasted Amount of Government Securities:

Multiplying equation (v) by 10.5 an subtracting equation from (vi) ,
we get,

$$12161212.8 = 210a + 2870b + 44100c$$
$$\underline{-\ 9150349.95 = -\ 210a + 2205b + 30135c}$$
$$3010862.85 = 665b + 13965c \quad \text{.....(viii)}$$

Multiplying equation (vii) by 3 and equation (vi) by 41, then subtracting eq (vi) from equation (vii), we get,

$$576700476.6 = 8610a + 132300b + 2167998c$$
$$\underline{-\ 498609724.8 = -\ 8610a + 11760b + 1808100c}$$
$$78090751.8 = 14630b + 359898c \quad \text{.....(ix)}$$

Multiplying equation (viii) by & subtract from (ix), we get,

$$78090751.8 = 14630b + 359898c$$
$$\underline{-\ 66238982.7 = -\ 14630b + 307230c}$$
$$11851769.1 = 52668c$$
$$\therefore \quad c = 225.03$$

substituting the value of c in equation (viii), we get,

$$3010862.85 = 665b + 13965 \times 225.03$$
$$\therefore \quad b = -198.02$$

substituting the value of b and c is equation (ii), we get,

$$871461.9 = 20a + 210b + 2870c$$
$$\text{or,} \quad 871461.9 = 20a + 210 \times (-198.02) +$$

$$\frac{2870 \times 225.03}{\ldots \quad a \quad = \quad 13360.5}$$

Appendix-3

Computation of forecasted values of T-Bills:

('Rs' in million)

Year (X)	x=X-1997	y=Amt. of T-bills	x^2	xy
1988	-9	4090.00	81	-36810.00
1989	-8	1171.00	64	-9368.00
1990	-7	1821.00	49	-12747.00
1991	-6	2351.00	36	-14106.00
1992	-5	3483.20	25	-17416.00
1993	-4	4403.20	16	-17612.80
1994	-3	5216.30	9	-15648.90
1995	-2	6392.50	4	-12785.00
1996	-1	7142.50	1	-7142.50
1997	0	8092.50	0	0.00
1998	1	9182.50	1	9182.50
1999	2	17586.90	4	35173.80
2000	3	21026.90	9	63080.70
2001	4	27610.80	16	110443.20
2002	5	41106.60	25	205533.00
2003	6	46844.90	36	281069.40
2004	7	49429.60	49	346007.20
2005	8	51383.10	64	411064.80
2006	9	62970.30	81	566732.70
Total	$\phi x = 0$	$\phi y =$ 371304.8	$\phi x^2 = 570$	$\phi xy =$ 1884651

Here,

$y = a + bx$ .....(i)

since,

$$\phi x = 0, \qquad a = \frac{\phi y}{n} = \frac{371304.80}{19} = 19542.36$$

$$b = \frac{\phi xy}{\phi x^2} = \frac{1884651}{570} = 3306.41$$

Putting the values of a and b in equation (ii), we get,

$$\hat{y} = 19542.36 + 3306.41x$$

Now,

$$\hat{y}_{2007} = 12528.09 + 3306.41\ (2007-1997)$$

= Rs. 52606.46 million

$$\hat{y}_{2008} = 12528.09 + 3306.41\ (2008-1997)$$

= Rs. 55912.87 million

$$\hat{y}_{2009} = 12528.09 + 3306.41\ (2009-1997)$$

= Rs. 59219.28 million

$$\hat{y}_{2010} = 12528.09 + 3306.41\ (2010-1997)$$

= Rs. 62525.69 million

$$\hat{y}_{2011} = 12528.09 + 3306.41\ (2011-1997)$$

= Rs. 65832.10 million

Appendix- 4

Computation of Forecasted Values of Development Bond

('Rs.' in million)

Year (X)	x=X-1997	y=Amt. of Development Bond	x^2	xy
1988	-9	4651.70	81	-41865.30
1989	-8	5088.60	64	-40708.80
1990	-7	5388.60	49	-37720.20
1991	-6	5482.30	36	-32893.80
1992	-5	5132.20	25	-25661.00
1993	-4	5132.20	16	-20528.80
1994	-3	4732.20	9	-14196.60
1995	-2	4122.20	4	-8244.40
1996	-1	3672.20	1	-3672.20
1997	0	3042.20	0	0.00
1998	1	3302.20	1	3302.20
1999	2	3872.20	4	7744.40
2000	3	4262.20	9	12786.60
2001	4	5962.30	16	23849.20
2002	5	11090.70	25	55453.50
2003	6	13090.70	36	78544.20
2004	7	17549.20	49	122844.40
2005	8	19999.20	64	159993.60
2006	9	17959.20	81	161632.80
	$\phi x = 0$	$\phi y =$	$\phi x^2 = 570$	$\phi xy =$

Here,

$$y = a + bx \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{(i)}$$

since,

$$\phi x = 0, \qquad a = \frac{\phi y}{n} = \frac{143532.30}{19} = 7554.33$$

$$b = \frac{\phi xy}{\phi x^2} = \frac{400659.80}{570} = 702.91$$

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

$$\hat{y} = 7554.33 + 702.91x$$

Now,

$$\hat{y}_{2007} = 7554.33 + 702.91\ (2007\text{-}1997)$$
$$= \text{Rs. } 14583.45 \text{ million}$$

$$\hat{y}_{2008} = 7554.33 + 702.91\ (2008\text{-}1997)$$
$$= \text{Rs. } 15286.36 \text{ million}$$

$$\hat{y}_{2009} = 7554.33 + 702.91\ (2009\text{-}1997)$$
$$= \text{Rs. } 15989.27 \text{ million}$$

$$\hat{y}_{2010} = 7554.33 + 702.91\ (2010\text{-}1997)$$
$$= \text{Rs. } 16692.19 \text{ million}$$

$$\hat{y}_{2011} = 7554.33 + 702.91\ (2011\text{-}1997)$$
$$= \text{Rs. } 17395.10 \text{ million}$$

Appendix - 5

Computation of Forecasted Values of National Saving Bond

('Rs.' in million)

Year (X)	x=X-1997	y=Amt. of NS Bond	x^2	xy
1988	-9	2196.5	81	-19768.50
1989	-8	2196.5	64	-17572.00
1990	-7	2896.5	49	-20275.50
1991	-6	3646.5	36	-21879.00
1992	-5	4546.3	25	-22731.50
1993	-4	4901.5	16	-19606.00
1994	-3	5691.5	9	-17074.50
1995	-2	6076.4	4	-12152.80
1996	-1	7376.5	1	-7376.50
1997	0	8736.5	0	0.00
1998	1	9886.4	1	9886.40
1999	2	10426.4	4	20852.80
2000	3	11526.5	9	34579.50
2001	4	12476.4	16	49905.60
2002	5	11536.3	25	57681.50
2003	6	10659.9	36	63959.40
2004	7	9029.8	49	63208.60
2005	8	6576.8	64	52614.40
2006	9	3876.8	81	34891.20
	$\phi x = 0$	$\phi y = 134260$	$\phi x^2 =$	$\phi xy =$

Here,

$$y = a + bx \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{(i)}$$

Since,

$$\phi x = 0 , \quad a = \frac{\phi y}{n} = \frac{134260}{19} = 7066.32$$

$$b = \frac{\phi xy}{\phi x^2} = \frac{229143.10}{570} = 402.01$$

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

$$\hat{y} = 7066.32 + 402.01x$$

Now,

$$\hat{y}_{2007} = 7066.32 + 402.01\ (2007\text{-}1997)$$
$$= \text{Rs. } 11086.37 \text{ million}$$

$$\hat{y}_{2008} = 7066.32 + 402.01\ (2008\text{-}1997)$$
$$= \text{Rs. } 11488.38 \text{ million}$$

$$\hat{y}_{2009} = 7066.32 + 402.01\ (2009\text{-}1997)$$
$$= \text{Rs. } 11890.38 \text{ million}$$

$$\hat{y}_{2010} = 7066.32 + 402.01\ (2010\text{-}1997)$$
$$= \text{Rs. } 12292.39 \text{ million}$$

$$\hat{y}_{2011} = 7066.32 + 402.01\ (2011\text{-}1997)$$
$$= \text{Rs. } 12694.39 \text{ million}$$

Appendix - 6

Computation of Forecasted Values of Special Bond:

('Rs.' in million)

Year (X)	x=X-1997	y=Amt. of Special Bond	x^2	xy
1988	-9	697.8	81	-6280.2
1989	-8	4431.8	64	-35454.4
1990	-7	4567	49	-31969
1991	-6	9376.1	36	-56256.6
1992	-5	10073.2	25	-50366
1993	-4	11019.1	16	-44076.4
1994	-3	14991.2	9	-44973.6
1995	-2	15466.8	4	-30933.6
1996	-1	16050.6	1	-16050.6
1997	0	16019.6	0	0
1998	1	16035.5	1	16035.5
1999	2	17784.2	4	35568.4
2000	3	17541.4	9	52624.2
2001	4	13994.3	16	55977.2
2002	5	9259.4	25	46297
2003	6	9621.7	36	57730.2
2004	7	8946.2	49	62623.4
2005	8	8176.3	64	65410.4
2006	9	3469.8	81	31228.2
	$\phi x = 0$	$\phi y = 207522$	$\phi x^2 = 570$	$\phi xy = 107134.1$

Since,

$$\phi x = 0 , \quad a = \frac{\phi y}{n} = \frac{207522}{19} = 10922.21$$

$$b = \frac{\phi xy}{\phi x^2} = \frac{107134.1}{570} = 187.95$$

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

$$\hat{y} = 10922.21 + 187.95x$$

Now,

$$\hat{y}_{2007} = 10922.21 + 187.95 (2007-1997)$$
$$= \text{Rs. } 12801.76 \text{ million}$$

$$\hat{y}_{2008} = 10922.21 + 187.95 (2008-1997)$$
$$= \text{Rs. } 12989.71 \text{ million}$$

$$\hat{y}_{2009} = 10922.21 + 187.95 (2009-1997)$$
$$= \text{Rs. } 13177.67 \text{ million}$$

$$\hat{y}_{2010} = 10922.21 + 187.95 (2010-1997)$$
$$= \text{Rs. } 13365.62 \text{ million}$$

$$\hat{y}_{2011} = 10922.21 + 187.95 (2011-1997)$$
$$= \text{Rs. } 13553.57 \text{ million}$$

Appendix - 7

Computation of Forecasted Values of Public Saving Card:

Year (X)	x=X-2004	y=Amt. of Public Saving Card	x^2	xy
2002	-2	628.1	4	-1256.2
2003	-1	931.1	1	-931.1
2004	0	1178.9	0	0
2005	1	1428.9	1	1428.9
2006	2	1678.9	4	3357.8
	$\phi x = 0$	$\phi y = 5845.9$	$\phi x^2 =$	$\phi xy = 2599.4$

Since,

$$\phi x = 0 , \quad a = \frac{\phi y}{n} = \frac{5845.9}{5} = 1169.18$$

$$b = \frac{\phi xy}{\phi x^2} = \frac{2599.4}{10} = 259.94$$

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

$$\hat{y} = 1169.18 + 259.94\ x$$

Now,

$\hat{y}_{2007}$ = 1169.18 + 259.94 (2007-2004)
= Rs. 3768.58 million

$\hat{y}_{2008}$ = 1169.18 + 259.94 (2008-2004)
= Rs. 4028.52 million

$\hat{y}_{2009}$ = 1169.18 + 259.94 (2009-2004)
= Rs. 4288.46 million

$\hat{y}_{2010}$ = 1169.18 + 259.94 (2010-2004)
= Rs. 4548.40 million

$\hat{y}_{2011}$ = 1169.18 + 259.94 (2011-2004)
= Rs. 4808.34 million

Appendix – 8

Dear Sir/Madam

A thesis paper titled, "Problem & Prospects of Debt Market Growth in Nepal. I have needed your response on questions asked you. I have sent you some questions regarding debentures market.
I hope for your timely response. Your co-operation has great value for me.

Thank you,

Sincerely
Dinesh Kumar Shrestha
Researcher,
Shanker Dev Campus

Questionnaires

Instruction: Please tick (√) in appropriate alternatives among them and put your views in open ended questions.

Individual/Institutional Investors/Listed Company:
Name:
Occupation:
Income Level:

1. What types of securities do you prefer to invest ?

   a. Common stock/equity ☐
   b. Debt Securities ☐

c. Preference share ☐

d. Mutual funds ☐

2. In your opinion, what is the main reason for slow growth of debt securities market in Nepal ?

a. Lack of investors awareness toward debt securities ☐

b. Lack of capital gain opportunity ☐

c. Limited issuance of quality bonds ☐

3. Which debentures securities, do you prefer most ?

a. Government debt securities ☐

b. Debt securities of manufacturing sector ☐

c. Any debt securities of banking sectors ☐

4. Why do the Nepalese organizations prefer bank loan instead of issuing debenture?

a. Easy access to bank loan ☐

b. Tedious and lengthy process of issuing debenture ☐

c. Cost of bank loan in less than debenture issue ☐

5. In your opinion, Why do various kinds of debt-instruments are not practiced in Nepal ?

a. Lack of large business organization ☐

b. Lack of appropriate legislative provision ☐

c. Public unawareness ☐

d. Any other.....

6. In your view, are the present rules & regulation sufficient for debt market growth?

a. Sufficient ☐

b. Not Sufficient ☐

7. Do you think that debt market growth in Nepal is affected by political instability?

a. Yes ☐

b. No ☐

8. For corporate debenture, are there any problems in secondary market?

a. Yes ☐

b. No ☐

9. Do you think that government debt securities market is soundness/systematic?

a. Yes ☐

b. No ☐

10. What do you think that issue of debenture in present market?

a. Yes ☐

b. No. ☐

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