

## **CHAPTER - I**

### **INTRODUCTION**

#### **1.1 Background**

The increasing corporate firms since past few years, especially after economic liberalization as a result of first political revolution in Nepal in 1990, provided opportunity of issuing debenture and raise the fund. However, yet the state of debenture issue is a newer source in capital structure of a firms.

Corporate Debenture financing is the process where a corporate firm sells bonds/ debenture to reply to individuals or institutions in order to raise capital. In exchange lending money, those individuals and institutions agree to be creditors, and expect to be paid the principal and interest.

Debt financing is opposed to raising capital through equities market or public issues, or equity financing, which reflects an exchange of ownership in the firm in exchange of financing, and does not come with an explicit promise to repay.

Unlike the equity market, debt financing allows a firm to raise capital without having the sale of shares to investors, dilute the firm's ownership. Debt financing tends to appeal to smaller businesses which have a harder time finding equity financing or simply wish not to relinquish control of their company. However, the amount of capital a firm may raise through debt financing is, on average, usually lower than through equity markets, and depends heavily on whether potential creditors are willing to provide loans.

A corporate debenture is defined as a certificate of agreement of loans issued by the corporation which is given under the company's stamp and carries an undertaking that the debenture holder will get a fixed return (fixed on the basis of interest rates) and the principal amount whenever the debenture matures.

In finance, a debenture is a long-term debt instrument used by governments and large companies to obtain funds. It is defined as “a debt secured only by the debtor’s earning power, not by a lien on any specific asset”. It is similar to a bond except the securitization conditions are different. A debenture is usually unsecured in the sense that there are no liens or pledges on specific assets. It is, however, secured by all properties not otherwise pledged. In the case of bankruptcy debenture holders are considered general creditors.

The advantage of debentures to the issuer is they leave specific assets burden free, and thereby leave them open for subsequent financing. Debentures are generally freely transferable by the debenture holder. Debenture holders have no voting rights and the interest given to them is a charge against profit.

The practice of corporate debenture is depends upon the country’s Political, Economical, Social, Technological, Legal and other environment.

Nepal is renowned being one of the least developed countries in the world. The country has been adopting planned economic development since four decades for the impartial economic development. Due to liberation, recently it has faced the path of economic development. Due to being a developing country, mobilization of domestic resources and the investment in productive sectors in an important factor for Nepal. The capital market is the place or mechanism, where various kinds of financial

instruments are transacted. These are transferred from one person to another by means of different ways of trading mechanism. It helps to get fund for these people, who need funds to run their enterprises. The mobilization of capital and channeling it to the productive sector should be able to create an environment for economic growth.

An efficient debt securities market is an essential pre-requisite of economic development and the development of the capital market in a country depends upon the availability of savings, proper organization of intermediary institutions to bring the investors and business ability together for mutual interest, regulations of investment. An efficient securities market in a developing country will often precede and facilitate development of private sector bond market. At the same time debt market needs other elements to be successful, most notably a disclosure system, a credit – rating system and bankruptcy laws. Market efficiency means that the market price of a security represents the market's consensus estimate of the value of that security. If the security market is efficient it uses all information available in setting a price. Investors who choose to hold a security are doing so because their information leads them to think that the security is worth at least its current market price. Security prices have been observed to move randomly and unpredictably. This randomness in securities prices may be interpreted to imply that investors in the market take quick cognizance of all information relating to securities prices, and the securities prices quickly adjust to such information.

Nepal alternatively is known as a capital scarce country as revenue surplus is not enough for financing development expenditure. So, foreign grants, foreign loans and internal borrowings are used to bridge this gap. Government securities are the main source of public debt which is used to balance the deficit budgetary system of Nepal. The

accumulation of internal debt begins since 1963, after the enforcement of public debt act 1960 and debt regulation, 1963 come into existence. Nepal Rastrya Bank (NRB) started to operate secondary market for T-bills and Nepal Rastrya Bank (NRB) bonds since the F/Y 1994/95. At present, the primary issue of government securities is managed by Nepal Rastrya Bank (NRB) and its sale is done through market makers in Kathmandu valley and through NRB branch offices and commercial banks out of the valley. All commercial banks and development banks have been actively participating in the secondary market. Daily auction is held in such a market.

Corporate debenture is prerequisite for the economic development. Corporate debenture has high default risk. That is why it is also taken as unsecured bond. Investor looks to the earning power of the corporation and then security. Debenture holders are protected by the restriction imposed in the indenture. Debenture issue is more suitable for profit oriented institutions for taking leverage effects benefit. Debenture is a tool of maximizing share holder's rate of return.

The corporate debenture market in Nepal is very lean because very few companies have issued debenture in the market from the very beginning of the establishment of the companies. Very few securities are available for Nepalese investors among possible various investment options like common stocks, government bond, corporate bond, right, warrants, preference share, option, convertibles, etc. So the present capital market is almost dominated by the equity share.

Development and expansion of corporate bond / debenture securities market is essential for the rapid economic growth. But, the accelerating pace of growth and development of Nepalese corporate bond/ debenture securities market has faced many

problems. Thus, these problems should be better recognized and competitive strength of Nepalese corporate debenture market should be developed to cope with the existing problems and forecasted problems. Just nine private business institutions have issued debenture till the Fiscal Year 2007/08.

Keeping these views in to consideration this study will peruse analyzing the corporate debenture issue in Nepal and some problems and prospects regarding it.

## **1.2 Statement of Problems**

Debenture is assumed less risky security of investment with compared to equity and preference share. There is fixed regular interest income in debentures as well as very few chance of losing principal and interest even in liquidation of a company. They are means of maximization value of firm. Short supply of fund for industrial expansion and growth can be fulfilled from debentures issue. Instead of having many opportunities, Nepalese debenture market is not being able to grow smoothly.

It is found that countries are developed where corporate debenture markets are developed. Moreover such countries invest or allocate huge amount of research works regarding to the debt market. It has been found that there is little concern about Nepalese debenture markets between the researchers, concerned experts, investors as well as the corporate bodies and organization. Similarly, the positive attitude towards the investment on corporate debenture is also increasing.

In Practice, corporate bodies are suffering by financial crisis, on the other; investors with surplus money even have no proper alternative investments. Firms are unable to bring innovative product, introducing new technologies, and employing management and technological expert due to lack of funds. Only some management/organization

found able to utilize fund by issuing debenture as an alternative source. However, there is not proper exercise of debenture in Nepalese capital markets.

The conditions of corporate debt securities is still more for feebleness than that of government debt securities. A tiny corporate debenture market is in operation; that is to say, a few private placements have been made. Therefore, the need of research on this topic “Corporate debenture financing in Nepal” is apparent. Keeping these views into consideration, this study will search for the answers of following research questions:

1. What is the present status of debt security market in Nepal?
2. What are the key characteristics of Nepalese corporate debt security?
3. Why do various debt instruments are not properly practiced in Nepal?
4. What are the remedies for the development and enhancement of debt securities market in Nepal?

### **1.3 Objective of the Study**

The major objectives of the study are to analyze present position of debt market, investor’s preference towards it and its problems, and prospects.

Apart from this, the specific objectives of the study are:

1. To analyze current state of corporate debt security market in Nepal.
2. To study pace of corporate debt financing in Nepal.
3. To explore the problem and prospects of corporate debenture market growth and development in Nepal.
4. To study the investor’s view regarding the investment on corporate debenture.

#### **1.4. Significance of the Study**

Various studies were conducted by researchers in the field of debt securities market around the globe. Most of the previous studies have given only theoretical concept in debt market in case of Nepal. Those studies were based on descriptive research design with particular emphasis on secondary source of data and were focused predominantly on government debt security market heavily. Some studies had tried to find out the investors attitude, analyze about public debt from economic point of view, but no study had been tried to find out the real scenario of corporate debenture market in Nepal.

So, this study is important in the sense that it concentrates on Nepalese corporate debt security market, its present condition, future prospects and the problems that prevail.

Moreover some specific significances of this study are as follows:

1. This study will state the current position of corporate debenture market in Nepal.
2. This study is helpful for the potential investors, corporate bodies, and other concerned parties to know about Nepalese corporate debenture market.
3. This study will be able to identify the problems faced by Nepalese corporate debt securities market and its future prospects.
4. This study will be beneficial other counterparts like issue managers, brokers, market makers, academicians and researchers etc.

## **1.5 Limitation of the Study**

Fundamental research limitations assumed in this study are as following:

1. The study focuses only on corporate bond /debenture in security market of Nepal. The impact of other securities in debenture market being considered constant.
2. The study is based on both primary and secondary data. So, the validity and reliability of data is based on publication and respondents.
3. The study covers period form FY 1997/98 to 2007/08 only.
4. This study does not consider any changes that may occur during the period of study.

## **1.6. Organization of the Study**

The study has been divided into five sequential chapters. Bibliography & Appendices will be arranged at the end. Chapters are as follows:

### **Chapter I: introduction**

It includes general background of the topic, statement of the problem, objective of the study, significance of the study, limitation of study and organization of the study.

### **Chapter II: Review o literature**

Review of literature is basically stocktaking of an available literature in the field of research. It consists of conceptual / theoretical framework, review of different books, journals, articles and review of previous master's thesis.

### **Chapter III: Research methodology**

It deals with research design, population and sample, nature and sources of data, data processing procedure, tools and techniques for analysis, period covered, diagram and graphical representation.

### **Chapter IV: Presentation, Analysis and interpretation of data**

This chapter will attempt to analyze and evaluate the data with the help of analytical tools (Such as Trend analysis, Hypothesis Test). It will also incorporate major findings at the end.

### **Chapter v: Summary, conclusion and recommendations**

It consists of summary, conclusions and recommendation of the study.

## **CHAPTER - II**

### **REVIEW OF LITERATURE**

This part of study incorporates review of available literature to develop theoretical background so it includes the theoretical review, review of published prior research, review of prior unpublished research and research gap.

#### **2.1 Theoretical Review**

This part of review possesses the theoretical concept of corporate debenture. It includes a number of heading that is corporate debenture versus corporate bond, debenture versus stocks, bond indenture, corporate debenture conceptually, corporate bond and debenture in Nepal, risk analysis of debenture, features of bond/debenture, types of bond debenture, valuation of different types of bond, yield to maturity, yield to call, advantages and disadvantages of bond debenture, corporate debt security market, international bond market, Nepal stock exchange (NEPSE) as debt market, terms used in corporate debenture, bond duration, review of published prior research, review of prior unpublished research and research gap.

##### **2.1.1 Corporate Debenture versus Corporate Bond**

Bond as well as debenture is debt security. In some cases, Bond is secured than debenture. Bond is secured by taking collateral. Bond holder has priority to receive his interest and principle in the time of liquidation of a company. Corporate bond and corporate debentures has no fundamental different. Both have same feature. In Nepal, trading of corporate bond (corporate debenture) is in initial stage. No more company was issued corporate debenture/ Bond. On the time of issuance Nepalese company are

used this word (i.e. corporate bond and corporate debenture) Synonymy by including same feature. So, *in this study, as well two words corporate debenture and corporate Bond are used interchangeably.*

### **2.1.2 Debentures versus Stocks**

“It is said that, if one buys stocks, one become of the owners of the company. One’s fortunes rise and fall with that of the company. If the stocks of the company soar in value, one’s investment pays off high dividends, but if the stocks decrease in value, the investments are low paying. Higher the risk if one takes, higher the rewards get.

Debentures are more secure than stocks, in the sense that one has guaranteed payments with high interest rates. One has paid an interest on the money One’s lend the company until the maturity period, after which whatever one’s invested in the company is paid back. The interest is the profit one’s make from debentures. While stocks are for those who like playing the field, and are willing to take risks for the sake of high returns, debentures are for people who want a safe and secure income”(Gass:2006).

### **2.1.3 Bond Indenture**

“Bond indenture (also trust indenture or deed of trust) is a legal document issued to lenders and describes key terms such as the interest rate, maturity date, convertibility, pledge, promises, representations, covenants, and other terms of the bond offering” (Kenneth: 2001).

#### **2.1.4 Corporate Debenture Conceptually**

A Corporate Bond is a bond issued by a corporation. The term is usually applied to longer-term debt instruments, generally with a maturity date falling at least a year after their issue date.

“Sometimes, the term "corporate bonds" is used to include all bonds except those issued by governments in their own currencies. Strictly speaking, however, it only applies to those issued by corporations. The bonds of local authorities and supranational organizations do not fit in either category” (*Arthur: 2003*).

“Corporate bonds are often listed on major exchanges (bonds there are called "listed" bonds) and the coupon (i.e. interest payment) is usually taxable. Sometimes this coupon can be zero with a high redemption value. However, despite being listed on exchanges, the vast majority of trading volume in corporate bonds in most developed markets takes place in decentralized, dealer-based, over-the-counter market.

Some corporate bonds have an embedded call option that allows the issuer to redeem the debt before its maturity date. Other bonds, known as convertible bonds, allow investors to convert the bond into equity” (*Sheffrin: 2003*).

#### **2.1.5 Corporate Bond and Debenture in Nepal**

The first instance of issuing bond in the Nepalese history was by Botlers Nepal Ltd, issued 18% coupon rate bond worth Rs.2 million in 1986/87. During the nine year period between 1993/94 to 2001/02, bond issue occupied the third largest share portion in the total issue amount approved by Security Exchange Board of Nepal (SEBON) is 5.99%. Only two companies have issued bond through the time gap. . Among them, Jyoti Spinning Mills Ltd. Issued 14% coupon rate bond worth Rs.20

million in FY 1992/93 and Shree Ram Sugar Mills Ltd.(SSML) Issued 14% convertible debenture worth rs.93 million (with par value Rs.1000).However, since last 5/6 year, some positive single can be observed in the Nepalese capital market. Though the government bonds are not available in the stock exchange floor, corporate bonds/debentures are being made available. Therefore, the issuance of the 8.5% Himalayan Bank Ltd. (HBL) 2009 bond and its listing in the secondary market with separate trading system became a milestone in this regard. But, before the listing of HBL's bond, Shree Ram Sugar Mills's (SRSML) convertible debenture was also listed in the exchange without following separate trading system. Vary few of these debentures were traded. However, SRSML's bond was de-listed (and redeemed) in FY 2001/2002. Out of 360000 bonds issued by HBL, 100000 units were issued to the general public and the rest were privately placed which were heavily oversubscribed. Nearly one and half year after HBL bond, Nepal investment bank ltd. (NIBL) has issued Rs.300 million Nepal investment bank bond 2010 (with 7.5% coupon interest with semi-annual payment) in the FY 2003/04. Out of 300000 units of issue, 100000 units are issued to the general public and the rest are privately placed (Bhattarai R: 2005). Everest bank limited had issued debenture pf Rs 300 million (with 6% coupon interest paid semi-annually) in the FY 2004/2005, the par value of debenture was Rs. 1000 with maturity period of seven years, its issue manager was CIT (Everest Bank Ltd, Debenture Prospectus, 2005) .bank of kathmandu had issued Rs.200 million bank of kathmandu bond, 2069" (with 6% coupon interest paid semiannually) in the FY 2004/05. Out of 200000 units of issue, 50000 units were issued to the general public and 150000 units were privately placed. The par value of debenture was Rs.1000,

with maturity period of seven years. Its issue manager was NMB (Bank of Kathmandu Ltd., debenture prospectus: 2005).

Nepal investment bank Ltd. (NIBL) has issued “Nepal investment bank bond -2070” (with 6% coupon interest rate paid semi-annually in the FY 2005/2006. Out of 250000 units’ of issue, 80000 units are issued to the general public and 170000 units are privately placed. The par value of debenture is Rs. 1000 with maturity period of 7 years. Its issue manager is AFCL (Nepal Investment Bank Nepal Ltd., debenture prospectus: 2006).

Nepal industrial and commercial bank limited has issued Rs.200 million “NIC BOND -2070” (with 6% coupon interest paid semiannually in the FY 2005/06. Out of 200000 units of issue (with par value Rs.1000), 50000 units are issued to the general public and 150000 units are privately placed. Its issue manager is AFCL (Nepal Industrial and Commercial Bank Ltd, Debenture prospectus: 2006).

Nepal SBI Bank ltd. has issued RS. 200 million “6% Nepal SBI bank Debenture - 2070” (with maturity period of 7 years and semi-annual coupon payment) in the FY 2005/2006. Out of 200,000 units of issue, 50000 units are issued to the general public and 150000 units are privately placed. Its issue manager is CIT (Nepal SBI Bank Ltd. Debenture Prospectus, 2006). Thus, the above trend of issuing corporate debenture securities in Nepalese capital market, have shown some positive signals of its growth and development. For the development of corporate debenture market in Nepal, the main contributors are as follows; security board of Nepal (SEBON), Commercial banks, Nepal Rastra Bank(NRB), finance companies, private organizations,

government, Nepal stock exchange ltd. (NEPSE), Brokers, investors and concerned bodies etc.

### **2.1.6 Risk Analysis**

“Compared to government bonds, corporate bonds generally have a higher risk of default. This risk depends, of course, upon the particular corporation issuing the bond, the current market conditions and governments to which the bond issuer is being compared and the rating of the company. Corporate bond holders are compensated for this risk by receiving a higher yield than government bonds.

Consequently, this default risk can be quantified using spread analysis, which seeks to determine the difference in yield between a given corporate bond and a risk-free treasury bond of the same maturity. Common statistics used include Z-spread and option-adjusted spread (OAS). The new issue concession is used when valuing soon to be issued corporate bonds as it is the new bond's yield minus the yield of an existing bond from the same issuer for about the same maturity date”(Douglas: 1990).

### **2.1.7 Features of Bond/Debenture**

Bond/debenture has the following terms (or features):

**1. Par value:** “Par value is popularly known as face value/ principal of a bond indicates the amount of money that must be repaid at maturity” (*Cheney and Moses: 1998*). Generally assumed par value is Rs.1000 (or \$1000).

**2. Coupon rate:** It is the most important features of a bond because it determines the size of cash flow that is promised to the bondholder by the issuer. Fixed interest is

paid on debenture at a certain percentage, which is called coupon rate. Interest is calculated at coupon rate in face value of debenture, Whether the company earns profit or suffers from losses.

**3. Maturity period:** It is also important feature of a bond because it determines the timing of cash flow that is promised to the bondholder by the issuer. The maturity date is the date on which the par value must be repaid. Most bonds have original maturities of from 10 to 40 years but any maturity is legally permissible.

**4. Registration:** Bond can be either registered or bearer bonds for interest and or principle payment. The issuer maintains records on the ownership of registered bonds, but the holder is assumed to be the owner of bearer bonds. The transfer of securities will be possible only after registering the name of the new holders and canceling the name of the original holders.

**5. Call provision:** Bond has call provision that enables the issuer to redeem the bond before maturity period. When the call price more than the par value, then it is called call premium. Call provision is likely to be used when market interest rate fall.

**6. Security:** Bond may be secured or unsecured. A secured bond may be secured by mortgage on the specific assets. If the company is going unfavorable situation, it may be seize the debt holder.

**7. Marketability:** It refers to the capability of any investor to sell and asset (quickly) as soon as without having to make a substantial price concession.

**8. Priority to assets and earnings:** - In the event of bankruptcy, debt holders have a prior claim over the claims of both of common and preferred stockholder to firm's income and assets.

**9. Sinking funds:** In most debt issue, there is sinking fund provision. By this, there is certainty in paying debt by the firm after expiry of the date of loan. Some part of the outstanding debt is paid from time to time out of the amount deposited in this bond.

**10. No voting rights:** - There is no voting right to the bond holders for the election of board of directors.

**11. Convertibility:** “Many corporate bonds are convertible bonds. These bonds can be exchanged for some specified amount of common or preferred stock in the issuing company. At the time of issue, the terms of conversion will be outlined, including the times, prices, and conditions under which it can occur. Most convertible bonds are also callable. That means, the company can force bondholders to convert their bonds into stock called "forced conversion." (*Bhattarai, Thapa, Basnet: 2006*).

**12. Trustee:** Trustee is appointed to safeguard the interest of the debenture holders. Trustee is an agent of bond issuers who handles the administrative aspects of loan and ensures that the borrower complies with the terms of the bond indenture. The bond trustee is responsible for the collection and investment of loan and the registration, transfer and payment of bonds.

### **2.1.8 Types of Bond/Debenture**

On different basis, the bond can be categorized into different classifications.

#### **On the basis of issuer**

**1. Corporate bond:** The bond issued by any corporation to finance its capital requirement is called corporate bond. The coupon or interest received on corporate bond is subject to taxation.

**2. Municipal bond:** The bond issued by the local government authorities like metropolitan and sub-metropolitan cities, village development committee (VDC) etc for the local development projects are called municipal bond. The return on “muni bond” is exempted from taxation.

**3. Government bond:** The bond issued by the government authorities to fulfill the requirement of capital is called government bond.

#### **On the basis of return and maturity**

**1. Redeemable bond with coupon (bond with maturity):** The bond that has fixed maturity period and that also pays coupon or interest at the pre determine rate is called redeemable bond with coupon.

**2. Zero coupon bonds (pure discounted bond):** The bond which does not pay/promise the period coupon but the issue price is often less than the maturity (redeemable) value.

Since, the issue price is less than the maturity value; such bond is also popularly known as “pure discounted bond.” The difference between the maturity value and issued price contributes the return to bond investors.

**3. Perpetual bond or consol:** The bond that pays a promised rate of coupon or interest but has no definite (fixed) maturity period is called perpetual bond or consol.

#### **2.1.9 Valuation of Different Types of Bond**

Intrinsic value or formula value of any bond is the present value of future cash flow. Therefore, in order to ascertain the intrinsic value of any bond we discount the cash flow over the time by a rate called “cost of debt (kd)” or “going rate of interest” or “yield to maturity (YTM)”.

Valuation of the bond is a process of determining a rational or justifiable value at which it should be traded. Hence, valuation of bond is important for basically two parties, one who wishes to sell and another who wise to buy the bond in the “secondary market”. The potential buyer of the bond concerns to find the most price that he/she can pay. On the other hand, the potential sellers concerns to find the least price below which he/she must sell. Thus, the technique of valuation helps both of these two parties.

### **Valuation of redeemable bond with coupon**

Intrinsic value of bond = Total present values of future cash flows

$$\text{Intrinsic value of Bond (Bo)} = C * PVIFA_{kd\%}^{n \text{ years}} + M * PVIF_{Kd\%}^{nth \text{ years}}$$

Where, C = Annual coupon amount (.....% of face value)

Kd= cost of debt or going rate of interest or YTM (normally before tax)

n = time to maturity

M=maturity value

Alternatively,

$$\text{Intrinsic value of a bond (Bo)} = C \times \frac{1 - \frac{1}{(1 + kd)^n}}{kd} + M \times \frac{1}{(1 + kd)^n}$$

### **Some generalizations of valuation results would be**

If  $kd < \text{coupon rate}$  then,  $B_0 > \text{maturity value}$ .

If  $kd = \text{coupon rate}$  then,  $B_0 = \text{maturity value}$ .

If  $kd > \text{coupon rate}$  then,  $B_0 < \text{maturity value}$ .

### **Valuation of zero coupon bond or pure discounted bond**

Intrinsic value of bond = Total present values of future cash flows

$$\begin{aligned}\text{Intrinsic value of zero coupon bond (B}_0\text{)} &= \text{Present value of maturity value} \\ &= M * \text{PVIF}_{Kd\%}^{n \text{ th years}}\end{aligned}$$

Where,

Kd= cost of debt or going rate of interest or YTM

n = time to maturity

M=maturity value

Alternatively,

$$B_0 = M * \frac{1}{(1 + kd)^n}$$

### **Valuation of perpetual bond (consol)**

Intrinsic value of bond = Total present values of future cash flows

$$\text{Internsic value of Perpetual Bond (B}_0\text{)} = \frac{C}{kd}$$

Where, C = Annual coupon.

Kd = Cost of debt.

### 2.1.10 Yield to Maturity (YTM)

YTM is that rate of return of a bond that equates total present value of future cash flows of a bond with its current market price.

YTM is the average effective rate of return per annum from a bond if the bond is purchased at current market price and held up to maturity date. YTM is also called bond's IRR (internal rate of return). For the computation of YTM;

#### YTM of redeemable bond with coupon

$$\begin{aligned} \text{Approximate yield to maturity (AYTM)} &= \frac{\text{coupon} + \text{capital gain}}{\text{Average value of bond}} \\ &= \frac{C + \frac{M - \text{purchased price}}{n}}{\frac{M + 2 \text{ purchased price}}{3}} \end{aligned}$$

Where,

C = Annual coupon

M = Face value/ Maturity value

N = Time to maturity

#### YTM of Zero Coupon bond

$$\text{Purchase price} = \frac{\text{Maturity Value}(M)}{(1 + \text{YTM})^n}$$

### YTM of Perpetual bond

$$\text{Purchase Price} = \frac{\text{Annual coupon (Rs.)}}{\text{YTM}}$$

#### 2.1.11 Yield to call (YTC)

When the bond is callable, the company may choose to redeem the call price to the bondholder before the bond's maturity. Company usually chooses to make call if market interest rate declines sharply below the stated coupon rate. In this situation the call price is set a bit higher than the maturity in order to motivate the bond holder.

Yield to call (YTC) is the effective annual rate of return from a bond, if the bond is purchased at current price and held up to call date. The technique of calculation of YTC is same as that of YTM with little adjustment.

For YTC computation,

$$\text{Purchase Price of bond} = C \times \text{PVIFA}_{\text{YTC} \%}^{n \text{ yrs}} + \text{Call Price} \times \text{PVIF}_{\text{YTC} \%}^{n \text{ th yrs}}$$

For simplicity, we can use approximate formula as:

$$\text{Approximate YTC} = \frac{C + \frac{\text{call price} - \text{purchase price}}{n}}{\frac{\text{call price} + 2 \text{ purchase price}}{3}}$$

Where,

C = Annual coupon in Rupees

n = Time to call

### **2.1.12 Advantages and Disadvantages of Bond/Debenture**

The advantages and disadvantages of bond can not analyze either firm or investor's point of view solely, so there are:

1. Issuer's point of view
2. Investor's point of view

#### **Issuer's point of view**

##### **Advantage on bond debenture**

- 1. Less costly:** investors or bond holders consider bond as a relatively less risky investment and interest payments are tax deductible that is why the specific cost of bond capital is less expensive than that of the equity and preferred stock.
- 2. Flexible:** bond is more flexible than that of other sources of financing because the company can issue debt or repay whenever required to make financial structure flexible.
- 3. Tax deductible:** interest on bond or debenture is a tax deductible amount. While paying tax, interest on debenture can be deducted as expenditure.
- 4. No voting right:** bond holders have no voting right that is why they can not interference in business operations.
- 5. Remedy for over capitalization:** In case of over capitalization the company can redeem the bond to balance its capital structure.
- 6. Facility of trading on the equity:** the debt enables the firm to trade in equity .it increases return to the shareholders.

### **Disadvantages on bond debenture**

**1. Difficult source:** it is difficult source for small and new company because people think that small and new company can't pay the interest and principal at predetermined or specified time. But well established companies can entertained by bond financing.

**2. Burden to the company:** bond financing becomes burden to the company because whether company earned profit or not company has legal obligation to pay specified interest rate to the bond holders

**3. Repayment:** the debt has fixed maturity period. So the company must repayment the principal of debt of maturity date.

**4. Financial liabilities increase:** by issuing the bond, company increases its liabilities. Increase of liabilities is not good for the company to some extent.

**5. Liquidation:** if the company unable to pay the principal and the interest at right time (which is specified), the bond holders can demand the liquidation of the company.

### **Investor's point of view**

#### **Advantage on bond debenture**

**1. Fixed interest rate:** bond has predetermined fixed interest rate. So that bond holders receive stable and fixed income regularly.

**2. Liquidity:** debts are liquid. They can sell in the open market easily.

**3. Maturity:** bond has fixed maturity period so, at the maturity date, bond holders receive the principal of bond.

**4. Secure:** debt is more secure than other securities such as common stock, preferred stock.

**5. Priority of income:** at the time of liquidation of the company bond holders has high priority to receive its interest and principal than that of preferred stock and common stock.

#### **Disadvantages on bond debenture**

**1. No voting right:** bond holders don't have voting right to that they can not influence in the operation of the organization.

**2. Interest is taxable:** bond holders has legal obligation to pay the tax on interest amount which is receive.

**3. No extra payment:** if company earns Hugh amount of profit, preferred stock and common stock holders get cash dividend, share dividend etc but debenture holders get only fixed interest.

#### **2.1.13 Corporate Debt Security Market**

“The corporation has the choice between equity and debt sources, in meeting its needs for long-term finance the market that deals of the debt securities issued by the corporation is called corporate debt securities market”(Kafle: 2003).

“Firms can obtain long term debt financing privately or through public offerings. Privately debt includes several types of debt that consists of direct loans form banks and institutions while public offering debt includes issuance of bonds and debentures”. (Wood: 1991).

“Corporate bonds promise to make précised payment at specified period, legal remedies being provided to the event of default. Restrictions are often placed on the activities of the issuing corporation to provide the additional protection for bondholders” (*Pinches: 1990*).

“A corporate bond is a certificate indicating that a corporation has borrowed a certain amount of money from an institutional or an individual and promises to repay it in the future under clearly defined terms. Most bonds are issued with maturity of 10 to 30 years and with par or face value of RS.1000 (or \$1000).the coupon interest rate on bond represent the percentage of the bond par value that will be paid annually, typically in two equal semi annual installments”(*Fred and Gittman: 2000*).

The holders of company long term debt, of course creditors (by Van Horn). Generally, they can not exercise control over the company and do not have a voice in management. If the company violates only of the provisions of the debt contact, then these holders may be able to exert some influence on the direction of the company. Holders of long term debt do not participate in the residual earning of the company, instead of their return fixed. This debt instruments has a specific maturity, where as share of common and preferred stock does not. In liquidation, the claim of debenture holders is before of common stock and preferred stock.

“Most corporate bonds are traded in the over- the- counter market (OTC market), so it has little transparency. One reason the bond markets are so big is that the number of bond issues far exceeds the number of stock issues. There are two reasons for this. First, a corporation would typically have only on common stock issue outstanding. However, a single large corporation could easily have a dozen or more note and bond

issue outstanding” (Ross: 2002). The issuance of debt securities by private sector entities has considerable public policy benefits. Such securities help to private sector contribute to economic development through more efficient reallocation of capital. In particular, they improve access to capital at a time when privatization and deregulation in many developing countries are shifting the financing of these projects from public to private bonds. Private sector securities also help to diffuse stresses on the banking system by matching long term investments with long term capital.

For successful private debt markets need most notably a disclosure system, a credit rating system, and bankruptcy laws, authorities should avoid possible crowding out and statutory restrictions that impede private sector bond market development.

#### **2.1.14 International Bond Market**

“The term international bond is often used to describe several types of bonds with a variety of characteristics relating to issuer or buyer domicile, the location of the primary trading market, and/or currency denomination” (*Fischer and Jordan: 2000*). Any bond sold outside the country of the issuer is called an international bond, but it is necessary to distinguish further between two types of international bonds i.e. foreign bonds and Eurobonds.

#### **Foreign bond**

“Borrowers sometimes raise long term debt capital in the domestic capital market of a foreign currency is known as foreign bonds. In issuing foreign bonds, the issuer must abide by the rules and regulations imposed by the government of the country in which the bonds are issued. Compliance may be relatively easy or difficult depending on the country involved. One of the main advantages of purchasing of foreign bonds is the

opportunity to diversify internationally the default risk of a bond portfolio while not having to be concerned about foreign exchange fluctuations” (*Sharpe et. al: 2003*). For example, if Nepalese corporation issues bond with face value in us dollar, then such bond will be foreign Bond.

### **Euro Bond**

“The second types of international bond are euro bond, which is denominated in a currency other than that of country in which it is sold. As the euro bond market is neither regulated nor taxed, it offers substantial advantage for many issuers and buyers of bonds” (*Sharpe et. al: 2003*). For example, Bond issued by Nepalese corporation that is denominated in US dollars and sold in India is referred as a euro bond.

### **2.1.15 Nepal Stock Exchange (NEPSE) as Debt Market**

Nepal has only one authorized and organized stock market called NEPSE which facilitates on trading of corporate bond/ debenture as well as other securities like common stock, preference stock etc.

Nepal Stock Exchange, in short NEPSE, is a non-profit organization, operating under Securities Exchange Act, 1983. The basic objective of NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transactions in its trading floor through member, market intermediaries, such as broker, market makers etc. NEPSE opened its trading floor on 13th January 1994. Government of Nepal, Nepal Rastra Bank, Nepal Industrial Development Corporation and members are the shareholders of NEPSE.

## **History**

The history of securities market began with the floatation of shares by Biratnagar Jute Mills Ltd. and Nepal Bank Ltd. in 1937. Introduction of the Company Act in 1964, the first issuance of Government Bond in 1964 and the establishment of Securities Exchange Center Ltd. in 1976 were other significant development relating to capital markets.

Securities Exchange Center was established with an objective of facilitating and promoting the growth of capital markets. Before conversion into stock exchange it was the only capital markets institution undertaking the job of brokering, underwriting, managing public issue, market making for government bonds and other financial services. Nepal Government, under a program initiated to reform capital markets converted Securities Exchange Center into Nepal Stock Exchange in 1993.

## **Members**

Members of NEPSE are permitted to act as intermediaries in buying and selling of government bonds and listed corporate securities. At present, there are 23 member brokers and 2 market makers, who operate on the trading floor as per the Securities Exchange Act, 1983, rules and bye-laws. Besides this, NEPSE has also granted membership to issue and sales manager securities trader (Dealer). Issue and sales manager works as manager to the issue and underwriter for public issue of securities whereas securities trader (Dealer) works as individual portfolio manager. At present there are 11 sales and issue manager and 2 dealers (Secondary market). The tenure of the membership is one year. The license should be renewed within 3 months after the closure of the fiscal year. If not, it can be done within another three months by paying 25% penalty.

## **Trading**

NEPSE the only Stock Exchange in Nepal introduced fully automated screen based trading since 24th August, 2007.

The NEPSE trading system is called 'NEPSE Automated Trading System '(NATS) is a fully automated screen based trading system, which adopts the principle of an order driven market.

## **Securities Available for Trading**

NEPSE facilitates trading in the following instruments

### A. Shares

- Equity Shares
- Preference Shares

### B. Debentures

### C. Government Bonds

### D. Mutual Funds

## **Circuit Breakers**

NEPSE has implemented index-based circuit breakers with effect from 2064/6/4 (21 September 2007). In addition to the circuit breakers, price range is also applicable on individual securities.

## **Index-based Circuit Breakers**

The index-based circuit breaker system applies at 3 stages of the NEPSE index movement of 3%, 4% and 5%, These circuit breakers when triggered bring about a trading halt in all equity.

- In case of 3% movement either way, there would be a market halt for 15 minutes if the movement takes place during first hour of trading i.e. 13:00 hours. In case this movement takes after 13:00 hours there will be no trading halt at this level and market shall continue trading.
- In case of 4% movement either way, there would be a market halt for half an hour if the movement takes place before 14:00 hours. In case this movement takes after 14:00 hours there will be no trading halt at this level and market shall continue trading.
- In case of 5% movement in either way, trading shall be halted for the remainder of the day.

### **Price Range**

Price Range is applicable on individual securities. The trading of the individual securities are not halted but allowed to trade within the price range.

- The price band is 10% of previous close on either way.
- During the ATO session the range is 5% on either way of Previous Close Price. After the band is 2% on either way of the Last traded price till it reaches to 10% of the previous close.

### **Trading Location**

The trading can be done either from NEPSE's trading floor or from the broker's office. NEPSE uses sophisticated technology through brokers can trade remotely from their office located inside the Kathmandu valley. This remote trading facility was started from 1 November 2007.

## **Trading System**

NEPSE operates on the 'NEPSE Automated Trading System '(NATS), a fully screen based automated trading system, which adopts the principle of an order driven market.

## **Order Matching Rules**

The system adopts principle of order driven market. The best buy order is matched with the best sell order. An order may match partially with another order producing multiple trades. For order matching the best buy order is the one with the highest price and the best sell order is the one with the lowest price. This is because the system views all buy orders available from the point of view of the sellers and all sell orders from the point of view of the buyers in the market. So, of all buy orders available in the market at any point of time, a seller would obviously like to sell at the highest possible buy price that is offered. Hence, the best buy order is the order with the highest price and the best sell order is the order with the lowest price.

## **Settlement**

NEPSE has adopted a T+3 settlement system. Settlement will be carried out on the basis of paper verses payment. The trading is done at "T" and at T+1; the buying brokers have to submit bank vouchers for settlement with covering letter. At T+2, the selling brokers must submit share certificate with covering letter. At T+3, NEPSE prepares billing for payment and this will be forwarded to the bank. Once the settlement is done the buying brokers with the consultation of the clients must decide and present the purchased shares if they want to record it as blank transfer. This must be completed within T+5.

## **Blank Transfer**

Under this mechanism an opportunities to derive the market benefit is provided. But presently, the buying brokers must complete the BT process within T+5. The transactions that are executed can be recorded in different way and NEPSE has considered all possible retention. The followings are the major key points to be considered.

1. This is related only with buy of the securities.
2. The buyer may decide to have market benefit either to have capital gains or to minimize the loss.
3. In order to do this s/he may partly send for name transfer or may register it in blank transfer.
4. If s/he register total purchase in blank transfer and can put for sale and if only the part of the shares are subscribed then s/he can handover the part and the part can be forwarded for name transfer to the concerned company. In order to do this s/he has to cancel the blank transfer for that portion.

### **2.1.16 Terms Used in Corporate Debenture**

#### **Inflation**

“In economics, inflation is a rise in the general level of prices of goods and services in an economy over a period of time. The term "inflation" once referred to increases in the money supply (monetary inflation); however, economic debates about the relationship between money supply and price levels have led to its primary use today in describing price inflation. Inflation can also be described as a decline in the real value of money a loss of purchasing power in the medium of exchange which is also

the monetary unit of account. When the general price level rises, each unit of currency buys fewer goods and services. A chief measure of price inflation is the inflation rate, which is the percentage change in a price index over time” (*Milton, and Jacobson: 1963*)

If  $P_0$  is the current average price level and  $P_{-1}$  is the price level a year ago, the rate of inflation during the year might be measured as follows:

$$\text{Inflation Rate} = \frac{P_0 - P_{-1}}{P_{-1}} * 100\%$$

After the year the purchasing power of a unit of money is multiplied by a factor  $1 / (1 + \text{inflation rate}/100)$ .

### **Inflation and Its Effects on Investment**

“What effect does inflation have on the economy and on investment in particular? Inflation causes many distortions in the economy. It hurts people who are retired and living on a fixed income. When prices rise these consumers cannot buy as much as they could previously. This discourages savings due to the fact that the money is worth more presently than in the future. This expectation reduces economic growth because the economy needs a certain level of savings to finance investments which boosts economic growth. Also, inflation makes it harder for businesses to plan for the future. It is very difficult to decide how much to produce, because businesses cannot predict the demand for their product at the higher prices they will have to charge in order to cover their costs. High inflation not only disrupts the operation of a nation's financial institutions and markets, it also discourages their integration with the rest of the world's markets. Inflation causes uncertainty about future prices, interest rates,

and exchange rates, and this in turn increases the risks among potential trade partners, discouraging trade. As far as commercial banking is concerned, it erodes the value of the depositor's savings as well as that of the bank's loans. The uncertainty associated with inflation increases the risk associated with the investment and production activity of firms and markets.

The impact inflation has on a portfolio depends on the type of securities held there. Investing only in stocks one may not have to worry about inflation. In the long run, a company's revenue and earnings should increase at the same pace as inflation. But inflation can discourage investors by reducing their confidence in.

The yield on a regular bond incorporates investors' expectations for inflation. So at times of low inflation, yields are generally low, and they generally rise when inflation does. Treasury Inflation-Protected Securities are like any other Treasury bills, except that the principal and coupon payments are tied to the consumer price index (CPI) and increased to compensate for any inflation. With other Treasury notes, when one buys an inflation-protected or inflation-indexed security, one receives interest payments every six months and a principal payment when the security matures. The difference is that the coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). Treasury Inflation-Protected Securities are the safest bonds in which to invest. This is because the real rate of return, which represents the growth of purchasing power, is guaranteed. The downside is that because of this safety and the lower risk, inflation-protected bonds offer a lower return.

Sustained inflation is damaging to long-run growth and the financial system in general. Increases in inflation lead to lower real returns not just on money, but on all other assets too. These low returns interfere with the functioning of financial markets and the allocation of investment. Lower real returns have the effect of severely damaging the credit market. As a result, higher inflation contracts the supply of credit available to fund capital investment damaging the economy. It has been shown that inflation affects investment in several ways mostly inhibiting economic growth. The source of inflation is money and the supply of it. Investors need to be able to expect returns in order for them to make financial decisions. If people cannot trust money then they are less likely to engage in business relationships. This results in lower investment, production and less socially positive interactions. Among other effects, people may start to attempt to trade by other, less efficient, means in order to avoid the unpredictable price levels due to inflation”.(Gerolamo: 2002).

### **Immunization**

“The introduction of the concept of duration led to the development of the technique of bond portfolio management known as immunization. Immunization is the strategy for protecting a bond portfolio against the risk of rising interest rates. Theoretically, this is possible because of the twin effects of rising rates. Immunization will provide a compound rate of return over the immunized period that equals the Yield to Maturity (YTM), regardless of the fluctuations in market interest rates during this period” (Sharpe et.al: 2002).

Investors only need to immunize to lock in a desired rate of return when future market interest rates are expected to change. Investors desire to immunize (or lock in) an

interest rate increase as market interest rates approach what are perceived to be peak levels. Bond investors who expect market interest rates to fall in the future will want to buy bonds at peak interest rates for two reasons. First, bonds will enjoy capital gains if their market interest rates decline. Second, locking in a high Yield to Maturity (YTM) is most rewarding to investors at a time when market rates are high (*Alexander et.al: 2003*). Even when the corporate bonds are included in the portfolio, immunization does not attempt to reduce any risk other than interest rate risk. Immunization is said to exist if the total value to a portfolio of bonds at the end of some specified time horizon is equal to the value of the portfolio based on the YTM that existed when it was purchased.

“Immunization is accomplished simply by calculation the duration of the promised outflows and then investing in a portfolio of bonds that has an identical duration. In doing so, this technique takes advantage of the observation that the duration of a portfolio of bonds is equal to the weighted average of the durations of the individual bonds in the portfolio.

What does immunization accomplish? According to the theory, if yields falls, then the loss from being able to reinvest the maturing one- year bonds (and first- year coupons on the three- year bonds ) at a lower rate will be exactly offset by being able to sell the three-year bonds after two years at a premium. Thus the portfolio is immunized from the effect of any movements in interest rates in the future” (*Sharpe et. al: 2002*).

The main problem with immunization that can cause it to work less than perfectly are; default and call risk, multiple non parallel shifts in a no horizontal yield curve, rebalancing, and many candidates.

Immunization strategies were introduced to eliminate the interest rate risk in portfolio of bonds. The discussion revealed that duration was not only (i) an insightful measure of the time structure of a bonds cash flows and (ii) a measure of bond a bonds interest rate risk; it was also (iii) useful in the development of strategies or managing the interest rate risk in a portfolio of bonds.

### **Cost of debt capital**

Capital (money) used for funding a business should earn returns for the capital providers who risk their capital. For an investment to be worthwhile, the expected return on capital must be greater than the cost of capital. In other words, the risk-adjusted return on capital (that is, incorporating not just the projected returns, but the probabilities of those projections) must be higher than the cost of capital.

“The cost of debt is relatively simple to calculate, as it is composed of the rate of interest paid. In practice, the interest-rate paid by the company will include the risk-free rate plus a risk component, which itself incorporates a probable rate of default (and amount of recovery given default). For company with similar risk or credit ratings, the interest rate is largely exogenous” (*Modigliani and Miller: 1958*).

Cost of capital is popularly known as required rate of return, flat rate of return, Hurdle rate, Average cost of fund etc.

Interest payable on debt capital is known as the cost of debt. It is the minimum acceptable rate of return i.e. cut off point or hurdle rate of the investment and financing decision. Corporate debenture securities may be issued at par, or discount, or at premium. Company should incur some expenditure for issuing such as preparation prospectus, advertising, and brokerage costs etc. Cost of debt increases due to flotation cost.

Mathematically,

$$\text{Cost of debt}(kd) = \frac{I}{NP}$$

Where,

NP = Net proceed amount actually available.

Kd = Cost of debt before tax.

I = Interest

Tax saves interest expenditure of issuer. So that cost of debt after tax can be:

$$\text{Cost of debt after tax (kdt)} = kd (1 - \text{tax})$$

### **2.1.17 Bond Duration**

In finance, the duration of a financial asset measures the sensitivity of the asset's price to interest rate movements, expressed as a number of years. The reason for expressing this sensitivity in years is that the time that will elapse until a cash flow is received

allows more interest to accumulate. Therefore the price of an asset with long term cash flows has more interest rate sensitivity than an asset with cash flows in the near future. Because of this relationship, duration is sometimes calculated as the weighted average number of years to receive each cash flow. Thus the duration of a zero coupon bond with a maturity period of  $n$  years is  $n$  years, since the only cash flow will occur in  $n$  years. If there are coupon payments, the duration will be less than  $n$  years.

This measure is closely related to the derivative of the bond's price function with respect to the interest rate (in terms of the Greeks, this is referred to as the  $\Delta$  or Delta, where the underlying is the interest rate), and some authors define the duration to be this derivative divided by the price (in terms of the Greeks, this ratio is referred to as the  $\lambda$  or Lambda). This ratio is the weighted average term, with appropriate weightings for a non-callable bond (Wikipedia, the free encyclopedia).

Bond duration is the average amount of time required by a security to receive the interest and the principal. Therefore duration is the weighted average of the times that interest payment and final return of principal received. The weights are the present value of the payments, using the bonds yield to maturity as the discount rate. The formula used to calculate the bond basic duration is the Macaulay duration, which was created by Frederick Macaulay in 1938. It has been commonly used since the 1970s. It is also known as Macaulay's duration. The duration, therefore, calculate the weighted average of cash flows (interest and principal payments) of the bond discounted to the present time.

The duration is stated in terms of years. The duration measure will predict by how much a bond's price should change given a 1% change in interest rate. Thus, a bond with duration of 4 years will decrease by 4% in price if the yields rise by 1% percent. Duration thus helps an investor identify the percentage change in the price of a bond. For example if a bond has duration of 8 years and the interest rates fall from 6% to 4% (a drop of 2% points) the bond's price is expected to rise by 16% (8\*2) (*Bhattarai, Thapa, Basnet:2006*). The duration of a bond can be computed by using the following formula:

$$D \text{ or MD} = \frac{\sum_{t=1}^T pv(c_t) * t}{P_0}$$

Alternatively,

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

Where,  $pv(c_t)$  = present value of cash flow to be received at time t.

$P_0$  = Current market price of the bond.

T = Bond's remaining life.

D or MD = Macaulay Duration

Y = Yield to maturity

C = coupon rate

## **Modified Duration (MD)**

Modified duration is a modified version of the Macaulay duration that accounts for changing interest rates. Because they affect yield in fluctuating interest rates will affect duration. Therefore, modified duration shows how much the duration changes for each percentage change in yield. There is an inverse relationship between the modified duration and an approximate one percentage changes in yield. Because the modified duration formula shows how a bond's duration changes in relation to interest rate movements, the formula is appropriate for investors wishing to measure the volatility of a particular bond. Modified duration is calculated as follows:

$$\text{Modified Duration} = \left[ \frac{\text{MD}}{1 + \frac{y}{n}} \right]$$

Where,

n = no. of coupon periods per year

MD or D = Macaulay's duration

Y = yield to maturity.

## **2.2 Review of Published Prior Research**

Nepal is in initial stage in respect to corporate Debenture financing. Journals, articles, books, and thesis Published in the nation and out the nation are studied and reviewed to achieve the objectives of the thesis. In Nepal there is not sufficient publication regarding corporate Debenture securities. Review of different approaches is important

in order to build up an approach that can be applied in the context of Nepalese corporate debenture financing. Comparing Nepalese corporate debenture financing with respect to international debt financing helps to identify the updated situation of Nepalese corporate debenture market and helps in recommending appropriate measures to overcome present problems.

Some of the relevant article and journals found to be important are reviewed.

**Bhattra**, (2005), in his articles “*A Story of Delayed Debenture Listing*” has stated that Himalayan Bank Limited debenture is not listing in Nepal Stock Exchange (NEPSE) till the date. Though the sales of the debenture completed without any problems, the debentures are not listed as yet in NEPSE, which results failing to fulfill the commitment made in prospectus. Due to delayed in debenture listing the investors, who bought this debenture do not have any avenue for exit. He further says that “this type of event is really very shameful and anybody can raise many questions regarding the functioning of the market”. He raise the question that “why does not Security Exchange Board of Nepal (SEBON) take any action against NEPSE for not complying with its directives? If there was competition in the country, would this situation occur?” He also suggested if NEPSE lacks the required skill, it consult the stock exchange of the neighbor countries regarding the trading mechanism they have adopted for such type of securities.

Form this article it can be said that Nepalese debt market has facing a lot of problems. Though the SEBON have developed the appropriate trading procedures and mechanism and directed to NEPSE to expedite facilitates, NEPSE does not listing this instrument. This type of situation will affect in the credibility of company and debt

financing as well. Investor will not attract towards debt securities, if this type of situation exist in the debt market.

**kaviback**, (2005), has Published an article on “*Issues in Local Bond Market Development (i.e. Nepal survey)*” and concluded that there is still no position to be satisfied or pleased due to development of Nepalese financial market. Very few debenture and bond markets are in operation as well as very few corporate bonds are issued by corporation till now. Government Bond financing is more popular than corporate debenture but price are not market oriented. Furthermore, he mentioned that the capacity to develop the local corporate bond or debenture, market is sincerely constrained by a weak supply and demanded for the product. The number of potential blue chip issues and size of the collective investors, base are not enough to create an institutionalized market and very few financial alternative instruments are available in the market for the investors to invest.

**Datta and Raman**, (2005), studied on “*Managerial Stock Ownership and the Maturity Structure of corporate Debt.*” They made the first study to document that managerial stock ownership plays a significant role in determining corporate debt maturity. So, by controlling previously identified determinants of debt maturity and modeling leverage and debt maturity as jointly endogenous, they document a significant and robust inverse relation between managerial stock ownership and corporate debt maturity. They have also shown that managerial stock ownership influences the relation between credit quality and debt maturity and between growth opportunities and debt maturity.

Their analysis had shown that managers with higher stock ownership, and therefore better incentive alignment with shareholders, choose a larger proportion of short-maturity debt. The economic implication of this result was that an increase in managerial stock ownership from the median to the 95<sup>th</sup> percentile was expected to shorten the percentage of total debt maturing in 3 years or more by 4.9%. This finding have established for the first time the role of managerial stock ownership in determining corporate debt maturity structure choice beyond the basic capital structure ( debt equity choice) decision. Based on their main hypothesis, they have also examined the influence of managerial stock ownership on the relation between growth opportunities and maturity structure of debt. They have also examined whether the relation between debt maturity and growth opportunities was influenced by managerial stock ownership.

Their objective was to relate the degree of manager - shareholder interest alignment to the debt maturity structure. Because the observed debt maturity structure in a given year was the cumulative result of previous debt maturity choices, an appropriate measure of manager shareholder interest alignment should reflect the equity- based incentives that influenced past debt maturity decisions.

To investigate the link between managerial stock ownership and debt maturity, they have obtained a sample of firms with available data on both Comp stat and standard and poor's Exec comp databases spanning the years 1992 through 1999. Exec Comp covered firms in the S & P 500, S and P PMidcap 400, S&P Small Cap 600, and other firms that are not currently in the S and P indexes but that were previously in one of the indexed. They have retr8ieved managerial stock ownership data from the Exec Comp database. All other financial data are from the comp stat database. Following

Barclay and Smith (1995), they have restricted their sample to industrial firms by including only firms with standard industrial Classification (SIC) codes from 2000 to 5999.

This study extended the debt structure literature in two additional ways; first, it refuted their understanding of the relation between debt maturity and liquidity risk. Second, they have examined the influence of managerial stock ownership on the relation between debt maturity and growth opportunities of the firm. They found that for firms with low growth opportunities, managers with high stock ownership choose a significantly greater proportion of short maturity debt than their counterparts with low equity ownership.

**Bhattra**, (2003), in his article “*Debenture are Welcome*” has stated, that in Nepalese capital market, there are very few investment avenues available for those investors, who are risk averse and want to invest in the fixed income securities. Among the available alternatives bond provides fixed income to the investors and involves lower risk than the severities that yield variable income. But the bond market in Nepal is very lean. Very few companies have issued bond in the market. However, since last few years some positive signal can be observed in the Nepalese capital market. Though the government bonds are not available in the stock exchange floor, corporate bonds are being made available. Form fiscal year 1986/87 to 2003/074 five corporate bonds are issued. Though the Shree Ram Mills convertible bond was heavily under subscribed in fiscal 1997/98, the Himalayan bonds and Nepal investment bonds were heavily oversubscribed. This means it can be predicted that more of such bond issued can be expected in the future, particular from the banks to meet their higher capital requirement under Nepal Rastra Bank Directives.

## 2.3 Review of Thesis

After reviewing the master degree research report it was found that most of the research studies are related with overall securities market (i.e. Government and corporate). Very few research/studies were performed particularly on corporate debt securities only. Few of them relevant to this study are:

**Bohara**, (2007), had undertaken a study on “*Issues and Prospects of Corporate Debenture Market in Nepal*”. The main objective of this thesis is to reveal the problem and prospects of bond market so, Form his thesis he concluded that

- There are many problems in corporative debenture market such as legislative provision, political instability, insufficient information disclosure, investor’s law etc.
- Government debt securities and real assets also dominate corporate debenture market.
- He is not hesitating to claim that the main reason behind the country being underdeveloped is inefficient and unsound corporate bond market.
- Not only the problems, he also find the prospects concerning corporate debt financing such as, people are being rational day by day, the trend of issuing corporate debt securities is in increasing.

**Mainali**, (2003), had studied “*Problems and Prospects of Debenture Market Growth in Nepal*” intends to address many problems such as insufficient information disclosure, politically instability, poor price sensitivity, low preference on manufacturing and trading sector and only high preference to commercial banks and

financial institution etc. are responsible for the very slow growth and also very serious problems of existing Nepalese debenture market. Growth of public sector debt is some plus point which signifies the prospects of public debt market growth in Nepal but debt securities market of corporate bodies is in very limited existence so he mentioned that the emphasis should be given to the development of corporate debenture market in Nepal.

**Kafle**, (2003), had studied ‘problems and prospects of debt market growth in Nepal’, has explained the weakness of Nepalese debt securities market. In his view, debt market is very important to accelerate the process of industrialization and raise the capital. He has explained the significance of debt markets for government and public as well. He has also explained that the debt security market of Nepal is dominated by government debt securities. However the government debt securities market is growing but not as expected. Debt securities market of corporate bodies is limited in existence. He concluded that the habit of over reliance of government in foreign debt has created huge problems in the growth of Nepalese debt securities market. He added that lack of arbitrating, trading rule, public awareness problems of protecting investor’s rights, lack of strong rating agency etc rare also the major problems facing by Nepalese Debt securities market.

**Acharya**, (2007), has done his research on “*Problems and Prospects of Debt Securities Market in Nepal*”, and summarized that government debt securities market is slightly at maturity stage as compared with corporate debt securities market but not as expected. He has found various problems regarding to the debt market growth. According to him, “lack of public awareness, limited supply of quality bonds, investors increasing attraction towards common stock and difficult process of issuing

debenture, insufficiency of legal provisions and dominant by credit oriented transaction, feelings of non – existence of debt market, lack of large business organization and a narrow area of government securities market. Etc. are the major problems of not growing the Nepalese debt securities market. On the other hand, investor’s attraction towards liquid assets likes debt securities; desire to invest on debenture of any potential issuance, declining interest rate on deposit of commercial banks, increasing trend of amount of government securities and the increasing trend of issuance of corporate debentures etc. are the main factors for the smooth growth prospects of Nepalese debt securities market.

**Paudel**, (2002), has done his research on “A study on government securities practice in Nepal”. He summarized that government securities is issue to met short term and long term financial requirements. The government expenditure through public debt is quite beneficial to the nation if it’s used productively. He mentioned that most of the investors in Nepal are risk averter so they search less risky investment so that the Nepalese investors are very attractive to the government securities because of less risky. Most of the people use their idle fund on government securities rather than behaving as investors. Among them majority are service holders and very few of them are retired people. The people of rural areas are less aware to the government securities. Poor as well as rich, and educated as well as uneducated people are interested towards government securities because of its less risky nature. He added that the government should rather influence individuals to use their idle money on government security as this estimates the investment and promote capital market in Nepal.

## **Research Gap**

While going thoroughly on review of related previous theses and other material, previous studies were found confined on the system, procedures, problem and prospects of public debt and few researches are conducted on overall debt market of Nepal but no research has been done before on the topic, “corporate debenture financing in Nepal”. Since no any research has been done in this topic, researcher felt research gap. Past researches have been conducted regarding to the, problems and prospects of government / public debt, etc. it is also found that the previous researcher with the topic of “problems and prospects of debt market growth”, has covered all the areas of debt market. Most of researches have taken only secondary data to explain the situation of corporate debt securities that means primary data has been ignored. In this phenomenon, this research is trying to find out the solution that means not the problems, to remove the impediments regarding to corporate debt market in Nepal. Moreover, this research also included the primary data that helps to find the accurate result. In short, this thesis tries to fulfill that mentioned research gap.

## **CHAPTER – III**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

In this section, it has been presented methodology about conducting the thesis. This chapter includes, Research design, covered period, population and sample, sources of data, Graph, data gathering procedure, test of hypothesis, Processing and analysis of data, Statistical procedure.

#### **3.2 Research Design**

This study adopts descriptive com exploratory research design. Survey approach has been used for support the research.

#### **3.3 Period Covered**

This study is covers to 11 years financial data of corporate debenture issue since 1997/98 – 2007/08. Thus, it will provide valuable input for drawing the overall picture and status of corporate debenture in Nepal.

#### **3.4 Population and Sample**

Population of this study is all firms that issue debenture (“organization” as unit of analysis) and all bond investors (“individual as unit of analysis”). The detail of population and sample are exhibited in Table: 3.1.

**Table: 3.1**  
**Population and Sample**

S.N.	Issuer/Population	Sample	Sample %
1	<b>Industrial Sector</b>		
a	Shree Ram Sugar Mills Ltd.		
2	<b>Banking Sector</b>		
a	Himalayan Bank Ltd.	Himalayan Bank Ltd (HBL1).	
b	Nepal Investment Bank Ltd.		
c	Everest Bank Ltd.	Everest Bank Ltd.(EBL)	
d	Bank of Kathmandu Ltd		
e	Nepal Investment Bank Ltd.	Nepal Investment Bank Ltd.( NIBL2)	
f	Nepal Industrial and Commercial Bank Ltd	Nepal Industrial and Commercial Bank Ltd (NICBL)	
g	Nepal SBI Bank Ltd.		
h	Nepal Investment Bank Ltd.		
i	Kumari Bank Ltd.		
j	Himalayan Bank Ltd.		
k	Investment Bank Ltd.		
l	Nabil Bank Ltd.	Nabil Bank Ltd.(NBL)	
<b>Total</b>	<b>13</b>	<b>5</b>	<b>38.46</b>

In table 3.1, total population is carried out from two sectors that are industrial sector and banking sector. Out of 13 corporate firms, 5 firms are taken as sample which represents the 38.46% of total population.

For primary data, the following table 3.2 is carried out to draw the opinion regarding infrastructure of Nepalese capital market are sufficient for the development of corporate debt market.

**Table: 3.2**

**Tabulation of respondents based on field survey**

Description	Companies	Issue manager/Broker	Individual investor	Experts	Total
No. of Respondents	12	10	20	8	50
Percentage	24	20	40	16	100

For collection of primary data, 50 respondents are taken and make a Questionnaire in respect to corporate debenture financing in Nepal.

**3.5 Sources of Data**

This study is based on both primary and secondary data. Primary data were collected through questionnaire method. A set of Questionnaire was developed for various respondents. Sources of primary data and secondary data are presented in table: 3.3

**Table: 3.3**

**Sources of primary and secondary data**

S.N.	Source of secondary data	Source of primary data
1	Annual report of Securities board of Nepal (SEBON)	Companies
2	Annual report of Nepal stock exchange (NEPSE)	Brokers
3	Economic bulletins published by Nepal Rastra Bank(NRB)	Issuer managers
4	Economic survey	Various Individual Investors
5	Reports of respective firms	Economic experts

Secondary data was taken from the annual report of SEBON, NEPSE, Respective firms and economic bulletins of NRB and Economic survey of Nepal.

Primary data was collected from companies, brokers, issue managers, individual investors and economic experts.

### **3.6 Method of Analysis**

The collected secondary and primary data are analyzed by using various statistical tools and financial tools. Test of hypothesis, Graph, Chart and average mean are used as statistical tools. Similarly Bond Duration, Rate of over and under subscription of bond is calculated and analyzes through financials formulas. The detail description of Graph, test of hypothesis and duration is given below.

#### **3.6.1 Graph**

Graph is a statistical tool, used to presentation of the various data that helps to examine the main theme of data clearly. It helps to show the general trend of the relation in respect to the time periods of the analysis years. Every common way of presenting data for two variables, which have relationship, is in figure or chart or graph. It works best when the data is continuous. A figure is used to show the change of a dependent variable in relation to the independent variable along X-axis and dependent variable along Y-axis.

### **3.6.2 Test of Hypothesis**

Hypothesis is usually considered as the principal instrument in research. It can also be considered as suggested solution of the research problem. Its main function is to suggest new experiments and observation. With the variable data, decision makers apply the hypothesis testing and give the decision accordingly. It may not be proved absolutely but in practice, it is accepted if it has with stood a critical testing. Usually the statistical hypothesis is tested at 1%, 5% and 10% level of significance. Thus, the significant test will be conducted in the analysis of data.

The study is based on both primary and secondary data. The primary data has been collected by questionnaires. Using computers application programs has done processing of these data. Some other statistical tools have been used for presentation and make raw data in to organize or forms and also for analysis and interpretation. In this research work some suggested solution called as hypothesis is used to suggest new observation.

Chi – Square test of hypothesis will be used to examine accuracy of the primary data.

With the available data some hypothesis is tested and given the decision accordingly. It may not be proved absolutely but in practice it is accepted if it has stood with a critical testing.

While examine the hypothesis by the chi – square test, the expected frequencies are calculated by applying the following formula.

$$E = \frac{RT * CT}{N}$$

Where,

RT = Row total

CT = Column total

N = NO. Of Observation

Value of chi – square ( $\chi^2$ ) is calculated by using the following formula.

$$\text{Chi – Square } (\chi^2) = \sum \frac{(O - E)^2}{E}$$

Where,

O = observed Frequency

E = Expected Frequency

Methods of analysis

“The main purpose of analyzing the data is to change it from an unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating, and performing statistical analysis.” (*Woff and Pant: 1999*).

### 3.6.3 Duration

Duration is the directly related to term to maturity and inversely related to coupon and yield to maturity. This model helps to analyze the actual maturity period for the bondholders described by Macaulay (1938) as shown below.

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

Where,

MD = Macaulay Duration

Y = Market Interest rate (YTM)

T = Term to maturity

C = coupon interest rate

This specific, model is used for calculating the duration of Nepalese corporate debt security.

## **CHAPTER - IV**

### **DATA PRESENTATION AND ANALYSIS**

This part of study includes presentation and analysis of available data and divided into two sub-heading (i.e. presentation and analysis of primary data and presentation and analysis of secondary data).

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

In this section, collected secondary data are analyzed using different statistical tools. Included sub-headings are; characteristics of Nepalese corporate debt securities, financing of corporate debenture and other securities, changing trend of corporate debenture issue, numbers of corporate bodies issuing debenture, interest rate analysis, duration analysis and state of subscription of Nepalese corporate debenture.

##### **4.1.1 Characteristics of Nepalese Corporate Debt securities**

In Nepalese context, very few corporate firms' bodies have issued corporate debenture for the purpose of raising long term funds. They all have similar characteristics like maturity period; par value of 1000.00 and coupon rate, but issuing value and volume are different. Bottlers Nepal Pvt. LTD was the pioneer to practice corporate bond in the Nepalese history. It issued 18% debenture of 5 million each with par value of Rs.1000.00 and have already redeemed. Then Jyoti Spinning mill ltd. was the second to issue corporate bond. It had issued debenture of Rs.20 million with the par value of 1000.00 each in the FY 1992/93.

Shree ram Sugar mill was the third to issue 14% convertible debenture of RS.93 million with conversion ratio of 10%, Maturity period of 4 years and par value of 1000.00 in FY 1997/98.that debenture was issued and managed by NCML. Similarly

Himalayan bank limited (HBL) issued the debenture in two times. The first was in 2001/02 and second was in 2007/08. Both debentures have 7 years time to maturity, Rs.1000.00 Par value but interest rate and issue manager was differing. The first was having interest rate of 8.5% and second 8% only. Issue Manager was NMB and ACE respectively for first and second debenture. Further more the second one debenture was given the name of HBL bond 2072.

Nepal investment bank limited (NIBL) was issued the debenture in the FY 2003/04, 2006/07, 2007/08. These all were issued and managed by AFC except the latest one called NIB bond 2072. The additional feature of this bond is Provision for trustee as per company act 2063.

Everest bank ltd. had issued debentures worth Rs.300 Million in the FY 2004/05. it had issued 300000 debentures with a par value of Rs.1000.00 Paying 6% coupon interest for 7 years paying semi annually coupon.

Similarly, Bank of Kathmandu (BOK), Nepal investment and commercial bank (NICB), Nepal SBI bank, Kumari Bank Limited (KBL) and Nabil Bank Limited (NBL), issued debenture till the observed period and they also have the similar feature like time to maturity, coupon rate, and par value of Rs.1000.00 etc. These are apparent from table: 4.1.

**Table: 4.1****Details of Corporate Debenture Issued by the Nepalese Corporate Firms**

Issuer	Public offering	Private placement	Total	Approved date	Issue date	Allotment date	Maturity	Coupon Rate	Issue Manager	Remarks
Shree ram sugar mills ltd.	93 100%	NO	93	054/07/07 23/10/1997	054/08/05 20/11/1997	054/03/31 15/17/1997	4 Years 14/7/2001	14%	NCML	1.convertible and redeemable 2.conversion ratio 10% 3.premium charge based on net worth at the time of conversion
Himalayan bank ltd.	100 27.78%	260 72.22%	360	059/02/21 4/6/2002	059/03/04	059/03/28 18/6/2002	7 Years 11/7/2009	8.50%	NMB	
Nepal investment bank ltd.	100 33.33%	200 66.67	300	2060/06/27 14/10/2003	2060/07/17 3/11/2003	2060/08/08 24/11/2003	7 Years 23/11/2010	7.50%	AFC	
Everest Bank Ltd.	50 16.67%	250 83.33%	300	2061/12/17 30/03/2005	2062/01/07 20/4/2005	2061/01/26 9/5/2005	7 Years 7/5/2012	6%	CIT	
Bank of kathmandu ltd	50 25%	150 75	200	2062/05/22 7/9/2005	2062/06/06 22/9/2005	2062/07/19 5/11/2005	7 Years 3/11/2012	6%	NMB	
Nepal investment bank ltd.	80 32%	170 68%	250	2063/02/16 30/5/2006	2063/02/26 9/6/2006	2063/3/12 26/6/2006	7Years 25/6/2013	6%	AFC	1.Provision for trustee as per company act 2063
Nepal industrial and commercial bank ltd.	50	150	200	2063/02/17	2063/02/29	2063/03/13	7Years	6%	AFC	

	25%	75%		31/5/2006	12/6/2006	27/6/2006	26/6/2013			
	50	150	200	2063/3/11	2063/03/20	2063/03/22	7Years			
Nepal SBI bank ltd.	25%	75%		25/6/2006	4/7/2006	6/7/2006	5/7/2013	6%	CIT	
	50		250	2064/02/16	2064/02/29		7Years			
Nepal investment bank ltd.	20%	80%		30/5/2007	12/6/2007		31/05/2014	6.25%	AFC	
kumari bank ltd.	80	320	400	2065/1/12	2065/2/2		5 Years	8%	ACE	KBC bond 2069
Himalayan Bank ltd.	100	400	500	2065/2/19	2065/3/8		7Years	8%	ACE	HBL bond 2072
Investment bank ltd.	50	200	250	2065/3/2	2065/3/12		7Years	8%	ACE	NIB bond 2072
Nabil bank ltd.	60	240	300	2065/3/15	2065/3/29		10 Years	8.50%	NCML	

(Source: Annual Report of SEBON: Fiscal Year 1997/98 to 2007/08)

In table 4.1, most of the debentures issuing companies are commercial banks. Only one firm is from industrial sector that is Shree Ram Sugar Mills Limited (SRSML). The highest and lowest interest rate of debenture over the observing period is 14% and 6% respectively. Similarly, Nabil Bank Ltd. Issued the longer Maturity period debenture having 10 years of maturity period and Shree Ram Sugar Mills Limited (SRSML) issued lowest maturity period debenture having 4 years of maturity period.

#### 4.1.2 Financing of Corporate Debenture and Other Securities

Companies are using different sources to raise capital. Mostly they use common stock. However the table 4.2 shows the percentage of debenture issue in comparison to total issue and cumulative amount of debenture issue.

**Table: 4.2**

#### **Financing by corporate debenture out of total amount of securities issued**

**(in million)**

Year	No of corporate bodies issuing security	no of corporate bodies issuing debenture	Total amount of issuance	cumulative amount of total issues	Amount of debt issue	cumulative amount of debt issue	% of corporate debt issue on total issue of security
1993/94	17	0	344.4	344.4	0	0	0
1994/95	12	0	254.27	598.67	0	0	0
1995/96	12	0	293.75	892.42	0	0	0
1996/97	5	0	332.2	1224.62	0	0	0
1997/98	12	1	465.36	1689.98	93	93	19.98453
1998/99	5	0	258	1947.98	0	93	0
1999/2000	9	0	630.37	2578.35	0	93	0
2000/01	9	0	717.2	3295.55	0	93	0
2001/02	16	1	1555.11	4850.66	360	453	23.14949
2002/03	17	0	853.83	5704.49	0	453	0
2003/04	16	1	1547.2	7251.69	300	753	19.38987
2004/05	12	1	1315.81	8567.5	300	1053	22.79964
2005/06	34	4	2547.87	11115.37	850	1903	33.3612
2006/07	31	1	2757.5	13872.87	250	2153	9.066183
2007/08	72	4	11567.9	25440.73	1450	3603	12.53473
Total	279	13	25440.7	89375.28	3603	10743	140.2856

*(Source: Annual Report of SEBON: Fiscal Year 1993/94 to 2007/08)*

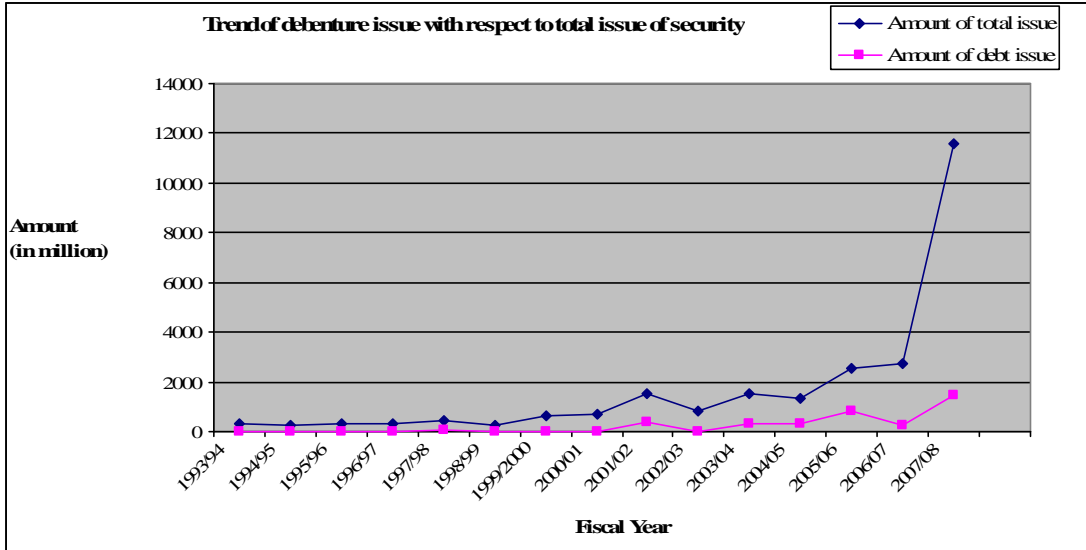
During the observed period, total amount of debenture issued is 3603 million Nepalese rupees. The total no. as well as the total amount of securities is increase and decrease every year then after also, but there is only one debenture issued in the fiscal year 1997/1998. After that there is no any debenture issued till the fiscal year 2000/01. The no. of debenture issued in fiscal year 2001/02 is only one and the fiscal year 2002/03 is 0. After that every year debenture were issued by corporate bodies. From the fiscal year 2003/04 to 2008/09, every year debentures were issued and the no is fluctuating every year which can be clearly seen in the above table. In the above table we can see that the percentage of fund raising by issuing debenture out of total issuance is fluctuating every year. In the fiscal year 1997/1998 is only 19.98%, in 2001/02 23.15%, in 2003/04 19.39%, in 2004/05 22.80%, in 2005/06 33.36%. Up to the fiscal year 2005/06, the percentage covered by debenture issued with respect to issued amount is increasing. But in 2006/07 the percentage of debenture issued amount is only 9%. After that in the fiscal year 2007/08 the percentage is increasing.

#### **4.1.3 Changing Trend of Corporate Debenture Issue**

The trend of corporate debenture issue is clearly seen from figure 4.1 that shows the cumulative amount of debenture issued in different year in compression to other security issue.

**Figure: 4.1**

**Trend of debenture issue with respect to total issue of security**



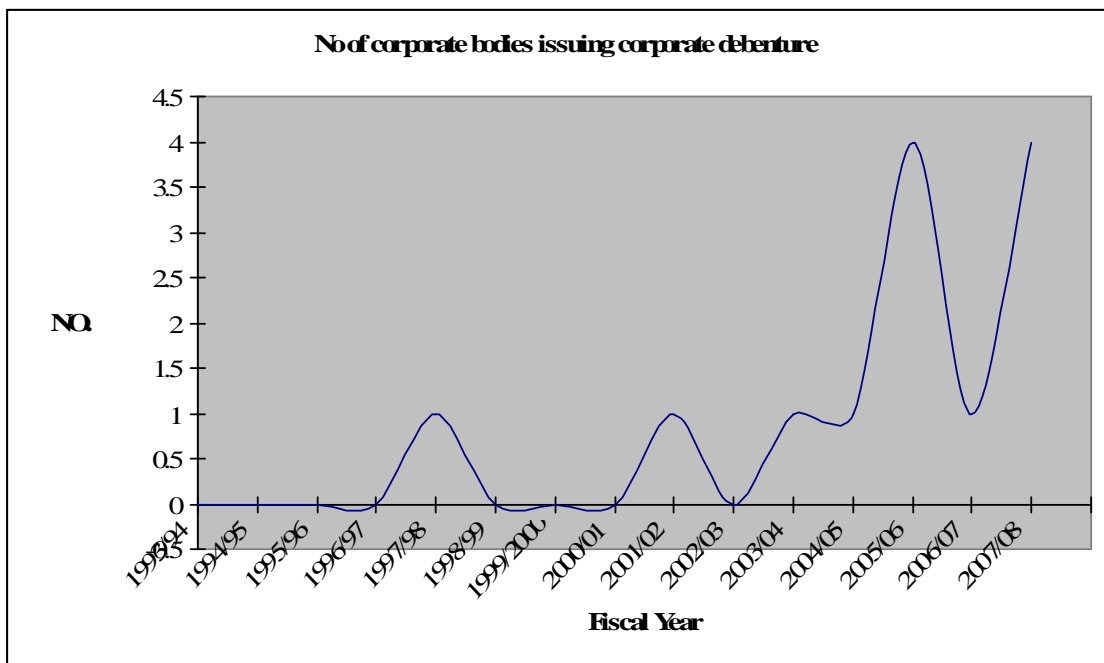
In the figure, Y axis represents the amount (in million) and X axis represents the fiscal year. Till the Fiscal year 1996/97 there was no any corporate debenture issue, only the other types of security specially common stock were issued. After that in 1997/98 total issued was 1689.98 million and the issued amount of corporate debenture was 93 million. The period between fiscal year 1998/99 to 2000/01, is the bad period for corporate debenture market because there was not debenture issue. All the corporate bodies were issued common stock to raise the fund in that period. From the fiscal year 2001/02, every year corporate debenture were issued expect the fiscal year 2002/03. Above chart shows that form the fiscal year 20004/05, the trend of corporate debenture issuing is in increasing. The relation of corporate debenture issue with total issue is positive and direct. If the amount of total issue increases then amount of corporate debenture is also increases and vice versa. The hugest amount of total issue is 11567.86 million NPR in fiscal year 2007/08. In the same fiscal year, the biggest amount of corporate debenture issue is 1450 million NPR

#### 4.1.4 Numbers of Corporate Bodies Issuing Debenture

In Nepal, there are no more practices of issuing debenture. The number of firms issuing debenture is fluctuating every year. However it is in increasing trend which is obviously seen from the figure 4.2.

**Figure: 4.2**

**Number of Corporate bodies issuing corporate debenture**



In the figure, X axis represents the fiscal year and Y axis represents the No of corporate bodies issuing debenture. Before the fiscal year 1997/98, there were not any practices of issuing corporate debenture. In 1997/98 Shree Ram Sugar mills was issued the corporate debenture amounting RS.93 million. Fiscal years 1998/1999, 1999/2000, 2000/01, were also the awful years for Nepalese corporate debenture market due to Zero issuance of corporate debenture. After that except the fiscal year

2002/03, every year corporate debentures are issued. In fiscal year 2005/06 and 2007/08, there were four (4) corporate bodies which are issued corporate debentures. During the observation period, the debentures issued were Zero at the first four years. After that rate of debenture issuing is increasing and it becomes 13 till the FY 2008/09.

From this, it is clearly shown that in the recent years, the issuances of corporate debentures are increased and from this trend the researcher can expect that it will increase in coming year.

#### **4.1.5 Interest Rate Analysis**

Interest rate is one of the important determinants of debt securities price. The overall structure of interest rate of government securities is quite encouraging as it is geared towards the objectives of interest rate stability. Government of Nepal issues different types of bond securities. The interest rates on securities are differing accordingly their nature and time to maturity. The bond with short maturity period has less interest rate than the bond with long maturity periods. The interest rate on various government securities and interest rates on various kinds of deposit of commercial banks were as follows.

**Table 4.3**

**Structure of interest rate**

(Percent per annum)

<b>Year (mid month)</b>	<b>2003 July</b>	<b>2004 July</b>	<b>2005 July</b>	<b>2006 July</b>	<b>2007 July</b>	<b>2007 Oct</b>	<b>2008 Jan</b>	<b>2008 Apr</b>
<b>A. Policy Rates</b>								
CRR	6	6	5	5	5	5	5	5
Bank rate	5.5	5.5	5.5	6.25	6.25	6.25	6.25	6.25
Reference rates against loans to:								
Sick industries	3	2	1.5	1.5	1.5	1.5	1.5	1.5
Rural development banks	4.5	4.5	3	3.5	3.5	3.5	3.5	3.5
Export Credit in domestic currency	4.5	4.5	3	3.5	3.5	2.5	2.5	2.5
Export Credit in foreign currency	2	2	2	3.25	3.25	3.25	3.25	3.25
Standing liquidity Facility (SLF) penal rate#	0	0	1.5	1.5	1.5	2	2	2
<b>B. Government Securities</b>								
T-bills* (28 days)	0	1.82	0	2.4	2.13	2.97	4.35	3.17
T-bills* 91 days)	2.98	1.47	3.94	3.25	2.77	2.16	3.86	4.07
T-bills* (182 days)	0	0	4.42	3.86	3.51	2.66	4.33	4.39
T-bills* (364 days)	4.93	3.81	4.79	4.04	4	3.04	4.67	4.82
Development bonds	3.0 - 8	3.0 - 8 6.5 -	3.0 - 8	6.75	3.0 - 6.75	3.0 - 6.75	5.0 - 6.75	5.0 - 7.5
National/ Citizen SCs	7.0 - 13.0	13.0	6.5 - 13.0	6.0 - 8.5	6.0 - 8.5	6.0 - 8.0	6.0 - 7.0	6.0 - 7.5

<b>C. Inter bank rate</b>	4.5	0.71	4.71	2.13	3.03	3.35	4.93	2.69
<b>D. Commercial banks</b>								
<b>1. Deposit rates</b>								
Saving deposits	2.5 - 6	2.0 - 5.0	1.75 - 5.0	2.0 - 5.0	2.0 - 5.0	2.0 - 5.	2.0 - 5.	2.0 - 6.5
Time deposits								
1 month	0	2.0 - 3.5	1.75 - 3.5	1.5 - 3.5	1.5 - 3.5	1.5 - 3.5	1.5 - 3.5	1.5 - 3.75
3 month	2.0- 5.0	2.0 - 4.0	1.5- 4.0	1.5- 4.0	1.5- 4.0	1.5- 4.0	1.5- 4.0	1.5- 6.75
6 Month	2.5-6.0	2.0-4.5	2.5-4.5	1.75-4.5	1.75-4.5	1.75-4.5	1.75-4.5	1.75-6.75
1Year	3.0-7.0	2.75-5.75	2.25-5.0	2.25-5.0	2.25-5.0	2.25-5.0	2.25-5.0	2.25-5.75
2 Years and Above	3.25-7.5	3.0-6.0	2.5-6.05	2.5-6.4	2.5-5.5	2.5-5.5	2.5-5.5	2.75-6.75
<b>2. Lending rates</b>								
Industry	8.5-14.0	8.5-13.5	8.25-13.5	8.0-13.5	8.0-13.5	8.0-13.5	7.0-13.5	7.0-13.0
Agriculture	10.5-14.5	10.5-13	10 -13	9.5-13	9.5-13	9.5-13	9.5-13	9.5-12
Exports Bills	4.0-12.5	4.0-11.5	4.0-12.0	5.0-11.5	5.0-11.5	4.0-11.5	4.0-11.5	5.0-11.5
Commercial loans	7.5-16	9-14.5	8.0-14	8.0-14	8.0-14	8.0-14	8.0-14	8.0-13.5
Overdrafts	10.0-17.0	10.0-16	5-14.5	6.5-14.5	6.0-14.5	6.0-14.5	6.0-14.5	6.5-13.5

\* Weighted average discount rate

#The SLF rate is determined at the penal rate added to the weighted average discount rate of 91 days treasury bills of the preceding week.

(Source: NRB Quarterly Economic bulletin Mid April 2008).

Nepal Rastra Bank (NRB) has been publishing interest rate per annum on different government debt securities and borrowing and lending rate of commercial banks. The published interest rates since 2003 July to 2008 April has been taken for this analysis. Interest rate on T-bills (91 days) was 2.98% in the mid July 2003. During the observed period, interest rate on T- bills (91 days) is found volatile. Interest rate on T- bills (91 days) was decreased to 1.47% on July 2004. It is increased to 3.94% on July 2005. Interest rate on T- bills (91 days) was 3.25% and 2.77% on July 2006 and 2007 respectively. This represents the declining trend but in the year of 2008 Jan and April, interest rate is increased to 3.86% and 4.07% respectively.

National saving certificates which have highest coupon interest rate in government debentures has generally stable interest rate in the range of 6.5% to 13%. The interest rate on National saving certificate was 7% to 13% in the year of 2003 July. it was stable in the year 2004 July and 2005 July to 6.5% to 13%. similarly it was stable in 2006 and 2007 to 6.0% to 8.5%. In the year of 2008 it was slightly changed to 6.0 to 7.5%.

Development bonds open for all sectors banking as well as others have seemed some volatility in interest rate. It was observed 3.0% to 8% in the year of 2003, 2004 and 2005. similarly it was observed 3.0% to 6.75% in 2006 & 2007. this represents the trend of decreasing.

If it is analyze market interest rate of commercial banks deposit and lending rates, both have found generally declining tend due to economic depression of the country. After the Maoist activities growth and charging rules and regulation policy of government in short period, Nepalese industrial growth was badly injured. There is decreasing in borrowing rate as a result of falling in lending rate. The highest rate of

borrowing on time deposit (2 year and above) was 3.25-7.5 in the 2003. Then after it is decline and it is observed 2.75-6.75 in April 2008.

There are multiple interest rates of commercial banks to business society according to time structure and use of debt (i.e. industry, agriculture, export, overdraft and commercial loan). Interest rate is changed on the basis of demand and supply of fund and Nepalese financial market too. Industrial loan, agricultural loan, commercial loan and overdraft rates all are high. However, lending rates were falling due to economic depression.

By the comparison between time deposit interest rate and lending interest rate, it is found that landing rates are too much high.

Form the above analysis, it is concluded that there is significant prospect of corporate debt securities market because the current interest rate in case of government security is observed to be 6.0% to 7.5% and commercial banks time deposit rate (2 years from above) is 2.75% to 6.75%. Looking at this current scenario in the deposit rate, further depletion could be expected. This analysis shows that keeping the fund in fixed deposit is less productive than that of investing in debentures. Both institutional investors and individual investor can reap monetary benefits by investing in debentures. Thus compared to this, the debenture market has fared relatively better in general, since it not only provides an opportunity for investment but also provides price gains that will occur in the future.

#### **4.1.6 Duration**

The duration is the measurement of the average maturity of the stream of payment associated with a bond. Bond duration is considered to be an appropriate measure of its time structure than its year to maturity because it reflects the amount and time of

every cash flow rather than merely the length of time until the final payment occurs. This study has been based on the model developed by F. R. Macaulay: 1938) for calculating the weighted average time of Nepalese corporate debt securities. This bond duration is popularly known as Macaulay duration.

**Table: 4.4**

**The duration of the Nepalese corporate debenture**

Issuer	Duration (in years)	Maturity Period (in years)
Himalayan bank ltd.(HBL1)	5.45	7
Everest Bank ltd.(EBL)	5.74	7
Nepal investment bank ltd.(NIBL2)	5.74	7
Nepal industrial and commercial bank ltd.(NICBL)	5.74	7
Nabil bank ltd	5.45	7

*(Source: Annex: 1)*

The table 4.4 clearly shows that the entire Nepalese corporate debenture has less Macaulay duration (average term to maturity) than that of specified maturity period mention in bond indenture. It means that the investor receives income prior to the maturity date as described by Alexander et al. (2000) too. Similarly duration and price volatility are closely related. Duration is directly related to price volatility because bonds with higher duration will experience more price volatility in interest rate change and vice versa. Bonds with long Macaulay duration have more price risk than short duration bonds. There fore Nepalese corporate debenture securities has less price risk because of less duration than their term to maturity. Moreover, these types of corporate bonds are able to attract the investors.

#### 4.1.7 State of Subscription rate of Nepalese Corporate Debenture

The rate of over subscription and under subscription is provided by the table 8.

**Table: 4.5**

#### **Rate of over and under subscription**

Year	Issuer	bonds issue in units	bond applied units	over/under subscription in units	Rate of over/under subscription
2001/02	Himalayan bank ltd.(HBL1)	360,000.00	401,700.00	41,700.00	1.11
2004/05	Everest Bank ltd.(EBL)	300,000.00	513,000.00	213,000.00	1.71
2005/06	Nepal investment bank ltd.(NIBL2)	250,000.00	256,825.00	6,825.00	1.02
2005/06	Nepal industrial and commercial bank ltd.(NICBL)	200,000.00	200,000.00	-	1
2007/08	Nabil bank ltd	300,000.00	300,000.00	-	1

*(Source: Annual Report of SEBO/N and Issuer Company profile Fiscal Year 2007/08)*

Himalayan Bank Limited (HBL) had issued Rs.360 million, 8.5%, Himalayan Bank Bond 2066" (with par value of Rs.100, semi-annual interest Payment & 7 Yrs maturity period) in FY 2001/2002. Out of 360,000 units of issue, 260,000 units were privately placed and 100,000 units were issued to the general public. Its issue was managed by NMB. HBL was the fourth company to issue corporate bond in Nepalese history. But it was the pioneer to issue corporate bond from the banking sector. Out of total debenture issue, 401700 units were applied. It was over subscribed by 41700

units and over subscribes rate was 1.11 times. The over subscription rate 1.11 times shows that investors are attracted towards corporate debt securities.

Everest bank Ltd. had issued debenture of Rs.300 Million of "6% Everest Bank Ltd. Bond 2069" (with Rs.1000 per value and semi annual interest payment) in the FY 2004/05. Its maturity period was 7 years, 50,000 units were for general public and 250,000 units were private placement, in total issue of 300,000 units. EBL bond was issued and managed by CIT and bond was issue on 20/04/2005. Total no. of debenture issued was 300,000 units and no. of debenture applied was 513,000 units. It was oversubscribed by 1.71 times. It shows that investors' interests are growing corporate debt securities of banking sector. Another conclusion drawn from this trend of over subscription of Debenture is that investors are interested towards the securities of better performing companies.

Nepal investment bank bond 2070(NIB bond 2070) was issued in FY 2005/06 with 6% coupon interest rate paid semiannually. The par value of debenture is Rs.1000 with 7 years maturity period. "NIB bond 2070" was issued on 09/06/2006. Out of 250000 units of issued, 170,000 units were privately placed. The bond issued and managed by AFCL. Its over subscription rate was 1.02 times.

In the same way, some day later Nepal industrial and commercial bank ltd had issued RS.200 million "NIC bond 2070" with par value 1000, 6% coupon interest rate paying semi annually in the FY 2005/06. Out of 200,000 units of issue 50,000 units are issued to the general public and 150,000 units are privately placed. The bond is redeemable after 7 year and it was issued on 12/06/2006.

One month later, Nepal SBI Bank Ltd. had issued Rs.200 Million "6% Nepal SBI Bank Bond 2070" (with maturity period of 7 years and Semi-annual coupon payment)

in the FY 2005/06. Out of 200,000 units of issue, 50,000 units are issued to the general public and 150,000 units are privately placed. The bond is issued on 04/07/2006. Its issue manager was CIT. Total no. of bond issued was 200,000 units and no. of bonds applied was 232,400 units. It was over subscribed by 32,400 units. The over subscription rate was 1.16 times. It shows that Bond issued on same year by different bank had different subscriptions that investors are interested towards the securities of better performing companies.

Nepal Investment Bank Ltd. has issued Rs.70 million "6.25% Nepal Investment Bank Ltd. Bond 2071" (with Rs.1000 par value, paid semi-annual interest) in FY 2006/07. Its maturity period is also Seven years. NIBL<sub>3</sub> bond is issued and managed by AFCL. Out of 70,000 units' issue, 50,000 units are issued for public offering and 20,000 units for private placement.

In the same way, the Nabil Bank limited issued the debenture having 10 years term to maturity and 8.5% coupon rate. The subscription rate is only 1 times.

The trend of corporate of bond market in Nepal shows that banking sectors have better future growth of debenture because of over subscription of bank stream.

The high subscription of corporate debt securities attracts issuing companies towards debenture market. Heavy subscription stimulates the same bank to issue again and again issue of bond such as Nepal Investment Bank bond. This means, more of such bond issues can be expected in the future, particularly from the banks to meet their higher capital requirement and Nepal Rastra Bank (NRB) directives.

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

For primary data survey method was used. This study deals with the study of the opinions of respondents with respect to major issues and prospects of corporate debt securities market in Nepal, questionnaire method been adopted having 50 respondents. Out of them, 12 respondents belong to companies in different lines of business, 10 respondents belong to issue managers/Brokers, 20 respondents belong to individual investors and 8 respondents belong to experts groups in particular field. The classification of the respondents into companies, issue manager/broker, investors and experts has been made to analyze the difference in their opinions with respect to major aspect of corporate debenture financing in Nepal. The idea includes that whether the infrastructure of Nepalese capital market are sufficient for the development of corporate debt market or not? In order to assess the difference in the opinions of the companies, Broker, investor and experts, chi square values are computed.

Similarly, more than two questions were made to collect the information regarding the problems faced by current Nepalese debenture market and the facts that are available in Nepalese capital markets which enhanced the practice of raising fund through corporate debenture.

In 50 random samples of respondents, the frequency results are exposed in the following table 4.6, 4.7 and 4.8. The facts and figure obviously explain the state of debenture in Nepal

## 1. Infrastructure for development of debt market.

**Table: 4.6**

### **Tabulation of Responses to Field Survey Based on Questionnaire**

Option	Companies	Issue manager/Broker	Individual investor	Experts	Total
Sufficient	1 (8%)	4(40%)	9(45%)	1(12%)	15(30%)
insufficient	11(92%)	6(60%)	11(55%)	7(88%)	35(70%)
Total	12(100%)	10(100%)	20(100%)	8(100%)	50(100%)

*(Source: Annex: 3)*

The major portions of all types the respondents choose the option “insufficient”. That shows the Nepalese capital market is insufficient for the development of corporate debt market. To test the validity of these available data Chi- Square test is carried out.

### **Chi-Square Test**

Chi-square is a statistical test commonly used to compare observed data with data one would expect to obtain according to a specific hypothesis. Through the Chi-Square test one can know about the "goodness to fit" between the observed and expected data.

**Null Hypothesis (H0):** There is no significant difference between observed and expected opinion regarding infrastructure of Nepalese capital are sufficient for the development of Nepalese corporate debt market in Nepal.

**Alternative Hypothesis (H1):** There is significant difference between observed and expected opinion regarding infrastructure of Nepalese capital are sufficient for the development of Nepalese corporate debt market in Nepal.

Fixing level of Significance at 5%.

Calculated value of Chi- Square = 3.491 (*From Annex- 2*)

Tabulated value of Chi Square at 5% level of significance for 1 d. f. is 3.841.

**Decision:** Since the tabulated value of chi-square at 5% level of significance for 1 d.f. is greater than the calculated value of chi-square (i.e.  $3.841 > 3.491$ ), the null Hypothesis is accepted, which means that there is no significance difference Between observed and expected frequencies regarding infrastructure of Nepalese capital is sufficient for the development of Nepalese corporate debt market in Nepal.

## 2. Problems of current Nepalese debenture market.

**Table: 4.7**

**Number of Responses to Field survey Based on Questionnaire**

Option	Companies	Issue manager/ Broker	Individual investor	Experts	Total
Low interest rate	3 (25%)	2(20%)	9(45%)	2(25%)	16(32%)
Political instability	6 (50%)	4(40%)	5(25%)	4(50%)	19(38%)
Low feature adding in corporate debenture	3 (25%)	4(40%)	6(30%)	2(25%)	15(30%)
Total	12(100%)	10(100%)	20(100%)	8(100%)	50(100%)

*(Source: Annex-3)*

Table 4.7 shows that the major problem existing in debenture market is political instability. Option 'political instability' is chosen as a major problem faced by Nepalese debenture market by the 19 respondents out of 50 respondents. If the government is stable and rules and regulations are properly implemented, then corporate firms as well as investors feel secured as a result fund rising through debenture is became easier than ever before.

Interest rate is the major tools of debenture financing. If it is high, investor are attracted to invest in corporate debenture and vice-versa. 16 respondents are in the favor of ‘low interest rate’ as a problem faced by Nepalese debenture market.

In Nepal corporate debenture are issued without adding their proper feature like call provision, convertibility, trustee etc. this is also the draw back of debenture financing in Nepal. In table: 10, 15 out of 50 respondents are accepted the ‘low feature adding in corporate debenture’ as a problem of debenture financing in Nepal.

### 3. Reasons for increasing debenture market.

**Table: 4.8**

**Number of Responses to Field survey Based on Questionnaire**

Option	Companies	Issue manager/ Broker	Individual investor	Experts	Total
Investor awareness	4 (33%)	4(40%)	5(25%)	3(38%)	16(32%)
Increasing the corporate firms	5 (42%)	4(40%)	10(50%)	4(50%)	23(46%)
Government rules and regulation	3 (25%)	2(20%)	5(25%)	1(12%)	11(22%)
Total	12(100%)	10(100%)	20(100%)	8(100%)	50(100%)

*(Source: Annex-3)*

Table 4.8 shows that the views of respondents regarding the facts which enhanced the debenture financing in Nepal.

Now a day investors are aware in respect to investment than ever before. No of corporate firms are increasing. Government rules and regulation are amending to facilitate the capital market. These all are the good news for Nepalese capital market that makes the debenture financing is easier than ever before.

Firms needs fund to operate their activities. To generate the funds debenture financing

is one of the major source. So, increasing the no of corporate firms in Nepal represents the increasing in practices of debenture financing. In table: 11, largest no. of respondents (i.e. 23 out of 50) chose the option 'increasing the corporate firms' as a fact which shows the better prospects of corporate debenture financing in Nepal. And the rest 16 and 11 respondents are in the favor of 'investor awareness" and "government rules and regulations' respectively as a fact that enhanced the debenture financing in Nepal.

### **4.3 Major Findings**

#### **4.3.1 Findings from Secondary Data Analysis**

1. Fund borrowing or financing by issuing corporate debenture is fluctuating every year but it is clear that it is in increasing trend in recent years. In the fiscal year 06/07, the percentage covered by the corporate debenture is only 9.06% out of total issuance fund in capital market. But in fiscal year 07/08 it is increased to 12.53%.
2. Rate of corporation issuing debenture is increasing.
3. Duration of corporate debenture is less than that of their maturity period. This means one who makes investment in debentures can get the return of his investment before than that of specified maturity period in bond indenture. This represents corporate debenture is providing good interest to investors.
4. Almost all the debenture are oversubscribed this represents the investors attract ness to make the investment in corporate debenture.
5. There is significant prospect of corporate debt securities market because the current interest rate in case of government security is observed to be 6.0% to 7.5% and commercial banks time deposit rate (2 years from above) is 2.75%

to 6.75%. Looking at this current scenario in the deposit rate, further depletion could be expected. This analysis shows that keeping the fund in fixed deposit is less productive than that of investing in debentures. Both institutional investors and individual investor can reap monetary benefits by investing in debentures.

6. From FY 1993/94 to 2007/08, among 13 debentures issued, one debenture belonged to the manufacturing sector while remaining 12 belonged to banking sectors, which means in the issuance of corporate debt securities, banking sector plays the dominant role.
7. All these bonds are not secured by the pledge of any kind of assets therefore these bonds/ debentures are unsecured bonds. Moreover, in all these debentures in the event of liquidation or bankruptcy, debenture holders are to be considered only after the depositors have been fully satisfied. Meaning that, the bondholder will get the amount after payment is made to the depositors.
8. The bonds provide return in the form of coupon payment. In the context of Nepal, it is taxable as ordinary income. There is no tax exemption on the income from coupon interest.

#### **4.3.2 Findings from Primary Data Analysis**

1. From the analysis of primary data (i.e. chi- square test as well) it is concluded that Nepalese capital market are not sufficient for the development of corporate debt market.
2. The Major problem of debenture financing in Nepal is the political instability.
3. Nepal's capital market is very lean in providing investment alternative to the investors. Among various corporate debt instruments like straight debenture,

convertibles, warrants, commercial paper, only straight debentures (i.e. no convertible feature) are available for Nepali investors.

Thus, it can be said that present capital market is almost monopolized by the equity shares. For those investors, who are risk seeker and want to invest in the variable income securities, the present capital market offers sufficient alternatives but for that investor who are risk averse and want to invest in the fixed income securities, there are every few avenues available.

4. There is a limit on the extent to which funds can be raised through long term debt. Generally accepted standards of financial policy dictate that the debt ratio shall not exceed certain limits. When debt goes beyond these limits its cost rises rapidly.
5. Increasing the corporate firms, increasing the investors awareness are the major facts that state the good prospects of corporate debenture market in Nepal

## **CHAPTER - V**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

The research completely concentrates around the current structure and prospects of the Nepalese corporate debenture market. So, This chapter summarizes the overall study and draws conclusions from the study, which is under the ‘Summary and Conclusion’ part and ‘recommendation’ part of this chapter deals with the recommendations and suggestions provided to concerned authorities and stakeholders.

#### **5.1 Summary**

In the growth of economic development of a country, capital market is extremely necessary and lack of proper development of capital market cannot pump necessary fund to industrialization process.

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

This study is based on secondary as well as primary sources of information. The trend of corporate debt securities is analyzed using secondary data for the period of 1997/98 to 2007/08. The key features of corporate debt securities, trend of subscription rate and debenture interest rate, bond duration are also analyzed.

Responses collected from 50 respondents were also analyzed to achieve mention objectives. Out of 50 respondents, 12 were from companies, 10 were from issue manager/broker 20 was from individual investor and 8 were from experts.

50 respondents of four groups gave their responses on the aspects of (i) infrastructure of Nepalese capital market are sufficient for the development of corporate debt market (ii) problems faced by current Nepalese debenture market (iii) facts that are available in Nepalese capital markets which enhanced the practice of raising fund through corporate debenture . The results of these respondents in regards to first aspect were analyzed to ascertain the difference in their responses. To test the difference in the opinions of the respondents' chi - square test was used and results were tested at 5 percent level of significance.

Bond is the only security prevails in the Nepalese corporate debt securities market. Securities like commercial paper, warrants, and convertibles do not exist. This means our corporate debt securities market is really very poor on the matter of varieties of corporate debt securities. By analyzing secondary data, the researcher found various issues related to corporate debt securities market. Trend of issuing corporate debt securities is increasing. The regular and frequent issuance of debt securities reveals the fact that companies especially banks are more interested towards the issuance of bonds/ debentures. Moreover, every debenture which is issued in recent years by banks has been oversubscribed. It indicates that banking sectors debentures are more attractive and that people are showing interest towards corporate debt securities. However, Limited participation of financial institution and banking sectors showed that perhaps they are not interested to invest in same sector. The Insurance Board of Nepal has made a rule that the insurance companies cannot invest more than 10% out

of their total capital in corporate securities but there is no limitation for government securities. This provision definitely limits the investment on corporate debt securities. However the result of debenture market is prosperous which leads bright future prospects of banking sectors debt securities market in Nepal. Moreover, NEPSE recently entered in computerized trading system, this is the good news for Nepalese capital market.

## **5.2 Conclusion**

Nepalese debenture securities market is still in developing stage. Government debt securities market is slightly at maturity stage as compared with corporate debt securities market.

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

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

bonds are the major reasons of Investor's poorer responses towards corporate debt securities market.

Corporate debt securities market will not achieve its growth, unless and until investors feel free to choose the corporate debt securities. In another words corporations should take initiation on the issues of more corporate debt securities with different attributes and features. In Nepal, investments are made on impulse rather than through market study or credit ratings. Investment is done on whim, but we cannot see the development of corporate debt securities market if investment is done on whim, so there are more problems in the corporate debt securities market growth rather than the prospects of its growth.

Most of the investors are diverting their investment on other sectors like real states which have easy and quick return and also like to hoard in the form of ornaments, and jewelry. This creates problem in the development of the economy and adversely affect the economic activities.

The research also leads to the conclusion that there are also some prospects of corporate debenture market. The growing investment industry (group of activities related to investment , such as insurance, banking, brokerage etc), increasing trend of corporate debentures issues, declining interest rate on deposits of commercial banks, over subscription rate, growing participation of banking sector in issuing debentures shows the bright future of corporate debt securities market. By investing on corporate debentures investors can get higher return than deposit on commercial banks, which also able to attract the investor to invest the corporate debenture. This represents the bright future of corporate debt market.

## **5.3 Recommendations**

The researcher has obtained many issues in Nepalese corporate debenture market growth. So the researcher desire to give suggestion to those parties who are directly or indirectly attach with the debenture market. The following are the proposed recommendations:

### **5.3.1 To Nepal Government**

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

- Investment can be regarded as the measuring rod of economic pulse of the nation; the pulse could stop if the level of anarchies, political instability, regular strikes (bandhas) rises. To maintain the stability, Government should provide security and set free the economic activities from other undue interferences.
- Government made very ambitious objective and quantitative target about capital market in its “tenth” five year plan but not doing anything significant to attract more investors from out of the valley. Government should initiate towards expanding the stock exchange facilities in each development region based on feasibility. So that investors can apply for the debentures through different financial institutions. This way trading of debentures is possible.

- As the corporate debenture market is in infancy stage. To make it more energetic and prosper, it needs some relief, and perhaps the removal of tax on coupon interest will be a good relief.
- There were altogether three manufacturing companies which had issued debentures and all were redeemed. From the last nine years, no manufacturing company have initiated towards issuance of debentures this is because majority of them have been performing worse. Since manufacturing industries are considered backbone of a capital market, Government should bring the sick industries reform programmed. If this programmed is seriously materialized, the capital market will benefit together with corporate debt securities market.

### **5.3.2 To Investors and Firms**

- Nepali stock market is primarily guided by impulses and not by new information. This is a sign of market inefficiency, but investors can earn handsome gains if they try to understand such underlying cause of the corporate debenture market movement and act accordingly.
- Investors should develop a habit of investing in securities within their risk limits and diversifying their investment. If they invest all their resources in the equity shares, then they are taking a big risk. They must diversify their investment. For secure investment, the internationally agreed principle is the 40-40-20 principle, which suggests investing 40% in stocks, 40% in bonds and 20% in the money market instruments such as Certificate of Deposits (CDs). This way they can probably accumulate much more wealth than by any other principles.

- The latest data shows that debentures issued by almost all companies are commercial banks which have issued debentures and all these banks offer high coupon interest rate which exceeds the bank time deposit rate. The debentures' interest rate lies between 6% and 9% whereas the saving and time deposit rate lies within 2.5% to 6%. Thus, investors are recommended to go for corporate debentures rather than keeping their money almost idle in the banks.
- The different theory and practices too explain that risk is the person's perception. However, the first investment principle is "spread the risk". Bond/ Debenture are only the instrument providing fixed income and involve lower risk than the securities that yield variable income.
- Companies who are going to issue the debenture should include the sufficient feature in corporate debenture like convertible, call option etc.

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## ANNEX – 1

### Calculation of Duration of Nepalese Corporate Debenture

Issuer	Coupon Rate
Shree Ram Sugar Mills Ltd.	14%
Himalayan Bank Ltd.	8.50%
Nepal Investment Bank Ltd.	7.50%
Everest Bank Ltd.	6%
Bank of Kathmandu Ltd	6%
Nepal Investment Bank Ltd.	6%
Nepal Industrial and Commercial Bank Ltd.	6%
Nepal SBI Bank Ltd.	6%
Nepal Investment Bank ltd.	6.25%
Kumari Bank ltd.	8%
Himalayan Bank Ltd.	8%
Investment Bank Ltd.	8%
Nabil Bank Ltd.	8.50%
Total	99%

Here,

Total no. of debenture issuing companies= 13

Total coupon rate = 99

**Average rate =  $99/13 = 7.62\%$**

*Note: This average rate is taken as market interest rate/YTM/going interest rate for the calculation of Duration and take a decision of over priced and under priced as well.*

### **Calculation of Macaulay's Duration**

For the computation of Duration, we have specific model developed by Macaulay as follows:

$$D \text{ or MD} = \frac{1+y}{y} - \frac{(1+y) + T(c-y)}{c[(1+y)^t - 1] + y}$$

Where,

T = Time to maturity/Maturity Period

D or MD = Macaulay Duration

Y = Yield to maturity

C = coupon rate

### **Duration of Himalayan Bank limited (HBL1)**

$$\begin{aligned} MD &= \frac{1+0.0381}{0.0381} - \frac{(1+0.0381) + 14(0.0425 - 0.0381)}{0.0425[(1+0.0381)^{14} - 1] + 0.0381} \\ &= 27.24 - 16.34 \\ &= 10.90 \text{ Period} \\ &= 10.90/2 \\ &= 5.45 \text{ Years.} \end{aligned}$$

Where,

MD= Macaulay duration

Y=7.62%/2=0.0381

T=7\*2=14

C=8.5%/2=0.0425

### **Duration of Everest Bank limited (EBL)**

$$\begin{aligned} MD &= \frac{1+0.0381}{0.0381} - \frac{(1+0.0381) + 14(0.03 - 0.0381)}{0.03[(1+0.0381)^{14} - 1] + 0.0381} \\ &= 27.24 - 15.75 \\ &= 11.49 \text{ Period} \end{aligned}$$

$$= 11.49/2$$

$$= 5.74 \text{ Years}$$

Where,

MD= Macaulay duration

$$Y=7.62\%/2=0.0381$$

$$T=7*2=14$$

$$C=6.0\%/2=0.03$$

**Duration of Nepal Investment Bank ltd. (NIBL2)**

$$MD = \frac{1 + 0.0381}{0.0381} - \frac{(1 + 0.0381) + 14(0.03 - 0.0381)}{0.03[(1 + 0.0381)^{14} - 1] + 0.0381}$$

$$= 27.24 - 15.75$$

$$= 11.49 \text{ Period}$$

$$= 11.49/2$$

$$= 5.74 \text{ Years}$$

Where,

MD= Macaulay duration

$$Y=7.62\%/2=0.0381$$

$$T=7*2=14$$

$$C=6.0\%/2=0.03$$

**Duration of Nepal Investment and commercial Bank ltd.(NICBL)**

$$MD = \frac{1 + 0.0381}{0.0381} - \frac{(1 + 0.0381) + 14(0.03 - 0.0381)}{0.03[(1 + 0.0381)^{14} - 1] + 0.0381}$$

$$= 27.24 - 15.75$$

$$= 11.49 \text{ Period}$$

$$= 11.49/2$$

$$= 5.74 \text{ Years}$$

Where,

MD= Macaulay duration

$$Y=7.62\%/2=0.0381$$

$$T=7*2=14$$

$$C=6.0\%/2=0.03$$

**Duration Nabil Bank ltd. (NBL)**

$$\begin{aligned} MD &= \frac{1 + 0.0381}{0.0381} - \frac{(1 + 0.0381) + 14(0.0425 - 0.0381)}{0.0425[(1 + 0.0381)^{14} - 1] + 0.0381} \\ &= 27.24 - 16.34 \\ &= 10.90 \text{ Period} \\ &= 10.90/2 \\ &= 5.45 \text{ Years.} \end{aligned}$$

Where,

MD= Macaulay duration

$$Y=7.62\%/2=0.0381$$

$$T=10*2=20$$

$$C=8.5\%/2=0.0425$$

## ANNEX-2

### Chi- Square Test

#### Test of Hypothesis

**Null Hypothesis (H0):** There is no significant difference between observed and expected opinion regarding infrastructure of Nepalese capital are sufficient for the development of Nepalese corporate debt market in Nepal.

**Alternative Hypothesis (H1):** There is significant difference between observed and expected opinion regarding infrastructure of Nepalese capital are sufficient for the development of Nepalese corporate debt market in Nepal.

Fixing level of Significance is 5%.

#### Observed Frequency:

##### Number of Responses to Field survey Based on Questionnaire

Option	Companies	Issue manager/Broker	Individual investor	Experts	Total
Sufficient	1 (8%)	4(40%)	9(45%)	1(12%)	15(30%)
insufficient	11(92%)	6(60%)	11(55%)	7(88%)	35(70%)
Total	12(100%)	10(100%)	20(100%)	8(100%)	50(100%)

$$\begin{aligned}\text{Expected frequency of R1C1} &= \frac{\text{row total} * \text{colum total}}{\text{grand total}} \\ &= \frac{15 * 12}{50} \\ &= 3.6\end{aligned}$$

Similarly,

R1C2 = 3                      R1C3=6  
R1C4 = 2.4                    R2C1 = 8.4  
R2C2 = 7                      R2C3 =14  
R2C4 = 5.6

**Test of Chi- Square**

Observed frequencies(O)	Expected frequencies(E)	O-E	$\frac{(O - E)^2}{E}$
1	3.6		
5	6.6	-1.6	0.388
4	3		
9	6		
10	8.4	1.6	0.305
1	2.4		
11	8.4	2.6	0.805
6	7	-1.0	0.143
11	14	-3.0	0.643
7	5.6	2.6	1.207
			$\sum \frac{(O - E)^2}{E} = 3.491$

**Test statistics:**

$$2$$

$$\text{Calculated} = \sum \frac{(O - E)^2}{E} = 3.491$$

Degree of freedom= (R-1) (C-1)-2 (since 2 d.f. loss due to pooling)

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

$$= (1*3)-2$$

$$=1$$

Tabulated value of chi square at 5% level of significance for 1 d. f. is 3.841.

## ANNEX-3

# QUESTIONNAIRE

Dear Respondent,

This questionnaire is distributed for the research entitled “Corporate Debenture Financing in Nepal” as requirements for the Degree of Masters of Business Studies (M.B.S). So please kindly fill the information, if possible at our level. The information you supplied would be used only for academic purpose and will be kept confidential.

Thank you.

Yours truly,

.....

Dipak Karki

Tribhuvan University

Shanker Dev Campus

MBS Final Year

## A questionnaire survey

Respondent's Name:

Address:

*Please tick in the group you belong to:*

Listed Company:

Broker/Issuer Manger:

Individual Investors:

Experts:

1. Do you think that the infrastructures of Nepalese capital market are sufficient for the development of debt market in Nepal?

a. Sufficient

b. Insufficient

### Number of Responses to Field survey Based on Questionnaire

Option	Companies	Issue manager/Broker	Individual investor	Experts	Total
Sufficient	1 (8%)	4(40%)	9(45%)	1(12%)	15(30%)
insufficient	11(92%)	6(60%)	11(55%)	7(88%)	35(70%)
Total	12(100%)	10(100%)	20(100%)	8(100%)	50(100%)

2. In your opinion what are the problems faced by current Nepalese debenture market?

a. Low interest rate

b. Political instability

c. Low feature adding in corporate debenture.

**Number of Responses to Field survey Based on Questionnaire**

Option	Companies	Issue manager/ Broker	Individual investor	Experts	Total
Low interest rate	3 (25%)	2(20%)	9(45%)	2(25%)	16(32%)
Political instability	6 (50%)	4(40%)	5(25%)	4(50%)	19(38%)
Low feature adding in corporate debenture	3 (25%)	4(40%)	6(30%)	2(25%)	15(30%)
Total	12(100%)	10(100%)	20(100%)	8(100%)	50(100%)

3. In your opinion what are the reasons for increasing debenture market?

a. Investor awareness

b. Increasing the corporate firms

c. Government rules and regulation

**Number of Responses to Field survey Based on Questionnaire**

Option	Companies	Issue manager/ Broker	Individual investor	Experts	Total
Investor awareness	4 (33%)	4(40%)	5(25%)	3(38%)	16(32%)
Increasing the corporate firms	5 (42%)	4(40%)	10(50%)	4(50%)	23(46%)
Government rules and regulation	3 (25%)	2(20%)	5(25%)	1(12%)	11(22%)
Total	12(100%)	10(100%)	20(100%)	8(100%)	50(100%)