CHAPTER I
INTRODUCTION

1.1 Background of the Study

Capital market is the markets meant for long-term securities issued by the government or Private Corporation. Capital market typically involves financial assets (stocks, bonds) that have life span of greater than one year. Capital market helps the economy of the country to rise up. But, Nepal's capital market is very lean in providing investment alternatives to the investors. Among possible various investment alternatives like common stocks, government bonds, corporate bonds, preference shares, rights, options, warrant and convertibles etc., only very few alternatives are available for Nepalese investors.

For the overall development of the country, each and every sector must be developed properly. Among various sectors, capital market plays a vital role for the development of every country. Till the report writing, there is establishment of full fledged democracy in Nepal and if we utilize this opportunity in the development of country, this will be the milestone in the page of history.

Equity financing is inevitable sources, which may not be profitable if fully depending on it. Thus, debt financing is another economical source of long-term financing. Funds required for expanding business as well as conducting long-term project might be financed cheaply and easily by issuing corporate bond/debenture securities.
Debt securities are the important types of financial instruments of the capital market of the nation. They are the securities which provide fixed income to their holders involves lower risk than the securities that yield variable income. If the company is going to be liquidated, firstly debt holders are paid. Debt holders get fixed interest before the stock holders get dividends. Generally, risk averter investor want to invest in debenture. Debt securities are of many types such as-secured or unsecured, perpetual or redeemable, convertible or non-convertible.

Nepalese capital market as well as debt market has not reached its maturity stage. There is not proper exercise of debt-securities till now and its history is also very short. For the growth and development of Nepalese debt market, development of government debt securities market as well as corporate bond or debenture securities markets is necessary.

Corporate bond/debenture is a bond issued by a private firm business enterprise whether owned by private investors or by a government. Corporate bond have high default risk. Unsecured bond of a corporation are known as debentures. Investors look 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. Debt financing as well as equity financing is used in supply of long-term capital.

Debt is economical sources of long-term financing. The corporate bond/debenture market in Nepal is very lean. Very few companies have issued bond in the market. The first instance of issuing bond in the Nepalese history was by Bottlers Nepal Ltd., when it issued 18% coupon rate bond worth Rs.5 million in FY 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 SEBO (5.99%). Only two companies have issued bond though the time gap between the issues of corporate bond is as high as five years. Among them, Joti Spinning Mills Ltd. issued 14% coupon rate bond worth Rs. 20 million in FY 1992/93 and Shree Ram Sugar Mills Ltd. issued 14% convertible debenture worth Rs. 93 million (with par value Rs. 1,000). However, since last year, some positive signals can be observed in the Nepalese capital market. Though the govt. bonds are not available in the stock exchange floor, corporate bonds are being made available.

The issuance of the 8.50% Himalayan Bank Ltd. 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, SSML's convertible debenture was also listed in the exchange without following separate trading system. Very few of these debentures were traded. However, SSML bond was de-listed (and redeemed) in FY 2001/02. Out of 360,000 units of bonds issued by HBL, 100,000 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. ($NIBL_1$) 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 300,000 units of issue, 100,000 units are issued to the general public and the rest are privately placed (Bhattarai, 2005:193-194).Likewise, Everest Bank Ltd. had issued debenture of Rs. 300 million (with 6% coupon interest paid semi-annually) in the FY 2004/05. The par value of debenture was Rs. 1,000 with maturity period of seven years. Its issue manager was CIT (Everest Bank Ltd., Debenture Prospectus, 2005). Bank of Kathmandu Ltd. had issued Rs. 200 million "Bank of Kathmandu bond, 2069" (with 6% coupon interest paid semi-annually) in the FY 2004/05. Out of 200,000 units of issue, 50,000 units were issued to the general public and

150,000 units were privately placed. The par value of debenture was Rs. 1,000, with maturity period of seven years. Its issue manager was NMB (Bank of Kathmandu Ltd., Debenture Prospectus, 2005).

In addition, Nepal Investment Bank Ltd. ($NIBL_2$) has issued "Nepal Investment Bank Bond-2070" (with 6% coupon interest rate paid semi-annually) in the FY 2005/06. Out of 250,000 units of issue, 80,000 units are issued to the general public and 170,000 units are privately placed. The par value of debenture is Rs. 1,000, with maturity period of 7 years. Its issue manager is AFCL (Nepal Investment Bank Ltd., Debenture Prospectus, 2006).
Nepal Industrial and Commercial Bank Limited has issued Rs. 200 million "NIC Bond–2070" (with 6% coupon interest paid annually) in the FY 2005/06. Out of 200,000 units of issue (with par value Rs. 1,000), 50,000 units are issued to the general public and 150,000 units are privately placed. Its issue manager is AFCL (Nepal Industrial and Commercial Bank Ltd., Debenture Prospectus, 2006).

In order to develop corporate bond/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. For the growth of corporate bond market of any country requires: systematic development in industrial sector, development in share market, positive attitude of general as well as institutional investors, adequate rules and regulation system, availability of secondary market of debentures, cooperative response of control mechanism, and adequate infrastructure facilities etc. Development and growth of corporate debenture securities market is essential for the rapid economic growth of country like Nepal. 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 bond market should be developed to cope with the existing problems and forecasted problems.

1.2 Focus of the Study

This study focuses on the issues of bonds in the past decades and also the recent issues such as bond issued by Nepal Electricity Authority, Kumari Bank Limited, Nabil Bank Limited etc. However, higher focus has been by this study on Nepalese corporate bond/debentures market generated from private companies such as Shree Ram Sugar Mills Ltd, Jyoti Spinning Mills Ltd, Bottlers Nepal, Himalayan Bank Ltd, Nepal investment Bank Ltd etc.

1.3 Statement of the Problem

We can find that the countries with developed debenture market are developed countries. As such countries spent heavy investment in research and development activities, many research works regarding to the debt market are conducted. In developing countries, debt market is still in developing stage. In Nepalese context, there are very few research works about the debt securities and almost absent of research works on corporate bond/debenture market.

It has been found that there is little concern about debenture market of Nepal among the researcher, concerned experts, investors as well as the corporate bodies and corporation. Nowadays, it has been seen that investors are interested to invest on corporate bond/debenture securities too. Debentures are assumed less risky security of investment with fixed return. They are less risky security in the sense that there are very few chances of losing principal and interest even in liquidation of company. They are means of maximizing value of firm. Shortages of the fund for the process of industrial expansion and growth can be received from debenture issue. Instead of having so many opportunities Nepalese debenture market is not being able to grow smoothly. Debenture securities are firstly issued by the capital raising companies through primary capital market and later on these securities are negotiable in secondary capital market. Capital market provides investors good investment opportunity with fair return and instant liquidity with minimum risk of loss. On the one hand corporate bodies are suffering by financial crisis, on the other investors with surplus money cannot find the appropriate investing scheme. They are unable to bring product innovation, introducing new technologies, and employing management and technological expert due to lack of funds. Only some management organization can utilize this fund by issuing debenture, but there is not proper exercise of debenture in Nepalese capital market.

In the past debenture securities issued were under subscribed, but thereafter they are oversubscribing. This shows the growing trend of debenture market. Debenture markets have some prospect of growth even if the whole economic growth is in downturn due to political instability. Debt is fixed income securities so it is not attractive for the active investor who wants to take more risk. There is very high risk to invest in shares, but low risk to invest in debentures. Many companies are going to be liquidated due to political instability in the country. And in such situation the debenture holder are very safe than share holder. But investment in share is higher than in debenture. As we know, investment strategies also depend on the investment environment. But in Nepal, such investment strategies are not practiced yet. In this way, it is seen that public concern towards debenture market is growing but there are various problem found by organization

and people concerned with it. This hinders the growth of debenture market. Inadequate legal provisions, limited supply of quality bonds, poor knowledge about securities etc. might be the obstacles in the development of debenture market. Thus, the researcher felt need of research on topic issues and prospects of developing corporate bond/debenture markets in Nepal. The researcher gives his attention in identification of issues/problems restricting Nepalese corporate bond market and its future growth prospect.

Besides these, some specific problems are as follows:

- What are the main problems of existing corporate bond market in Nepal?
- Why the companies are not issuing bonds instead of taking loan in Nepal?
- What is the position of corporate debenture market in the structure of Nepalese securities market?
- What is the effect of political instability in the development of corporate debenture in Nepal?
- What are the prospects of developing corporate bond market in Nepal?
- Why the investors are not interested to invest in debenture securities?
- What are the key factors responsible for the hindrance of corporate bond market growth in Nepal?

1.4 Objectives of the Study

The specific objectives of the study are as follows:

- To acquire in-depth knowledge regarding existing mechanism of corporate debt market in Nepal;
- To examine valuation and duration of Nepalese corporate debt securities;
- To explore the problems that affect development of corporate bond market in Nepal;
- To provide suggestions, ideas and recommendations based on the analysis of the data.

1.5 Significance of the Study

This study tries to explain the theoretical concept and also identify the major problems faced by corporate bond/debenture market and analyze its future prospects. So it is concerned with the problems and prospects of developing corporate bond/debenture

markets in Nepal. Hence, the researcher is confident that it is helpful for the policy reforms of corporate bond market of Nepal. To some extent this study gives information about debt market. The study is beneficial for all the persons who are directly or indirectly related to the Nepalese debt market, as well as it is hoped that it may be a matter of reference for new coming researchers, academicians, teachers, students or persons practicing in the fields of finance. It is hoped that this study highlights present problems and future prospects of debenture market in Nepal.

1.6 Limitations of the Study

Each and every research works has more or less limitations. To make this study precise, meaningful and valuable, some limitations are made so that objective of this study is achieved within limited time, resource and information. The study has the following limitations:

(a) The study mainly covers period from FY 2001/02 to 2005/06.
(b) The study focuses only on corporate bond/debenture market of Nepal.
(c) The study is mainly focused in debenture issuing companies, investors, some private companies, related parties within the Katmandu valley.
(d) The study is concerned only on existing securities acts, legal rules and regulations relating to the topic.

1.7 Organization of the Study

For the achievement of mentioned objective this study has been organized into five chapters each devoted to some aspects of the study of the debt security market in Nepal. The chapters one to five consist of introduction, review of literature, research methodology, presentation and analysis of the data and summary and conclusions.

Chapter 1: Introduction

This chapter deals with introduction of the main topic of the study like general background, statement of the problems, objective of the study and organization of the study and other introductory framework.

Chapter 2: Review of literature

This chapter includes with the review of available relevant studies. It includes the conceptual review of the related books, journals, articles and the published and unpublished research works as well as thesis. It also includes security act.

Chapter 3: Research Methodology

This chapter describes research methodology employed in this study i.e. research carried out in this size and shape. For the purpose various financial and statistical tools and techniques are defined which is used for the analysis of the presented data.

Chapter 4: Data Presentation and Analysis

This chapter is the major part of the whole study in which all collected relevant data are analyzed and interpreted by the help of different financial & statistical tools. In this chapter we explained the major findings of the study.

Chapter 5: Summary, Conclusion and Recommendation

This chapter contains the summary of the study, conclusion recommendation and suggestion on the basis of the study.

Further, the bibliography and appendices are also included at end.

CHAPTER II
REVIEW OF LITERATURE

2.1 Background

This chapter includes the review of concept and finding of previous research on the same field. Books, journals and unpublished thesis are reviewed for this purpose. In this regard, basic academic course book on finance, recently published books specially related to this topic, some of the major research based journals and the related studies are reviewed. The research has also reviewed related literatures. Firstly, it has reviewed literature for conceptual framework which helps to develop concept about bond market and terms related with it. Then important finance journals, previous master's degree level theses, articles and newspapers related to the research topics were reviewed on the second part. It helps the researcher not only to find out the research gap but also helps to precede this study in a systematic manner.

2.2 The Conceptual Framework

2.2.1 Concept of Debt Market

One of the most important debt financing securities is bond. Bond is a special form of contract, which is written or printed evidence of debt owed by a company, local or central government. It is usually issued for borrowing money over a 10 to 30 years period. A bond bears the statement that the issuer promises to return to the bondholder the principle, or the sum borrowed, when the bond matures, or becomes due. Most bonds pay a fixed rate of interest at regular intervals or when the bond matures. Bonds are usually issued in groups. Each bond represents a fraction of the total loan. This makes it possible for many people of moderate means to invest, & enables a business to borrow vast sums.

Efficient markets help to mobilize the financial assets and provide efficient channel to productive investment. Financial markets facilitate the savings and investment process by making it more efficient (Thygerson, 1993:7). Efficient bond markets are characterized by a competitive market structure, low transaction costs, low level of fragmentation, safe market infrastructure and a high level of heterogeneity among market participants (The World Bank, 2001:4). They provide much needed information on prices and volume of transaction (Campbell et.al, 2001:9). Debt securities market provides a variety of securities for investment purpose.

Securities are marketable financial instruments that bestow on their owners the right to make specific claims on particular assets. An individual security provides evidence of either creditor ship or ownership –depending on whether it is a bond or a stock, respectively (Francis, 1988:10). Thus, security markets are mechanisms created to facilitate the exchange of financial assets. Based on securities traded, security markets can be divided into primary and secondary markets. Markets in which new securities are issued by government bodies and corporation are known as primary markets. After the securities have been issued, they are traded among investors in the secondary markets (Bhattarai, 2005:2).The secondary market is the only way to turn securities into cash.

On the basis of life span of securities, security markets can be divided into money and capital market. The money market is the market for short–term (one year or less) highly liquid debt securities. Capital markets are the markets meant for long–term (more than one year) debt securities issued by the government or a corporation (Bhattarai, 2005:2). Capital markets exist in order to bring together buyers and sellers of long–term securities, i.e., they are mechanism created to facilitate the exchange of financial assets. Short–term and intermediate term financing sources include trade credit, bank loan, finance company loan, commercial paper, and inventory financing but long–term securities include the issuance of mortgages and bonds.

In meeting its need for long–term finance, the firm has a choice between debt and common stock source. Debt is anything owed, especially a sum of money that one person owes to another (Kohn, 1999:63). A legal definition is that a debt is all that is due to a man under any forms of obligation or promise. A person who owes a debt is called debtors and a person to whom he owes is the creditor. Private debt is debt taken by private business organization. Private organization may obtain debt by issuing debt instruments like debenture and bonds, which is called private debt. Loan taken from financial institutions and moneylenders also count as debt.

There are several kinds of bonds. Mortgage bonds are bonds that give the investor a claim on all or part of the company's property. Such a claim, called a lien, is given as security in case the loan is not repaid when due. Debentures are bonds that are not protected by a lien. Collateral trust bonds are bonds secured by collateral (often the shares or bonds of companies controlled by the issuing company) deposited with a trustee. Income bonds usually promise to repay the principal but to pay interest only when earned. Callable bonds may be redeemed by the issuing company under definite conditions before maturity (The World Book Encyclopedia, 1996:444-445).

The bond market is chiefly over–the–country in nature and today's bond market offers issues to suit any investor. The bond market is normally separated into two issuer segments: domestic (governments and corporate) and international (Fischer and Jordan, 2000:286).

Corporate Bond or Debenture Market

A corporate bond is a security representing a long–term promise to pay a certain sum of money at a certain time over the course of the loan with the fixed rate of interest payable to the holder of the bond (Hampton, 2001:27). In other words, corporate bonds are similar to other kinds of fixed–income securities in that they promise to make specified payments at specified times and provide legal remedies in the event of default (Sharpe et.al, 2003:475). The term "corporate bond" is usually applied to longer term debt instruments, generally with a maturity date falling at least 12 months after their issue date (the term "commercial paper" being sometimes used for instruments with a shorter maturity). Sometimes, the term "corporate bonds" is used to include all bonds except those issued by governments in their own currencies, although, strictly speaking, it only applies to those issued by corporations. Restrictions are often placed on the activities of the issuing corporation to provide the additional protection for bondholders (Pinches, 1990:274).

Corporate bonds are the means by which private firms borrow money directly from the public. These bonds are similar in structure to Treasury issues–they typically pay semiannual coupons over their lives and return the face value to the bondholder at maturity. They differ most importantly from Treasury bonds in degree of risk. Default risk is a real consideration in the purchase of corporate bonds (Bodie et.al, 2002:40-41).

If the company goes bankrupt, the bondholders will not receive all the payments they have been promised. The actual payments on these bonds are uncertain, for they depend to some degree on the ultimate financial status of the firm. Bond default risk, usually called credit risk, is measured by Moody's Investor Services, Standard and Poor's Corporation, Duff and Phelps, and Fitch Investors Service, all of which provide financial information on firms as well as quality ratings of large corporate and municipal bond issues. Each firm assigns letter grades to the bonds of corporations to reflect their assessment of the safety of the bond issue (Bodie et.al, 2002:434-435).

The holders of a company's long–term debt, of course, are creditors. Generally they cannot exercise control over the company and do not have a voice in management. If the company violates any of the provisions of the debt contract, then these holders may be

able to exert some influence on the discretion of the company. Holders of the long–term debt do not participate in the residual earnings of the company; instead, their return if fixed. In liquidation, the claim of debt holders is before that of preferred and common stockholders. Depending on the nature of the debt instrument, however, there may be differences in the priority of claim among the various creditors of a company (Van Horne, 2004:589).

Corporate bonds come in several different forms. The basic classification include collateralized (secured) or uncollateralized (unsecured), senior or (subordinated) junior, callable or non-callable, and convertible bonds (Thygerson, 1993:59).

Most corporate bonds are traded in the over–the–counter (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 one common stock issue outstanding. However, a single large corporation could easily have a dozen or more note and bond issue outstanding (Ross et.al, 2002:224).

Corporate bond has high default risk. The market where bonds or debt-securities were traded known as debt market. Corporate bonds/debenture provides capital to the company and the investors get the status of lenders through the debt market (Pandey, 1979:905). Business firms issue many types of debt; however, only large firms issue bonds. Smaller firms deal directly with lenders such as bank and insurance companies (Schall and Haley, 1991:129). Firms can obtain long–term debt financing privately or through public offerings. The main difference between public–issue and private placed debt is that the latter is directly placed with a lender and not offered to the public (Ross et.al, 2002:212). Private sector securities help diffuse stresses on the banking system by matching long–term investments with long–term capital. There is thus a strong public interest in a viable bond market for private sector issuers (Brigham and Houston, 2001:376).

To be successful, private debt markets not only need a disclosure system, a credit–rating system, and bankruptcy laws but also authorities should also avoid possible crowding out and statutory restrictions that hinder the development of corporate bond market.

Government Debt Securities Market

The government issues bonds, notes and treasury bills. All Treasury obligations are of the highest quality because they are backed by the full faith and credit of the government. This feature, along with their liquidity, makes them very attractive (Fischer& Jordan,

2000:286). Government and semi–government institutions required funds for various development activities. When governments spend more than they currently rise in taxes, they must burrow through the debt securities (Kohn, 1999:494). All government securities are fixed income instruments that generally
differ in terms of the time to maturity when they are initially issued. Specifically, bills are for less than a year, note are for one to ten year, and bonds are for over ten years (Reilly, 1986:29). The main purpose of issuing securities by the government is to finance their activities. Revenues collected by the government seldom cover expenses & the differences have been financed primarily by issuing debt instruments. New instruments are issued to repay the old debt (Bhattarai, 2005:191). Municipal bonds are issued by state & local governments. They are similar to treasury & corporate bonds except that their interest income is exempt from state & local income taxes (Bhattarai, 2005:192).

Developed government securities markets help to increase the tendency of saving and reduce the poverty. Government securities related to collect required amount to fulfill the budget deficit, helps to develop corporate debt securities market also.

Foreign Bonds

Borrowers sometimes raise long–term debt capital in the domestic capital market of a foreign country 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 issue. Compliance may be relatively easy or difficult depending on the country involved. One of the main advantages of purchasing 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, 2003:484). For example, if Nepalese corporation issues bond with face value in US dollar, then such bond will be foreign bond.

International Bond Market

The term international bonds 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, 2000:288). Any bond sold outside the country of the burrower is called an international bond, but it is necessary to distinguish further between two types of international bonds i.e., foreign bonds and Eurobonds.

Euro Bond

The second type of international bond is euro bond, which is denominated in a currency other than that of the country in which it is sold. As the Eurobond market is neither regulated nor taxed, it offers substantial advantage for many issuers and buyers of bonds (Sharpe et.al, 2003:484). For example, bond issued by Nepalese corporation that is denominated in US dollars and sold in India is refunded as a euro bond.

Interest Rate

Interest is the price paid to the lenders for the use of their money. It is calculated as a percentage of the amount borrowed. From a lender's viewpoint, interest is the excess money that is received over the amount that was loaned. However, borrowers are prepared to pay interest so they can make purchases that they could afford if they had to pay for them immediately (The World Book Encyclopedia, 1996:278).

The most common type of interest is simple, compound and discount interest. The interest rate depends on the relationship between supply and demand. If the demand for loans increases, interest rate rise and fall if the demand for loans decreases. Supply and demand, in turn, are affected by several factors, such as–government policy, inflation, economic activities, the length of loan and the degree of risk (The World Book Encyclopedia, 1996:278-279).

The bond market is driven by interest rates. In fact, the behavior of interest rates is the single most important force in the bond market. These rates determine not only the amount of current income investors will make, but also the capital gains (or losses) that bond holders will incur. So, it is not surprising that interest rates are so closely followed by market participants, and the bond market performance is generally portrayed in terms of marked interest rates (Gitman and Joehnk, 1990:372).

Different theories of interest are explained differently. Expectation theory deals with long–term interest rates are a geometric average of short–term interest rates while liquidity preference theory explained that, on average, long–term interest rates are higher than short–term interest rates because investors demand a liquidity premium for lending long–term funds. Similarly, markets segmentation theory say, the interest rate that is determined by supply and demand conditions in each market (Fischer and Jordan, 2000:309). In a free economy, interest rates will adjust until the total amount of capital demanded by producers equals the amount that owners of wealth are willing to supply.

Tax assessment

Corporate bonds that are original issue discount securities generally have the discount taxed as ordinary income by the federal government. Corporate bonds carrying coupon payments have the coupon taxed as income each year. Furthermore, the investor can wait until the bond is sold and recognize the market discount as taxable interest income at that time.

From the viewpoint of the issuing corporation, debt differs from equity in two crucial respects. First, principal and interest payments are obligatory. Failure to make any payment in full and on time can expose the issuer to expensive, time–consuming, and potentially disruptive legal actions. Second, unlike dividend payments, interest payments are considered expenses to the corporation and hence can be deducted from earnings before calculating the corporation's income tax liability. As a result, each dollar paid in interest reduces earnings before taxes by a dollar, thereby reducing corporate taxes (Sharpe et.al, 2003:475-476).

2.2.2 Some Terminologies Relating to Corporate Bond Market

Inflation

Inflation is a continual increase in prices throughout a nation's economy. The rate of inflation is determined by changes in the price level, an average of all prices (The World Book Encyclopedia, 1996:229). Inflation reduces the purchasing power of consumer and as a persistent and appreciable rise in the general level of prices (Shapiro, 1995:409). A rapid uncontrolled inflation that destroys a nation's economy is called Hyperinflation. Economists have various theories that attempts to explain why inflation occurs. Many factors contribute to inflation. One element that is almost always present in an increase in a nation's money supply, which either causes or eases the increase in prices.

The quantity theory states that inflation results when the demand for goods & services exceeds the supply. The Keynesian theory also focuses on excess demand as the cause of inflation. According to the cost–push theory, when business raise their prices in response to cost increase, cost–push inflation results. Similarly, the expectations theory is based on the belief that prices will increase (The World Book Encyclopedia, 1996:230).

Weapons against Inflation are as follows

Most bonds promise a fixed nominal rate of interest. The real interest rate that you receive depends on the inflation rate (Brealey & Myers, 2000:670). Thus, the real interest has been obtained by subtracting the inflation rate from the one–year nominal interest rate, which is highly correlated with inflation (Kaen, 1995:160). The coupon interest payments & principal repayment contractually promised to bonds owners are fixed dollar quantities that do not increase with inflation. As a result, if any inflation occurs, bondholders are repaid in dollars that have less purchasing power over real (physical) goods than the dollars that were originally invested in the bonds (Francis, 1986:437).
Fiscal policy of a nation is reflected by the government's spending & taxing programs. Monetary policy is the program a nation follows to regulate its money supply. Wage and price controls are set by a government to limit wage and price increases during an inflationary period (The World Book Encyclopedia, 1996:231).

Inflation' effect on Borrowers and Lenders

When the actual rate of inflation exceeds the expected rate of inflation, those with commitments to make payments fixed in nominal terms (debtors) gain in real terms at the expense of those to whom payments are to be made (creditors), conversely, when actual inflation is less than expected inflation, creditors gain and debtors lose. This uncertainty in the real return on fixed–income securities that is due to uncertain inflation is frequently referred to as purchasing power risk (Sharpe et.al, 2003:111).

The rate of inflation is measured by percentage change in the Consumer Price Index (CPI) over the period. The consumer price index is calculated by collecting the prices of consumer goods. This index in Nepal is calculated by (NRB) Nepal Rastra Bank. Inflation for a single period can be measured as follows (Bhattarai, 2005:91-92):

$$q_t = \frac{CPI_t - CPI_{t-1}}{CPI_{t-1}} \times 100$$

Where,

q_t = Rate of inflation at time t
CPI_t = Consumer price index at time t
$CPI_{(t-1)}$ =Consumer price index at time (t-1)

And, the annualized inflation rate = $(1+ \text{per month } q)^{12}$

Nominal rates of return are money rates of return that are not adjusted for the effects of inflation. These nominal returns can be divided into the real rate of return (rr) and inflation (q) (Bhattarai, 2005:92).

$$rr = \frac{1+r}{1+q} - 1$$

Where,

rr = Real rate of return
r = Nominal rate of return
q = Rate of inflation

By simplification, we get
r = rr + q + (q) (rr)

The product of (q) and (rr) will often be a tiny value that can usually be ignored with little loss of accuracy.

So, the equation in simplified form is as follows:
r = rr + q
Also, rr = r –q
So, when the inflation rate is low provides an easy way to closely approximate the normal and real rates of return (Francis, 1986:439).

Underwriters/ Investments Bankers/of Securities

A number of financial institutions are needed for the efficient functioning of a financial market. One of these institutions is an investment banking firm. Investment banking is a business activity in which a company purchases newly issued securities, such as stocks and bonds, from businesses and governments. Such a company, called an investment bank, and then resells the securities to individual investors in smaller quantities (The World Book Encyclopedia, 1996:324).

Thus, the agent responsible for finding buyer for brand new securities is called the investment banker or underwriters (Francis, 1988:74). The investment banker specializes in underwriting and selling new securities and advising corporate clients (Pinches, 1990:245).

First, the members of the issuing firm and the investment banker hold pre-underwriting conferences, at which they discuss the amount of capital to be raised, the security to be issued, and the terms of the agreements. When the investigations are completed, an

underwriting agreement is drawn up by the investment banker (Weston and Copeland, 1992:893). Investment bankers charge fees commonly referred to as flotation costs, for designing, underwriting and selling securities. The costs of common stocks issues are higher than bond issues. Investment banks buy securities at a slightly lower price than they expect to sell them for. The difference between the purchase and sale prices represents profit (The World Book Encyclopedia, 1996:324). The risk to the underwriter is that the issue may not attract buyers at a positive differential (Jordan and Fischer, 2000:20). Investment bankers also advise businesses in arranging mergers and acquisitions. In other countries, investment bankers also provide brokerage services, but in Nepal, the issue managers only manage initial public offering and provide financial services (Bhattarai, 2005:9).

Bond Duration

A bond's duration may be defined, as the weighted average number of years until the cash flows occur, with the relative present values of each cash flow used as the weights (Francis, 1988:483). The concept of duration initially was introduced by Frederic Macaulay in 1938; therefore, it is also called Macaulay Duration (Thapa, Bhattarai and Basent 2006:226). A measure of the average time prior to the receipt of payment is obtained by calculating the bond's duration. This is simply a weighted average of the lengths of time prior to the payments, using the relative present values of the payment as weights (Sharpe et.al, 2003:554).

Another very important observation about duration is that, it is a function of term, coupon; maturity value, and yield to maturity. Bonds with 'low' coupons and 'long' terms will have duration greater than bonds with 'high' coupons and 'short' terms. Also, as yield to maturity increases; duration will decreases. Duration is directly related to term and inversely related to coupon and yield to maturity (Cheney and Moses, 10th:370). As the bonds with a longer duration will experience more price volatility due to interest rate change, duration is directly related to price volatility. Duration is not only an indication of systematic risk for bonds but also useful in analyzing and managing the risk of bond portfolios.

The duration is also known as sensitivity (elasticity) of bond price with respect to interest rate change. Furthermore, MD (Macaulay Duration) measures the bond interest rate risk (Thapa, Bhattarai and Basent 2006:229). Duration led to the development of the technique of bond portfolio management known as immunization. Specifically, this technique allegedly allows a bond portfolio manager to be relatively certain of being able to meet a given promised stream of cash outflows. Thus, once the portfolio has been formed, it is 'immunized' from any adverse effects associated with future changes in interest rates (Alexander et.al, 2002:429).

Macaulay's duration (MD) is defined mathematically as,

$$D \text{ or } MD = \frac{\sum_{t=1}^{T} PV(C_t) \times t}{\text{Total of (Present Value * Time)}} = \frac{\text{Total of (Present Value * Time)}}{\text{Total Present Value}}$$

Where,

$PV(C_t)$ = Present value of the cash flow at time t

t = Time (Year)

TPV = Total present value

Bond Immunization

The introduction of the concept of duration led to the development of the technique of bond portfolio management known as immunization (Sharpe et.al, 2002:429). 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 YTM, regardless of the fluctuations in market interest rates during this period (Alexander et.al, 2003:385-386).

Investors only need to immunize to lock in a desired rate of return when future market interest rates are expected to change. Investors' desires 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 YTM is most rewarding to investors at a time when market rates are high (Alexander et.al, 2003:388).

Even when 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 of a portfolio of bonds at the end of some specified planning horizon is equal to the value of the portfolio based on the YTMs that existed when it was purchased.

Immunization is accomplished simply by calculating 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 (Sharpe et.al, 2002:429).

What does immunization accomplish? According to the theory, if yields rise, then the portfolio's losses owing to the selling of the three–year bonds at a discount after two years will be exactly offset by the gains from reinvesting the maturing one–year bonds (and first–year coupons on the three–year bonds) at the higher rate. Alternatively, if yields fall, 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, 2002:430).

The main problems with immunization that can cause it to work less than perfectly are; default and call risk, multiple nonparallel shifts in a no horizontal yield curve, rebalancing, and many candidates.
Immunization strategies were introduced to eliminate the interest rate risk in a portfolio of bonds. The discussion revealed that duration was not only (i) an insightful measure of the time structure of a bond's cash flows and (ii) a measure of a bond's interest rate risk; it was also (iii) useful in the development of strategies for managing the interest rate risk in a portfolio of bonds.

Yield Curve/Term Structure of Interest Rates

The relationship between short–and long–term interest rates is known as the term structure of interest rates. The term structure of interest rates tells us what nominal interest rates are on default–free, pure discount bonds of all maturities. In other words, the term structure tells us the pure time value of money for different lengths of time (Ross et.al, 2002:231).
The phrase "yield curve" is a synonym for the "term structure of interest rates". Yield curves describe the yield–maturity relationship for securities of the same default risk. All factors other than maturity must be held constant if the relationship studied is to be meaningful (Van Horne, 2004:534).

The most common shape of the yield curve, particularly in modern times, is upward sloping, but the degree of steepness has varied quite a bit. The three basic components that determine the shape of the term structure are the real rate of interest, the rate of inflation and the interest rate risk (Ross et.al, 2002:231). The first component mostly influences the overall level of interest rates. But last two components very strongly influence the shape of the term structure.

To determine the shape of yield curve, three theories were developed (Francis, 1986:339). The liquidity premium theory asserts that, on average, the yields from long–term bonds should be a little higher than the yields from short–term bonds. This theory maintains that investors pay a price premium (resulting in lower yields) on short maturities to avoid the higher interest rate risk prevalent in the longer maturities. This causes the yield curve to have an upward slope. And, the segmentation theory suggests that the market for loans is segmented on the basis of maturity and that the supply and demand for loans within each segment determine its prevailing interest rates. The slope of the yield curve would be determined by the general relationship between the prevailing rates in each market segment. Low rates in the short– term segment and high rates in the long-term segment cause the yield curve to be sloping upward. The opposite occurs for high short-term rates and low long–term rates. Similarly, the expectations theory asserts that long–term yields are the average of the short–term yields. This implies that if all investors expect rates to rise, the yield curve will slope upward; if they expect rates to remain unchanged, the yield curve will be horizontal; if they expect rates to fall, the curve will slope downward.

2.2.3 Main Characteristics of Bonds

Debt is anything owed, especially a sum of money that one person owes to another. Debt securities do not have the same contractual features. Although all bonds have some common features, which are:

Face Value

The Face value, or par value, or principle, of a bond indicates the amount of money that must be repaid at maturity (Cheney and Moses, 10th:330). Typically, the par value is $1,000.

Call Feature

Most corporate bonds contain a call feature, which gives the issuing corporation the right to call the bonds for redemption. The earliest call date and call price are specified when the bonds are issued. The call feature generally states that the company most pays the bondholders an amount greater than the par value if they are called.

The additional sum is termed as a call premium. The investor should always remember that the call feature is an advantage to the issuer and can be exercised at the issuer's discretion (Cheney and Moses, 10th:330).

Coupon

The coupon is established at the time the bond is issued and represents the nominal interest rates that will be paid. It is stated as an annual percentage rate, which can be applied to the denomination or face value of the bond to calculate the dollar interest. Since interest is generally paid semiannually, the issuer pays only one-half of the coupons each semiannual period. Traditionally, the coupon is constant over the life of the bond. Recently, however, some bonds have begun to "index" coupon to inflation or to market interest rates (Cheney and Moses, 10th:331). In case of zero coupon bond, a bond that pays no annual interest but it is sold at discount from face value, much like Treasury bills.

Maturity Date

Bonds generally have a specified maturity date on which the par value must be repaid. Most bonds have original maturities (the maturities at the time the bond are issued) ranging from 10 to 40 years, but any maturities are legally permissible (Madura, 2000:511). Of course, the effective maturity of a bond declines each year after it has been issued.

Registration

Either bonds can be registered or bearer bonds for interest and/or principal payments. 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.

Indenture

The indenture is the written agreement between the corporation (the borrower) and the lender detailing the terms of the debt issue (Ross et.al, 2002:213). Bond issuers always promise in their indenture contracts to pay the trustee to act as a "watch dog" for the bond investors' interests. The provisions written into a bond issue's indenture affect the bond's creditworthiness (or investment quality rating) (Francis, 1988:15-16).

The Trustee

The trustee, usually some independent bank, ensures that the firm keeps its promises and obeys the restrictions of the contract. The trustee is the third party with whom the bond contract is made, and it is the trustee's job to make sure that the issuer lives up to the provisions of the indenture. Because the individual bond holder are usually not in a position to (1) continually observed the issuing the corporation to make sure that the company does not violate its agreements and (2) take substantial legal action if the firm does violet them, the trustee is paid to assume these responsibilities (Francis, 1988:15).

Collateral

The type of collateral is important for bonds that have probability of default. The investors must be cautious about the assets that are pledged as collateral in the event of default of regular payment of interest and principal. Variation in collateral lead to several types of bonds (Cheney and Moses, 10th:332).

Secured Bonds

Bonds that have specific assets pledged as collateral are secured bonds. Mortgage bond is an example.

Unsecured bonds

Bonds without specific collateral are unsecured except for the general creditworthiness of the issuer. Debentures or subordinated debentures are example of this type of security.

Sinking Fund bonds

Corporations that wish to repay a bond issue systematically by setting aside a certain amount each year issue these bonds. The payment, usually a fixed annual dollar amount is made to the sinking fund agent, who is usually the trustee named in the indenture. This third person then uses the money either to call the bonds annually at some call premium or to purchase them on the open market if they are selling at a discount below their face value (Francis, 1988:16). Many sinking funds begin not at the time of insurance but after a period of 5or 10 years. However, the sinking –fund provision may benefit the bondholder (Van Horne, 2004:591).

Other Features

Some other important features are convertible bond (a bond that can be converted at the option of the holder into common stock of the same corporation),warrant(is an option to buy common stock ,often used to "sweeten" a debt issue for the investor),income bond(a bond that pays interest only if the earnings of the firm are sufficient to meet the interest obligations),and purchasing power bond(a bond that has interest payments based on an inflation index so as to protect the holder from inflation).

2.2.4 Buying and Selling Rules of Securities

Buying security with view of generating capital profit is very important investing decision. In bear market, securities prices fall down. So, that it should buy securities. But, bull market refers to that market where security prices maximum occurs. It should sell securities in bull market.

There is also another alternative approach regarding buying and selling of securities, considering expected and required rate of return. When expected rate of return is greater than required rate of return, securities are under priced. Hence buying decision of securities is preferred. If expected rate of return is less than required rate of return, securities are over priced. Hence, it should sell. When expected rate of return is equal to required rate of return, there is appropriate pricing of securities. Thus, no trading of securities is preferred.

Table 2.1: Buying and Selling Rules of Security

S. no.	Condition	Pricing	Decision
1	Required rate of return > Expected rate of return	Overpriced	Sell
2	Required rate of return < Expected rate of return	Under priced	Buy
3	Required rate of return = Expected rate of return	Exactly priced	No trading

2.2.5 Valuation of Bond

Bonds are long–term debt instruments used by businesses and governments to raise large sums of money, typically from a diverse group of lenders. Investing in bonds requires computation of their value to identify the mis–pricing and the construction of portfolio. The value of a bond is the sum of the present value of the periodical interest payments and the par value that is due to at the end of bond life. The bond value (V_b) is a function of several factors as presented below:

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

Where,

F = Face value or par value
N = Maturity period
I = Coupon interest rate
P_m = Market price of bond
k_d = Market interest rate or opportunity rate
f = Function

There are three types of bonds; (i) Ordinary bonds, (ii) Callable bonds, and (iii) Perpetual bonds. Valuation of these different types of bonds is as follows:

Ordinary Bonds

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

$$V_d = \sum_{t=1}^{n} I \frac{1}{(1+k_d)^t} + M\left(\frac{1}{1+k_d}\right)^n$$

Where,

V_d = Present value of bond

I_t = Interest payments during 't' periods

k_d = going rate of interest on similar risky bond

F = Maturity value or face value

t = Time periods

n = Number of time periods

Callable Bonds

A callable bond is not much different from the ordinary bond except that the issuer keeps the right to redeem it at a specified date or any time before the maturity. Its valuation model can be expressed as follows:

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

Where,

m = Number of periods to call period

P_c = Call price

(iii) Perpetual Bonds

A perpetual bond is the one, which is never redeemed by the issuer, but the issuer pays interest for an indefinite period. The issuer is never required to pay the par value to the bondholders.

2.2.6 Bond Returns Measures

An investment may be defined as the current commitment of funds for a period of time to derive a future flow of funds that will compensate the investing unit for the time the funds are committed, for the expected rate of inflation, and also for the uncertainty involved in the future flow of funds (Reilly,1986:5). An investor may obtain two kinds of

income from an investment in a bond –income from price appreciation (or losses from price depreciation), sometimes capital gains (or losses).This section assumes that the price or investment value of the bond is given and uses this value to compute a rate of return. The main bond return measures are: current yield, yield to maturity, holding period return, and expected rate of return etc.

Current Yield

A bond return measure that is popular with investors and is provided on a daily basis in the Wall Street Journal is the current or coupon yield. As the name implies, this yield is based entirely on the relationship between the coupon rate and current price (Cheney and Moses, 10th:354).

Mathematically it can be expressed as,

$$I_c = \frac{c}{P_o}$$

Where,

I_c =Current or coupon yield

c =Annual dollar coupon

P_o =Current market price

This return measure is only a partial indication of the return. A bond currently selling at its face value will have a yield to maturity equal to the coupon rate. At any other price, however, the current yield is different from the yield to maturity.

Yield to Maturity (YTM)

Investors may also like to know the rate of return they earn on their investment. The rate of return on bond is termed as yield to maturity (YTM) and is synonymous to the effective interest rate or the internal rate of return that is commonly used in capital budgeting. The YTM can be found if the price and the value of a bond are known. The YTM is the discount rate that equates the present value of all the bond's expected future cash flows with the current market price of the bond (Alexander et. al, 2003:368).

In computing the yield to maturity, several important assumptions are made (Cheney and Moses, 10th:354):

(a) The bond will be held to maturity.

(b) All cash flows (interest and principal) will occur as indicated in the indenture (i.e., the issuer will not default on the contractual obligation).

(c) The bond will not be called or redeemed by the issuer before specified maturity date.

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

Yield to Maturity can be calculated by

(i) Trial and Error Method or Interpolation Method

YTM can be calculated by using a rate that makes the value of a bond equal to the price. Mathematically it can be expressed as,

The market price of debt,

$$P_o = \sum_{t=1}^{n} \frac{\text{Interest}}{(1+YTM)^t} + \frac{\text{Maturity Value}}{(1+YTM)^n}$$

(ii) Approximation Formula Method

Approximate YTM can be calculated as:

$$AYTM = \frac{I + \left(\frac{F-P}{N}\right)}{\frac{F + 2P}{3}} \times 100$$

Where,

F=Face value of bond

P=Price of bond

N=Number of years of bond life

I =Interest payment per year

Yield to Maturity for Callable Bonds

Bonds issued having a call feature allows the issuer to redeem the bonds prior to maturity. Thus, the issuer can take advantage of lower yields by calling outstanding bonds and refinancing at lower rates.

To reflect the impact of a possible call on the yield, the yield to first call should be calculated in addition to the yield to maturity. Using semiannual compounding, it can be expressed as:

$$P_O = \frac{C}{2}\left\{\frac{1 - \frac{1}{\left(1 + \frac{i_{call}}{2}\right)^{2T}}}{\frac{i_{call}}{2}}\right\} + \frac{\text{Call Price}}{\left(1 + \frac{i_{call}}{2}\right)^{2T}}$$

P_o =Intrinsic value of the bond
C =Annual dollar coupon
i_{call} =Yield to first call
T =Length of time to first call date, in years
Call price =Price that issuer will pay at first call date

The probability of a call increases during periods of declining yields, especially when the yield to maturity declines below the coupon yield.

Holding Period Return

A holding period or single period return is simply the total return an investor would earn during the period of holding securities (Bhattarai, 2005:87). Investors are often concerned about bond returns over a particular holding period. If the holding period was in the past, the return is a historical, or ex–post, measure. The investor concerned with a future holding period calculates the expected or ex–ante, return.

Recently, attention has moved from the traditional measures of bond returns to the holding period return (HPR).This shift is consistent with the idea that more active bond investment strategies may be desirable. These strategies may be for relatively short periods as opposed to long–term buy–and –hold strategies.

For bonds with coupons, the HPR can be calculated as (Cheney and Moses, 10^{th}:357),

$$HPR_t = \frac{P_{t+1} - P_t + I_{t+1}}{P_t}$$

Where,

HPR_t =Holding period return for period 't'
P_t =the beginning or purchase price of the bond
P_{t+1} =the ending or selling price of the bond
I_{t+1} =the coupon or interest received for period 't'

This equation assumes that interest will be received at the end of holding period't'. This assumption is correct for bonds because they are sold with accrued interest due to the seller.

Expected Rate of Return

In analyzing various bonds for investment, the analyst must consider the expected rate of return that each bond can provide. A more detail analysis is needed when a bond has default probabilities, will not be held to maturity, and when yields in general may change over the holding period (Cheney and Moses, 10^{th}:358).

The return, which we expect in the future, is the weighted average rate of return, using the probability of each rate of return as the weight.

Mathematically it can be expressed as follows (Cheney and Moses, 10^{th} 359):

$$\text{Expected HPR} = \Sigma(\text{HPR}) = \sum_{i=1}^{n} (\text{Probability})_i \times (\text{HPR})_i$$

$$= P_1 \text{HPR}_1 + P_2 \text{HPR}_2 + \ldots + P_n \text{HPR}_n$$

Where,

E(HPR) = Expected rate of return or expected holding period return
$(\text{Probability})_i$ = Probability of event i
$(\text{HPR})_i$ = Rate of return or holding period return at event 'i'
n = n_{th} event

2.2.7 Types of Bonds Financing

Fixed–rate, long–term debt instruments are of various kinds. With the exception of income bonds, all are widely employed (Van Horne, 2004:593).Some of them used by corporations are:

(a) Debentures

The term debentures usually apply to the unsecured bonds of a corporation. Investors look to the earning power of the corporation as their security as these bonds are not secured by specific property. Although the bonds are unsecured, debenture holders are protected by the restrictions imposed in the indenture. Because debenture holders must look to the general credit of the borrower to meet principal and interest payments, only well established and creditworthy companies are able to issue debentures.

(b) Subordinated Debentures

Subordinated debentures represent debt that ranks behind debt senior to these debentures with respect to claim on assets. In the event of liquidation or reorganization, holders of

subordinated debentures cannot be paid until all senior debt, as named in the debentures' indenture, has been paid (Weston and Brigham, 1996:811). The existence of subordinated debentures may work to the advantage of senior holders, because senior holders are able to assume the claims of subordinated debenture holders. Because of the nature of the claim, a straight subordinated debenture issue has to provide a yield higher than a regular debenture issue in order to be attractive to investors.

(c) Mortgage Bonds

A mortgage bond issue is secured by a lien on specific assets of the corporation –usually fixed assets. The specific property securing the bonds is described in detail in the mortgage, which is the legal document giving the bondholder a lien on the property. If the corporation defaults in any of the provisions of the bond indenture, the trustee, on behalf of the bondholders, has the power to foreclose i.e. the trustee takes over the property and sells it, using the proceeds to pay the bonds. Mortgages can be first, second or subsequent, each with its respective subordinated claim to the assets of the firm in case it defaults (Francis, 1988:17).

(d) Income Bond

Income bonds have a stipulated coupon and interest payment schedule, but the interest is only due and payable if the company earns the interest payment by a stipulated date. If the required amount is not earned, the interest payment does not have to be made, and the firm cannot be declared bankrupt (Reilly, 1986:30).If the company does not generate the earning, interest may be accumulative. However, the cumulative obligation usually is limited to no more than three years. As these bonds are not popular with investors, they have been used principally in reorganizations.

(e) Equity–Linked Debt

Sometimes the investor in the debt instruments of a company is given an option on common stock. With debt +warrants, the debt holder has an option to purchase the common stock of the company and he or she continues to hold the debt instrument. Warrants are often employed as "sweeteners" to a public issue of bonds or debt that is privately placed. As a result, the company should be able to obtain a lower interest rate than it would otherwise.

A convertible bond is one that may be exchanged, at the option of the holder, into a certain number of shares of common stock of the corporation. Such bonds are considered very attractive, especially when issued by growth firms. In return for this attractive feature, a convertible bond normally requires the firm to pay less interest than would be paid for a comparable nonconvertible bond (Hampton, 2001:28).

With exchangeable debt, the debt can be exchanged into shares of common stock of another corporation. This method of financing is applicable to companies that have stock holdings in another company.

2.2.8 Cost of Debt Capital

Interest payable on debt capital is known as the cost of debt. Corporate bond/debenture securities may be issued at par, or at 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.

The explicit cost of debt tends to be the least expensive of the three sources we consider for, two reasons. First, from the investor's standpoint, there is a fixed legal claim; bondholders have greater security than preferred or common stockholders. On a risk-return basis, we would expect bond investors to demand less return than stockholders which they do. Second, the tax status of interest also makes debt cheaper than other sources, as long as the firm is profitable.

Mathematically, cost of debt can be calculated as follows:

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

Where,

k_d = Cost of debt before tax

I = Interest

NP = Net processed amount actually available

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

$$\text{Cost of debt after tax } (k_{dt}) = k_d (1-t)$$

Where,

t = Tax rate

2.2.9 Pros and Cons of Bond Investing

Noting that investors have sometimes been reluctant to invest in bonds, Burton Malkiel has commented:

Bonds are the Rodney Dangerfield of financial investments. They don't get much respect. They were defined in an early 1980s parody of the Wall Street Journal as "fixed–rate instruments designed to fall in price".

The pessimistic view of bonds by many investors in the late 1980s is based on their performance during the 1960s and 1970s. Over the past 40 years, common stocks provided an annual compounded rate of return of approximately 10 percent while high–grade corporate returned approximately 5 percent.

The poor performance of bonds is primarily due to unexpected inflation during the period 1950 –1985. High and unexpected inflation rate cause interest rates to change and bond price volatility to increase.

Despite the poor performance of bonds, Malkiel cautions that you should not "invest with a rearview mirror." Investors and the bond markets have likely learned a hard lesson about underestimating the rate of inflation and the consequences to bond investors. Because investors are now extremely cautious about unexpected inflation, "bonds are priced more attractively than they were in the past."

Possible risk factors for bonds in the 1990s include having the bond called by the issuer if interest rates decline; possible default if a serious recession occurs; and the large federal budget deficit.

Despite these risk factors, Malkiel believes "bonds deserve a place in everyone's portfolio." In addition, he comments, "I still believe that bonds will provide reasonable generous real rates of return over the next decade–and with less risk than for roughly similar returns in stocks" (Burton, 1989:180-85).

2.2.10 Historical Development of Corporate Bond/Debt Market in Nepal

Nepal's capital market is very lean in providing investment alternatives to the investors. Among possible various investment alternatives like common stocks, government bond, corporate bond, preference share, right, option, warrants, convertible etc, very few are available for Nepali investors. It can be said that the present capital market is almost monopolized by the equity shares. For those investors, who are risk seeker and want to invest in the variable income securities, the present capital market offers sufficient alternatives but for those investors who are risk averse and want to invest in the fixed income securities, there are very few avenues available (Bhattarai, 2005:192).

"Securities Marketing Center" (SMC) was established in 1976 to develop corporate securities market in Nepal. Before the establishment of SMC, there were no institutional arrangements to undertake and to manage the new issue of securities. Initial public offering had to be made on as per the provision of companies Act. 1963, was not adequate and relevant. The Act had not ever included preference share as corporate security. Only companies Act.1994 recognized it as a corporate security.

SMC started secondary trading of securities in 1981, which was restricted to government bonds till 1983, the concept of well-structured secondary market had not involved in Nepal. No separate Act existed to regulate the trading of securities. The securities exchange Act. 1983 was enacted in 1983. The Act restricted the exchange of unlisted securities. SMC was renamed as Securities Exchange Center (SEC) in 1984. SEC was the only one institution concerned in managing and operating primary and secondary markets of long-term government and corporate securities.

A need to develop different institutional mechanisms relating to securities market was strongly felt to avoid potential conflict of interest between the services provided. The first amendment of the securities exchange Act. 1983 in 1993 paved the way for the structuring of securities market in Nepal, which led to the establishment of Securities Board of Nepal (SEBON) in 1993. With a mandate to regulate and develop the securities markets, SEBON started to register securities and grant approval for issuing securities to the public in 1993. The first amendment in the Act also led to conversion of SEC into Nepal Stock Exchange Ltd. (NEPSE) in 1993 with the objective of operating and managing secondary transactions of securities. The initial efforts led to the opening of a full-fledged stock exchange in January 13, 1994.

The second amendment in securities exchange Act.1983 was made in 1997. This amendment made provision for registering securities businesspersons in SEBON. As per the provision of the second amendment, SEBON provided licenses to the securities businesspersons in 1997. The amendment made mandatory provisions for the listed companies to submit annual and semi-annual reports to SEBON. This amendment also required securities businesspersons to submit annual reports incorporating the securities transactions carried out by them to SEBON.

In the context of establishing proper identification of the investors for the development of fair and transparent securities markets, SEBON has made amendment in its Securities Registration and Issue Approval Guidelines, 2000 in 2005 and add new provision which requires the investors to submit along with the application for the buying of securities in

the public offering, the photocopy of their citizenship certificate or the identification with photograph, issued by Nepal Government attested by themselves.

Presently, there are twenty-four stockbrokers, seven issue managers, two issue managers and securities dealers, one stock exchange and one hundred twenty-five listed companies in the Nepalese securities market.

Bond is the other instrument providing fixed income to the investors and involves lower risk than the securities that yield variable income. Also the bond market in Nepal is very lean. Very few companies have issued bond in the market. Just seven private business organizations have issued bond or debenture till 2006. Though, Nepalese government is more forward in exercising debt instrument, only countable number of corporate sector are found exercising debt instrument.

Nepal does not have a long history of corporate debt securities market. Only few (i.e. eight) corporate debt securities have been issued prior or after the enactment of Securities Exchange Act 1983, till now. Corporate bond/debenture securities issued by private organizations in the Nepalese capital markets are shown with their characteristic features as follows:

(i) First time in the Nepalese history, Bottlers Nepal had issued 18% debenture of Rs.5 million (with par value Rs.1,000) in the FY 1986/87.It was slightly over subscribed (i. e. Rs.5.13 million) and was redeemed at maturity.

(ii) Secondly, Jyoti Spinning Mills Ltd. had issued 14% bond of Rs.20 million (with par value Rs.1,000) in the FY 1992/93. It was managed by NIDC (Bhattarai, 2005:193).

(iii) The primary issue of debt securities disappeared for more than a decade. Then thirdly, Shree Ram Sugar Mill's Ltd. had issued the debenture as "14% convertible and redeemable debenture" in the FY 1997/98. The Mill has issued debentures worth Rs.93 million (with par value Rs.1,000) and managed by NIDC and charge 0.50% of total collected amount as flotation cost. This debenture was heavily undersubscribed (i.e.17.13 million) and there was no conversion ratio (Shree Ram Sugar Mill's Ltd., Debenture Prospectus, 1997).

(iv) Himalayan Bank Ltd. had issued Rs. 360 million "8.5% Himalayan Bank Ltd. Debenture–2066" (with par value Rs. 1,000 and semi-annual interest payment) in the FY 2001/02. The bank decided to distribute debentures through the private

placement with the amount of Rs.260 million and through the issue–managed company of Rs.100 million issues was managed by the Nepal Merchant Banking and Finance Limited with charged of 0.54% of total amount. It was heavily over subscribed (i.e.141.7 million). Its issue was managed by NMB (Himalayan Bank Ltd., Debenture Prospectus, 2002).

(v) Nearly one and a half year after HBL bond, another big Nepali bank, Nepal Investment Bank Ltd. (NIBL) has issued Rs. 300 million "Nepal Investment Bank Bond–2010" (with 7.5% coupon interest paid semi-annually) in the FY 2003/04. Out of 300,000 units of issue (with par value Rs. 1,000), 100,000 were issued to the general public and 200,000 units were privately placed. Though the interest rate offered by NIBL was one percent lower than that in HBL's bond (where it was 8.5% with semi-annual payment arrangement), it had good chances of being oversubscribed. Its issue manager was AFCL (Nepal Investment Bank Ltd., Debenture Prospectus, 2005).

(vi) Everest Bank Ltd. had issued debenture of Rs. 300 million (with 6% coupon interest paid semi-annually) in the FY 2004/05. The par value of debenture was Rs. 1,000 with maturity period of seven years (i.e., redeemable after 7 years). Out of 300,000 units of issue, 50,000 units were issued to the general public and 250,000 units were privately placed. EBL bond issue date was 2062/01/07. Its issue manager was CIT (Everest Bank Ltd., Debenture Prospectus, 2005).

(vii) Bank of Kathmandu Ltd. had issued Rs. 200 million "Bank of Kathmandu bond, 2069" (with 6% coupon interest paid semi-annually) in the FY 2004/05. Out of 200,000 units of issue, 50,000 units were issued to the general public and 150,000 units were privately placed. The par value of debenture was Rs. 1,000, with maturity period of seven years. Its issue manager was NMB (Bank of Kathmandu Ltd., Debenture Prospectus, 2005).

(viii) Again Nepal Investment Bank Ltd. has issued "Nepal Investment Bank Bond-2070" (with 6% coupon interest rate paid semi-annually) in the FY 2005/06. Out of 250,000 units of issue, 80,000 units are issued to the general public and 170,000 units are privately placed. The par value of debenture is Rs. 1,000, with maturity period of 7 years. Its issue manager is AFCL (Nepal Investment Bank Ltd., Debenture Prospectus, 2006).

(ix) Nepal Industrial and Commercial Bank Limited has issued Rs. 200 million "NIC Bond–2070" (with 6% coupon interest paid semi-annually) in the FY 2005/06.

Out of 200,000 units of issue (with par value Rs. 1,000), 50,000 units are issued to the general public and 150,000 units are privately placed. Its issue manager is AFCL (Nepal Industrial and Commercial Bank Ltd., Debenture Prospectus, 2006).

(x) Finally till the report writing, 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 2005/06. Out of 200,000 units of issue, 50,000 units are issued to the general public and 150,000 units are privately placed. Its issue manager is CIT (Nepal SBI Bank Ltd., Debenture Prospectus, 2006).

This means, more of such bond issues can be expected in the future, particularly from the banks to meet their higher capital requirement under Nepal Rastra Bank directives (Bhattarai, 2005:193-194).

2.3 Review of Journals and Articles

As there is not sufficient publication regarding corporate bond/debenture market in Nepal, journals published from abroad are reviewed to understand present debt market of Nepal. Comparing Nepalese corporate bond/debenture market with international debt market helps to identify issues (problems) and prospects on the one hand, and helps in recommending appropriate measures to overcome present problems on the other.

Some journals and articles found to be important are reviewed as follows:

YanAlice Xie, Sheen Liu, and Chunchi Wu (2005) have studied on "Duration, Default Risk, and the Term Structure of Interest Rates." They have examined the interactive effect of default and interest rate risk on duration of defaultable bonds. Their results suggested that the duration measure must be adjusted for the effects of default risk and stochastic interest rates to achieve an effective bond portfolio immunization. They have examined the duration of defaultable bonds by taking into account the interactive effects of default intensity and interest rates. They found that duration estimates of A, BBB, and longer term AA bonds (refer to AA bonds with maturities from 6 to 10 years) are shorter than those of default-free bonds. However, a further analysis had shown that the relation between default intensity and interest rates was time dependent and varies with the business cycle. These finding have suggested that in empirical application the duration measure should take into account the effect of default and the time-dependent relation between default intensity and interest rates.

They have developed a unified framework to show that although callability always shortens duration, the default-risk adjustment may either lengthen or shorten it, depending on the relation between changes in the issuer's credit quality and changes in the riskless term structure. Using a unique database of Canadian corporate bond indexes from 1986 to 1997, they found that the default- and call-adjusted duration was lower than the Macaulay duration over their sample period.

Their study differed from that of previous studies in several aspects. First, instead of assuming a flat yield curve, their model incorporated the effect of term structure of interest rates on duration by adopting a stochastic mean-reverting interest rate process. Second, they have employed a reduced-form approach to derive a closed-form duration model for defaultable bonds by allowing for the effect of stochastic interest rates.

They have found that the stochastic interest rate process affects the duration measure and that the duration for defaultable bonds could be shorter or longer than their default-free counterparts, depending on the relation between default intensity and interest rates. If the relation was negative, the duration for defaultable bonds was shorter than for default-free bonds, and vice versa. Their finding was contrary to the common belief that default always shortens the bond duration.

Their results showed that the stochastic duration measure can be very different from the Macaulay duration even with a mild mean reversion and low volatility of interest rates. In addition, they have found that default intensity and interest rates exhibit a negative and significant relation for A- and BBB-rated bonds in the 1987–1989 and 1990–1993 subperiods. On the other hand, this relation became positive in the 1994–1996 sub-periods for all bonds. Their results have suggested that the relation between default intensity and interest rates varied with the business cycle. Furthermore, their results have suggested that bond duration should be adjusted for the effect of default to achieve an effective immunization, especially for lower quality bonds.

Sudip Datta, Mai Iskandar Dutta, and Kartik Raman (2005) have 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 95th percentile was expected to shorten the percentage of total debt maturing in 3 years or more by 4.90%. 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 Compustat and Standard and Poor's ExecuComp databases spanning the years 1992 through 1999. ExecuComp covered firms in theS&P500, S&PMidcap 400, S&PSmallCap 600, and other firms that are not currently in the S&P indexes but that were previously in one of the indexes. They have retrieved managerial stock ownership data from the ExecuComp database. All other financial data are from the Compustat 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.

They have shown that managers with higher stock ownership choose a larger proportion of short-maturity debt thereby committing to more frequent monitoring. On the other hand, more entrenched managers (i.e., managers with lower stock ownership) choose longer maturity debt. It was important to note that this significant and robust inverse relation between managerial stock ownership and corporate debt maturity emerges after controlling for all previously identified determinants of debt maturity and modeling debt maturity and leverage as jointly endogenous variables. The result strongly supported their central proposition that managerial stock ownership was an important determinant of corporate debt maturity.

This study extended the debt structure literature in two additional ways. First, it refined 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.

Roy Batchelor and Katiuscia Manzoni (2006) have studied on "The Dynamics of Bond Yield Spreads around Rating Revision Dates." They have examined the effect of rating revisions on sterling Eurobond yields using a panel model with conditional heteroskedasticity that controls for event-induced changes in the variance of spreads. Positive rating revisions are fully anticipated by the time the upgrade occurs. Negative revisions are only partially anticipated, and spreads on downgraded bonds rise for some time after the downgrade have been announced. All ratings announcements are accompanied by a temporary fall in yield volatility. They have attributed this to the resolution of uncertainty about the true rating of the bond. Ratings may provide a mean for conveying relevant inside information to bondholders without providing full information to the entire marketplace. Supporting these arguments was the revealed preference of bond issuers and purchasers to pay for rating services.

Their data relate to all sterling Eurobond ratings revisions made by Standard & Poor's (S&P) from January 1992 through December 1999. From a total of 477 bonds traded in this period, 313 Eurobonds were not re-rated and 164 experienced a rating revision, of which 123 were downgrades and 41 were upgrades. The largest individual category was the highest rated AAA group (about 30% of all Eurobonds), and they are the most stable with only about 10% downgraded one class to AA+ between 1992 and 1999. A further 30% of bonds are rated AA+ to AA–, and about 40% are A+ and below. For these groups, the incidence of ratings changes is about 45%. Most changes are one class up or down, and only in 35 cases do ratings change by more than one class. Eight bonds were re-rated within 60 days from a previous revision.

The first hypothesis they have tested was whether Eurobond yields react differently to positive and negative rating revisions, a consistent finding of the U.S. studies surveyed earlier. The second hypothesis they have tested was related to the effect of the ratings change on volatility. Third, they have tested for significant differences in the effect the rating event have on spread and volatility across classes of bonds.

In their article they have analyzed the effects of rating change announcements on the abnormal yield and volatility of daily returns on sterling-denominated Eurobonds. The

question of the effect of rating changes on bond and stock prices in the United States have been well studied in the literature. Specifically, ratings events percolate through to yields in an asymmetric way. Positive rating news releases are fully anticipated by the market, but downgrades are accompanied by a significant increase in the yield spreads in the post-announcement period. The asymmetric effect of rating announcements on spreads implies that a strategy of shorting downgraded bonds would be profitable.

The methodological contribution of their study was that it employed a panel GARCH model to the yield spread series. That helps them to identify how ratings affect volatility, and by allowing for time-varying, event-dependent, volatility changes, it gave them more confidence in the validity of their statistical inferences. The effect of any ratings announcement was to reduce volatility during and around the time the information was released. They conjectured that that calming effect occurred because the re-rating announcement resolved uncertainty about the current status of the bond.

Misa Tanaka (2006) studied on "Bank Loans Versus Bond Finance: Implications for Sovereign Debtors." Her article analyzed the optimal choice between bank loans and bond finance for a sovereign debtor. It showed that if borrowers can be _publicly monitored_ by a rating agency that disseminates the information about their creditworthiness, their choice between bank loans and bond finance was determined by the trade-off between two deadweight costs: the crisis cost of default and the cost of debtor moral hazard. She argued that one of the key differences between the two types of sovereign debt was that bank loans are based on private monitoring whereas bond finance relies on public monitoring by credit rating agencies. The public monitoring therefore made bonds more easily transferable compared to bank loans by eliminating the information asymmetry between existing creditors and third parties. Another important difference between bank lending and bond finance was that the former was financed by a few identifiable creditors, whereas the latter was held by a large number of anonymous and dispersed creditors. In addition, she also analyzed the policy implications of increased bond finance by EME sovereigns, and these issues are not considered by prior Hale.

She had presented a model in which the difference between bank lending and bond finance was that of monitored and non-monitored lending. In this set-up, banks can observe the financial state of the borrower in the interim at some cost and renegotiate the repayment terms, whereas bondholders simply stop lending to all borrowers facing repayment difficulties since obtaining information and renegotiating the contract was too costly for them. She developed a more realistic model, in which bank loans are provided by a single lender using private monitoring, whereas bond debts are financed by multiple

lenders using public monitoring. In this modified set-up, sovereign borrowers can pay a credit rating agency to publicize information about their creditworthiness.

Her article was perhaps the first to investigate the policy implications of the increased use of long-term bond finance by EME sovereigns. The analysis showed that the ease of rollover made bank loans more attractive for short-term borrowing, whereas the transferability made bonds cheaper for long-term financing. She have also shown that borrowers prefer long-term bond issuance over short-term bank loans for financing projects with an uncertain timing of cash flow, if the crisis cost of a default was large and the cost of information dissemination was small. Thus, the large crisis costs together with the reduced cost of information dissemination may explain the recent shift towards bond finance by EME sovereigns.

She had highlighted two inefficiencies that arise in a world where long-term bond financing dominates: the crisis cost of an inevitable default and the ex post debtor moral hazard which delays restructuring of an unsustainable debt. State contingent debt which was linked to the debtor's GDP forecast could potentially eliminate these two inefficiencies, but such a contract may not be feasible in practice unless there are reliable forecasts which debtors are unable to manipulate.

An IMF intervention to prevent a crisis conditional on an early debt restructuring could improve welfare, but only if the IMF had accurate information about the borrower's financial state and commits not to rescue strategic defaulters. Moreover, such an IMF intervention was welfare improving if and only if the benefits of mitigating the crisis costs and the ex post debtor moral hazard outweigh the cost of intervention, including its implication for the ex ante debtor moral hazard. Furthermore, she had explained how the shift to long-term bond finance may delay debt restructuring.

2.4 Review of Unpublished Theses

Having reviewed the research report, most of the research studies are related with public debt and very few studies are found related with overall debt securities market (i.e., government and corporate). No any study was performed particularly on corporate debt securities only.

Mr. Mahesh Ram Joshi (1982) had studied on structure of public debt in Nepal. He tried to focus the essential of internal borrowing as pictured the poor economic performance of the nation due to nation's natural topography and human behavioral limitations. He concluded that the internal borrowing is most essential to develop the money and capital

market in the nation. He recommended floating or introducing the different public borrowing scheme that may suit the pocket of rich as well as poor people.

Similarly, many studies were performed on public debt market. Mr. K. J. Baral (1999) had studied all types of securities- corporate or government, debt or owner types of securities. His study was based on the pure secondary data on the period of 1984-98. He came to know that till 1976, companies willing to issue securities had to manage their issues themselves. NIDC and RBS had legal mandate to manage issues, but they never performed these roles to that date. Furthermore, he added that the corporate debt securities market is the least developed market in Nepal. Only one (Shree Ram Sugar Mill) listed organization issue the debt securities until that date which indicates that equity shares dominated the corporate debt securities in the Nepalese securities market.

Mr. Ram Prasad Paudel (2002) had studied on government securities practice in Nepal. He summarized that, government securities is issued to meet short-term and long-term financial requirement. The government expenditure through public debt is quite beneficial to the nation if used productively. But a large public debt may create problems in the economy in future. He added that Nepal has been suffering capital shortage since the first budget speech. Most people use their idle funds on government securities rather than behaving as investors. Among them majority are service holders and very few of them are retired people. The people of rural 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. Lastly, he concluded that Nepalese investors are attracted towards govt. securities as most of Nepalese investors are risk averter and need less risky investment. He recommended that, people pride themselves on their financial contribution to nation, if there are suitable debt securities available for investment.

Mr. N. K. Mainali (2003) had studied on problem and prospects of debenture market growth in Nepal. He addressed that, there are many problems like as insufficient legislative provisions regarding Nepalese debenture market, political instability, poor price sensitivity, insufficient information disclosure, investors' low preference on debenture etc. are responsible for the very slow growth of Nepalese debenture market. He added that, capital supply, tax saving, interest income, means of meeting deficit budget, growth on public debt are some plus point which signifies the prospects of debt market growth in Nepal.

Mr. S. M. Bhattarai (2003) had performed his research on problems and prospects of debt market growth in Nepal. He concluded that, govt. debt securities market is slightly at maturity stage as compared with corporate debt securities market. Mainly the problems like –lack of public awareness, limited supply of quality bonds, investors increasing

attraction towards common stock/shares and also towards the banking sector's securities, difficult process of issuing debenture, insufficiency of legal provisions and the infra-structure of capital market, dominant by credit oriented transaction, feeling of non-existence of debt market, lack of large business organizations and a narrow area of government securities market etc. are hindrances for the smooth growth of Nepalese debt securities market. However, the main factors such as; investor's attraction towards liquid assets like debt securities, desire to invest on debenture of any potential issuance, attraction towards convertible debenture, declining interest rate on deposit of commercial banks, increasing trend of amount of govt. securities and the increasing trend of issuance of corporate debentures etc. indicates the growth prospects of Nepalese debt securities market. He came to know that the interest rate of deposit on commercial bank is decreased every year. But the interest rate on debt securities is higher to some extent than bank's deposit rate. Also investor's fund can be utilized in a productive way if invested in govt. securities, which helps in the upwards growth of national economy. Furthermore, he added that if any organization is going to issue debenture Nepalese investors will invest on it. So he recommended to the govt. to bring new rules and regulations and to the Nepalese companies to use debenture as a source of financing to them.

Mr. D. R. Kafle (2003) had studied problems and prospects of debt market growth in Nepal. He summarized that, capital market of Nepal is in the infant stage and debt securities market of corporate bodies is limited in existence. The government debt securities market is growing but not as expected. The heavy reliance of government in foreign debt has created huge problem in the growth of Nepalese debt securities market. He added that, investment made on impulse rather than through market study or credit ratings, in Nepalese capital market. He came to the point that Nepalese investors preferred national saving bond and development bond rather than other govt. bonds. He concluded that due to over supply of deposits by customers; commercial banks do not issue debt securities. On the one hand, big corporate bodies could get loan easily from banks at lower cost so they didn't need to issue debt instruments, but on the other hand small corporate firm have been facing the problem in raising the fund by issuing debt securities as well as from bank. Tedious and lengthy process of issuing the debt securities is another problem that hinders the growth of debt securities market.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Background

Research methodology describes the method and process applied in the entire aspect of the study. It is way to systematically solve the research problem. This chapter includes research design, population and samples of the study, research variables, sources of data, research methods of analysis and finally testing of hypothesis.

3.2 Research Design

Research design attempts to analyze the problems and prospects of corporate debt market in Nepal. It provides the framework "for the study" guidelines, "for the collection and analysis of data". This research study attempts to analyze the issues and prospects of corporate debenture market in Nepal. Thus, to fulfill the objective of the study, both primary as well as secondary data are used. Furthermore, descriptive as well as analytical and quantitative approaches are used to examine the problems. A descriptive approach is mainly focused on prevailing the current position and various problems associates with Nepalese corporate debt market. Similarly, analytical approach is used to examine various related variables of corporate debt securities. Various statistical tools such as curvilinear model, time series analysis and chi-square test for testing hypothesis are applied to interpret the result and come to conclusion.

3.3 Population and Samples

This research is conducted to find out the problems and prospects of Nepalese corporate debt market although only few (i.e., nine) corporate organizations have issued bond till this study performed and are taken as the population of study. There are 131 listed companies in fiscal year 2006/07. For the purpose of primary data collection, the survey investigation of 22 listed companies out of 131 has been made. Under random sampling, total of 22 listed companies, 12 issue managers/brokers, 58 individual/institutional investors and 18 experts mainly from staffs of NRB, SEBO/N, and NEPSE are taken as sample for questionnaire survey. To analyze the trend of corporate bond market in the structure of securities market, a sample of issuance securities from FY 1986/87 to 2006/07 are taken as sample. The following table clearly shows selected sector's total

population, target population and percentage of population also. Numbers of companies selected for the survey are as follows:

Table 3.1: Number of Companies Selected for the Survey

S.N.	Listed companies	Total Population (N)	Targeted Sample No. (n)	Sample %
1	Banks	17	9	52.94
2	Development Banks	24	0	0
3	Finance Companies	57	4	7.02
4	Hotel	4	1	25.00
5	Manufacturing Companies	18	4	22.22
6	Insurance Companies	17	3	17.64
7	Trading	4	1	25.00
8	Hydropower	3	0	00.00
9	Others	2	0	00.00
Total		146	22	15.07

Source: www.nepalstock.com

3.4 Sources of Data

The Data is the ordered information from reality that can be collected and transferred into some recording system. So that it can be later examined and analyzed in order to reach to conclusion of research work. This research study is based on both primary and secondary data. The source of primary data is mainly questionnaire method. A set of questionnaires is developed for various respondents. These are allocated to them and collected after sometimes. Personal interviews are also conducted during visits. The main sources of the primary data are as follows:

- Listed Company
- Issue Manager/Brokers
- Individual /Institutional Investors
- Other Experts, mainly staffs of NRB & SEBO

To examine the trend and ownership pattern and for interest rate analysis, secondary data are also used. The main sources of secondary data are as follows:

- Various quarterly Economic Bulletins published by NRB
- Various Economic Reports of NRB
- Annual report of security Board of Nepal
- Various Annual Report of NEPSE and SEBO/N

- Various Reports of Listed Companies, recorded in SEBO/N
- Prospectus of Debenture Issuing Banks
- Other publications, books, journals, articles, previous research studies, dissertations

3.5 Method of Analysis

"The main purpose of analyzing the data is to change it from as unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating and performing statistical analysis and drawing inferences" (Wolf and Pant, 2003:2004). Various possible statistical and financial tools are used where necessary in each case in order to obtain the best result and to classify, to tabulate and to analyze primary data. The empirical results have been estimated in this study by using data for the period of 1986/86 to 2006/07.

(A) Valuation Model

As long as a bond is not expected to go into default, the expected return from a bond comprises of annual interest payments plus the price to be covered at maturity. Thus, value of bond is present value of cash flow generated by the bond until its maturity, i.e. present value of all the interest payments by the bond plus present value of principal amount repaid to its holders after its maturity. Therefore, the model is presented as:

$$\mathbf{V_d} = I\,(PVIFA_{kd,\,n}) + M\,(PVIF_{kd,\,n})$$

Where,

V_d = Intrinsic Value of Bond Interest
I = Coupon Amount of Bond
M = Par Value (Maturity Value)
I = Market Interest Rate
n = Maturity Period
PVIFA = Present Value Interest Factor of Annuity
PVIF = Present Value Interest Factor

(B) Duration

A bond's duration is defined as weighted average numbers of years until the cash flows occur, with the relative present value of each cash flow used as the weight. Duration is

directly related to term and inversely related to coupon and yield to maturity. Main objective to use this model is to calculate the duration of Nepalese corporate debt securities. Macaulay's duration (MD) helps to analyze the actual maturity period for 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

(C) Statistical Tools Used

In the process of estimating above models, various statistical tools have been used, e.g., simple arithmetic mean, weighted mean, median, etc. A brief explanation of statistical tools employed in this model is as follows:

Simple Arithmetic Mean

Simple arithmetic mean is the sum of the values of all the elements in the sample and divided by the number of elements in the sample.
Mathematically,

$$\bar{X} = \frac{\sum X}{n}$$

Where,

$\bar{X}$ = Simple arithmetic mean
$\sum X$ = Sum of sample items
n = No. of sample items

Weighted Mean

Sometimes, we might come across the situations where the relative importance of all the item of the distribution is not same. If some items in a distribution are more important than other, proper weight is to be given to various items-the weight attached to each item being proportional to the importance of item in the distribution. Here, weighted mean is calculated to determine the rank assigned by respondents during the field survey.

3.6 Hypothesis Testing

Testing of hypothesis is one of the most important aspects of research. Hypothesis is the assumption that is made about the population parameter and then its validity is tested. The act of verification involves testing the validity of such assumption, which when undertake based on sample evidence, is called testing of hypothesis. It can also be considered as suggested solution of the research problems. Its main function is to suggest new experiments and observation. With the available data, decision makers apply the hypothesis testing and give the decision accordingly.

Here, Chi-square value is compared in order to test whether there is significant difference between expected and observed opinion regarding various matters relating to Nepalese debt securities matter. It may not be proved absolutely but in practice, it is accepted if it has with stood a critical testing. The statistical hypothesis is tested at 1%, 5% and 10% level of significance. In testing of hypothesis, Chi- square has been tested. Expected frequencies are calculated by applying the following formula:

$$E = \frac{RT \times CT}{GT}$$

Where,

RT = Row Total

CT = Column Total

GT = Grand Total

The quantity of χ^2 describes the magnitude of the discrepancy between theory and observations. It is defined as,

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

Where,

O = Observed Frequency

E = Expected Frequency

χ^2 = Chi-square

A quantitative statement about the population parameter, which may be true or false, is called a hypothesis. In order to make proper decision about the qualitative statement of the population, testing of hypothesis technique is used. But, testing of hypothesis is carried out by using sample information. According to Rumen and Balline, “A hypothesis is a statement capable of being tested and verified or rejected”. After setting the hypothesis, it is necessary to test the consistency of such statistical statements. For this

purpose, an experiment is conducted by using sample information and the hypothesis is rejected if the results obtained are doubtful under this hypothesis. But, if the results are not doubtful, the hypothesis is accepted. The procedure of drawing such conclusion based on sample information is known as testing of hypothesis. It has tested following few hypotheses:

Research Hypothesis

Null Hypothesis (H_o):

i) There is no significant difference between observed and expected frequencies regarding to the choice of securities.

ii) There is no significant difference between observed and expected opinions regarding to the reason for the slow growth of corporate debenture market.

iii) There is no significant difference between observed and expected frequencies regarding to the few practices of corporate debentures.

Alternative Hypothesis (H_1):

i) There is significant difference between observed and expected frequencies regarding to the choice of securities.

ii) There is significant difference between observed and expected frequencies regarding to the sufficiency of present legal provisions related to the debt securities market.

iii) There is significant difference between observed and expected frequencies regarding to the sufficiency of present legal provisions related to the debt securities market.

CHAPTER IV
DATA PRESENTATION AND ANALYSIS

The chapter data presentation and analysis is the main body of the study. It includes two main sections. Section 4.1 and 4.2 include the presentation and analysis of secondary data and primary data respectively.

4.1 Presentation and Analysis of Secondary Data

4.1.1 Corporate debenture Market in Nepal

Nepal does not have a long history of corporate debt securities market and only few corporate debt securities have been issued prior or after the enactment of Securities Exchange Act 1983, till now. So, it can be said that corporate debenture is in the creeping stage of development. It is clear that present capital market is almost monopolized by the equity shares although only few investment alternatives are available in Nepalese capital markets. Securities help the private sectors to contribute on economic development through more efficient reallocation of capital. For the development of capital market, each and every sector of securities markets needs to be developed. So, for the overall development of the capital market, development of corporate debenture market is necessary. It inferred that securities market (i.e. capital market) has vital role in both developing and developed countries.

In the Nepalese history, very few corporate bodies (i.e. 9 corporations till now) have issued corporate debenture for the purpose of raising long-term fund. M/S Bottlers Nepal Ltd. is the pioneer to practice corporate debenture, from manufacturing company. Table 4.1 shows that it had issued 18% debenture of Rs. 5 million with par value of Rs. 1,000 in the FY 1986/87 and it was slightly over subscribed (i. e. Rs.5.13 million) and was already redeemed.

Then, M/S Joti Spinning Mills Ltd. was the second company for issuing corporate

debenture. Table 4.2 shows that it had issued 14% debenture of Rs. 20 million with par value of Rs. 1,000 in the FY 1992/93 and its issue was managed by NIDC.

Likewise, M/S Shree Ram Sugar Mills Ltd. (SRSML) was the third company in the case of issuing debenture in the Nepalese history. It had issued 14% convertible debenture of Rs. 93 million with par value of Rs. 1,000 in the FY 1997/98 (Table 4.1). Table 4.2 shows that its debenture had been converted after four years. Only 17,130 units out of total debenture were applied. The under subscription rate was 0.18 times. These means 75,870 units issue were not subscribed. This shows those debentures were heavily under subscribed. The issue manage was NIDC. This shows that all three pioneer issuer of debenture were manufacturing companies.

Table 4.1: Amount of Debenture Issued by the Corporate Bodies (FY 2054/55 to 2065/66)

SN	Issuer	Issue Amount	Date of Issue	Date of Allotment	Maturity period	Coupon Rate	Issue Manager
1	Shree Ram Sugar Mills Ltd.	93	2054/8/5	2054/3/31	4 years	14%	NCML
2	Himalayan Bank Ltd.	360	2059/3/4	2059/3/28	7 years	8.5%	NMB
3	Nepal Investment Bank Ltd.	300	2060/7/17	2060/8/8	7 years	7.5%	AFC
4	Everest Bank Ltd.	300	2062/1/7	2062/1/26	7 years	6%	CIT
5	Bank of Kathmandu Ltd.	200	2062/6/6	2062/7/19	7 years	6%	NMB
6	Nepal Investment Bank Ltd.	250	2063/2/26	2063/3/12	7 years	6%	AFC
7	Nepal Industrial and Commercial Bank Ltd.	200	2063/2/29	2063/3/13	7 years	6%	AFC
8	Nepal SBI Bank Ltd.	200	2063/3/20	2063/3/22	7 years	6%	CIT
9	Nepal Investment Bank Ltd.	250	2064/02/29		7 years	6.25%	AFC
10	Nepal Electricity Authority	1,500	2064/11/02	2064/12/14	5 years	7.75%	NMB
11	Kumari Bank Limited	400	2065/2/2	2065/2/24	5 years	8%	NMB
12	Himalayan Bank Ltd.	500	2065/3/8	2065/3/30	7 years	8	Ace
13	Nepal Investment Bank Ltd.	250	2065/3/12	2065/3/25	7 years	8	Ace
14	Nabil Bank Ltd.	300	2065/3/21	2065/4/22	10 years	8.5	NIDC

Source: Gautum and Thapa, Capital Structure Management pp. 175

After issuing corporate debenture by three manufacturing companies as mentioned in the above paragraphs, some banking sector has issued redeemable debenture which were heavily oversubscribed. In this matter, Himalayan Bank Ltd. (HBL) was the first bank to issue corporate bond from the banking sector in the Nepalese history but fourth company out of total companies. Table 4.1 shows that it had issued "8.5% Himalayan Bank Bond– 2066" with par value Rs. 1,000 and semi-annual interest payment of Rs. 360 million in the FY 2001/02, with 7 years maturity periods. 260,000 units were privately placed and 100,000 units were issued to the general public out of 360,000 units of issue. Table 4.2 shows that total no. of debentures issued was 360,000 units whereas total no. of

debentures applied was 401,700 units. It was oversubscribed by 41,700 units and over subscribe rate was 1.12 times. The over subscription rate 1.12 times shows that investors are attracted towards corporate debt securities. Its issue was managed by NMB.

It can be inferred that oversubscription of HBL debentures and very low subscription of SRSML debentures shows that investors prefer to invest in corporate debt securities of banking sectors than that of manufacturing sectors.

Table 4.2: Name of the Corporate Debenture Issuing Companies, Year of Issue Over/Under Subscription, Types of Issue and Issue Manager (FY 1986/87 to 2006/07)

Year	Issuer	B I (Units)	B A (Units)	O S (Units)	O/U S (x)	I M	Types
1986/87	BNL	5,000	-	-	-	-	-
1992/93	JSML	20,000	-	-	-	NIDC	-
1997/98	SRSML	93,000	17,130	-75,870	-0.18	NIDC	Convertible
2001/02	HBL	3,60,000	4,01,700	41,700	1.12	NMB	Redeemable
2003/04	$NIBL_1$	3,00,000	3,00,000			AFCL	Redeemable
2004/05	EBL	3,00,000	5,13,000	2,13,000	1.71	CIT	Redeemable
2005/06	BOKL	2,00,000	2,66,620	66,620	1.33	NMB	Redeemable
2005/06	$NIBL_2$	2,50,000	2,56,825	6,825	1.03	AFCL	Redeemable
2005/06	NICBL	2,00,000	2,00,000			AFCL	Redeemable
2005/06	NSBIBL	2,00,000	2,32,400	32,400	1.16	CIT	Redeemable

Source: Annual Report of SEBO/N 2006/07, and Trading Report of Issue Manager

Nepal Investment Bank Ltd. ($NIBL_1$) has added another step of ladder in the field of corporate debentures by issuing corporate debentures after nearly one and a half year after issuing of HBL debentures. Table 4.1 shows that it had issued "7.5% Nepal Investment Bank Ltd. Bond–2067" with par value Rs. 1,000 and interest paid semi-annually of Rs. 300 million in the FY 2003/04, with maturity period of 7 years. Similarly, this bank also issued 100,000 units to the general public and 200,000 units were privately placed out of 300,000 units of issue. The interest rate offered by $NIBL_1$ was one percent lower than that in HBL's debenture (where it was 8.5% with semi-annual payment arrangement). $NIBL_1$ bond was issued and managed by AFCL. Table 4.2 shows that total no. of debentures issued was 300,000 units and total no. of debentures applied was 300,000 units because of after full subscription, debenture issuance was stopped.

Everest Bank Ltd. (EBL) had issued debenture of Rs. 300 million with 6% coupon interest paid semi-annually in the FY 2004/05. Table 4.1 shows that the par value was Rs. 1,000 with maturity period of 7 years. Out of 300,000 units of issue, 50,000 units were issued to the general public and 250,000 units were privately placed. Table 4.2 shows that EBL bond was issued and managed by CIT. Total no. of debenture issued was 300,000 units and no. of debenture applied was 513,000 units. It was oversubscribed by 213,000 units. The over subscription rate 1.71 times shows that it was heavily subscribed.

This indicates that investors' interests are growing or positive towards corporate debt securities of banking sector. Another conclusion drawn from this trend of oversubscription of debenture is that investors are interested towards the securities of better performing companies.

Likewise, Bank of Kathmandu Ltd. (BOK) had issued " Bank of Kathmandu bond, 2069" of Rs. 200 million with 6% coupon interest paid semi-annually in the FY 2004/05.Table 4.1 shows that the par value of debenture was Rs. 1,000, with maturity period of seven years (i.e. redeemable after 7 years). 50,000 were issued to the general public and 150,000 units were privately placed out of 200,000 units of issue. Table 4.2 shows that total no. of bonds issued was 200,000 units and no. of bonds applied was 266,620 units. This shows that it was oversubscribed by 66,620 units. Its over subscription rate was 1.33 times. The bond was issued and managed by NMB.

High subscription rate of this bond issue indicates that Nepalese corporate debt securities market has been growing day by day.

After issuing of debenture by EBL, BOKL, again for the second time, Nepal Investment Bank Ltd. ($NIBL_2$) has issued "Nepal Investment Bank Bond-2070" with 6% coupon interest rate paid semi-annually in the FY 2005/06. NIB bond-2070 was issued on 2063/02/26. Table 4.1 shows that the par value of debenture was Rs. 1,000, with maturity period of 7 years. Out of 250,000 units of issue, 80,000 were issued to the general public

and 170,000 units were privately placed. Table 4.2 shows that the bond is issued and managed by AFCL. Total no. of debenture issued is 250,000 units and no. of debenture applied is 256,825 units. It is over subscribe by 6,825 units. The over subscription rate was 1.03 times.

Then after Nepal Industrial and Commercial Bank Limited has issued Rs. 200 million "NIC Bond–2070" with 6% coupon interest paid semi-annually in the FY 2005/06 and the par value was Rs. 1,000. Table 4.1 shows that out of 200,000 units of issue, 50,000 units were issued to the general public and 150,000 units were privately placed. The bond has 7 years maturity periods (i.e. redeemable after 7 years). Table 4.2 shows that the bond was issued and managed by AFCL. Total no. of debenture issued was 200,000 units and no. of debenture applied was 200,000 units. This shows that after full subscription, debenture issuance has been stopped.

Finally till the report writing, Table 4.1 shows that 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 2005/06. The par value was Rs.1, 000. Out of 200,000 units of issue, 50,000 units were issued to the general public and 150,000 units were privately placed. Table 4.2 indicates that its issue manager was CIT. Total no. of bonds issued were 200,000 units and no. of bonds applied were 232,400 units. It was oversubscribed by 32,400 units. The over subscription rate was 1.16 times.

The frequently high over subscription trends of corporate bonds issued by banking sector in Table 4.2 shows that Nepalese corporate bond market has better future growth prospects. This trend attracts issuing companies towards debenture markets. Though one year gap is seen after HBL bond issue, continuous issuing of debenture securities is seen thereafter. Four Nepalese banks have issued corporate bond in the same FY 2005/06 but found heavily oversubscribed and/or slightly oversubscribed. This means, more of such bond issues can be expected in the future, particularly from the banks to meet their higher capital requirement under Nepal Rastra Bank directives. It can be said that investors have full trust on the banking sectors too after government bonds.

4.1.2 Valuation of Nepalese Corporate Debt Securities

Bonds like any other financial assets can be valued by estimating the total present value of these flows by using an appropriate discount rate (i.e., market interest rate). This approach is generally much easier to apply to fixed types of securities. This study used the valuation model [V_d = I (PVIFA $_{kd, n}$) + M (PVIF $_{kd, n}$)] developed by Brigham and Houston (2001) for valuation of Nepalese corporate debt securities. Valuation of debenture depends on its contractual features as described above. Above mention model is used for a standard coupon bearing bond issued by corporate bodies. As the corporate bond issued by three manufacturing companies (Bottlers Nepal, Joti Spinning Mills Ltd., and Shree Ram Sugar Mills Ltd.) had already been matured, only non-matured bond of other seven companies (HBL, $NIBL_1$, EBL, BOKL, $NIBL_2$, NICBL, and N SBI BL) valuation has been done. The cash flows consist of interest payments during the life of the bond, plus the amount borrowed (Rs. 1,000 par value) when the bond matures. This study assumes that market interest rate (YTM) remains constant during the maturity period of debentures.

As noted earlier the holder of bond receives a fixed annual interest payment for a certain number of years and a fixed principal repayment (equal to par value) at the time of maturity.

Hence, the present value of these debentures is presented in the Table 4.3.

Table 4.3: Valuation of Corporate Debt Securities

Companies	MIR	CIR	Par Value (Rs.)	P V (Rs.)	Buy/Sell Decision
HBL	5.63%	8.5%	1,000	1085.63	Buy
$NIBL_1$	4.50%	7.5%	1,000	1128.21	Buy
EBL	4.48%	6%	1,000	1089.78	Buy
BOKL	4.45%	6%	1,000	1105.76	Buy
$NIBL_2$	4.45%	6%	1,000	1105.76	Buy
NICBL	4.45%	6%	1,000	1105.76	Buy
NSBIBL	4.45%	6%	1,000	1105.76	Buy

Source: Annex-II

Table 4.3 shows that $NIBL_1$ debenture value (i.e., Rs.1128.21) is greater than all other debentures value. Debentures of HBL, $NIBL_1$, EBL, BOKL, $NIBL_2$, NICBL, and N SBI BL were under priced due to the higher value than their market price. As stated by previous studies, when the market interest rate is equal to the coupon rate the value of bond is equal to its par value. Similarly, when the market interest rate is greater than the coupon rate, the value of bond is less than its par value while the market interest rate is less than the coupon rate; the value of a bond is more than its par value. This last concept was strongly supported by Nepalese corporate debt securities. As shown in the table, for HBL market interest rate (i.e., 4.00%) is less than the coupon interest rate (i.e., 8.5%), the present value of HBL (i.e., Rs.1085.63) is more than its par value (i.e., Rs.1000). Similarly, for $NIBL_1$ market interest rate (i.e., 4.00%) is less than the coupon rate (i.e., 7.5%), the present value of $NIBL_1$ (i.e., Rs.1128.21) is more than its par value (i.e., Rs.1000). In the similar manner, coupon rate of EBL, BOKL, $NIBL_2$, NICBL, and N SBI BL are greater than market interest rate, and due to that their present values are greater than their par values.

The basic concepts of valuation discussed above provide the foundation for investment decisions. A security's investment determines its prices and value. The professional investors follow the more scientific procedure of forming estimates of a security's value

before they make a decision to buy or sell the security. Buying-selling decisive rules as, described by Francis (1986), examined this study for Nepalese Corporate debt securities as in the following way:

If a security's market price is below its value, it is under priced and should be bought and held in order to profit from price gains thinking that profit should occur in the future. Similarly, if a security's market price equals its value, the price is in equilibrium and is not expected to change. If the security's market price is above the security's value, the security is overpriced; security should be sold in order to avoid losses. When its prices fall down to the level of its value, then it may be sold short in order to make profit from the expected price decline. As corporate debt securities issued by above mentioned companies coupon rate are greater than market interest rate, their debt securities present value are more than their par values. This shows that the above mentioned debentures are under priced. So, such under priced debenture should be bought in order to made profit in the future from price gain.

4.1.3 Duration of Nepalese Corporate Debt Securities

A bond's duration may be defined as the weighted average number of years until the cash flows occur, with the relative present values of each cash flow used as the weights. This is simply a weighted average of the lengths of time prior to the payments, using the relative present values of the payment as weights. It reflects the amount and time of every cash flow rather than merely the length of time until the final payment occur. Duration is directly related to term and inversely related to coupon and yield to maturity. 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.

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

Where,

MD = Macaulay Duration

Y = Market Interest Rate (YTM)

T = Term to Maturity

C = Coupon Interest Rate

The duration of Nepalese corporate debt securities is presented in Table 4.4.

Table 4.4: Duration of Nepalese Corporate Debt Securities

Companies	M I R	C I R	Duration	Maturity Period
HBL	5.63%	8.50%	5.55 yrs.	7 yrs.
$NIBL_1$	4.50%	7.50%	5.70 yrs.	7 yrs.
EBL	4.28%	6%	5.89 yrs.	7 yrs.
BOKL	4.45%	6%	5.89 yrs.	7 yrs.
$NIBL_2$	4.45%	6%	5.89 yrs.	7 yrs.
NICBL	4.45%	6%	5.89 yrs.	7 yrs.
NSBIBL	4.45%	6%	5.89 yrs.	7 yrs.

Source: Annex-III

The result presented in the Table 4.4 shows that all the seven Nepalese corporate debt securities have less actual term-to-maturity than their book-term-to-maturity. HBL duration 5.55 years is less than its maturity period 7 years. Also for HBL, market interest rate is less than coupon interest rate. Similarly, duration of debentures (bonds) of $NIBL_1$, EBL, BOKL, $NIBL_2$, NICBL, and N SBI BL are less than their maturity periods. Also their coupon rates are higher than their market interest rate. This shows that when market interest rate is less than the coupon rate, the duration is less than its maturity period. The investors may not wait for whole return until the maturity period. The investor receives income prior to the maturity date as described by Alexander, et.al. : (2002).

Similarly, duration and price volatility are closely related. Duration is directly related to price volatility because debentures (bonds) with longer duration will experience more price volatility if interest rate changes. Bonds with long duration have more price risk than that of short-duration. Therefore, Nepalese corporate debt securities have less price risk because of less duration than their term-to-maturity i.e., 5.55 years less than 7 years for HBL, 5.70 years less than 7 years for $NIBL_1$, 5.89 years less than 7 years for EBL,

5.89 years less than 7 years for BOKL, 5.89 years less than 7 years for $NIBL_2$ and so on. Besides, Table 4.4 shows that there is an opposite relationship between bonds coupon rate and bonds duration. For instance, duration of HBL is 5.55 years when coupon interest rate is 8.5%, duration of $NIBL_1$ is 5.70 years with 7.50% coupon interest rate, and duration of EBL is 5.89 years with 6% coupon interest rate and so on. It means the lesser the coupon interest rate, the higher the duration of bonds. This shows that duration is inversely related to coupon interest rate.

4.2 Presentation and Analysis of Primary Data

Introduction

This investigation deals with the study of the opinions of respondents with respect to problems and prospects of Nepalese corporate debenture market. This study is mainly based on questionnaire survey of the opinions of 110 respondents. Out of 110 respondents, 22 belongs to listed companies in different sectors of business, 12 respondents belongs to issue managers/brokers, 58 belongs to Individual Investors, 18 belongs to experts group in particular field. The classification of the respondents into listed companies, issue manager/broker, individual investors, and experts has been made in order to systematically analyze the differences in their opinions with respects to major aspects of Nepalese corporate debenture market. These aspects include evaluating priority for raising long-term fund, type of long-term investment preferable, preferred sector debenture issue, major factors of the slow growth of Nepalese corporate debenture market, factors playing vital role to attract investors towards purchasing corporate debenture, reasons for few practice of debenture, and reasons for using bank loan instead of issuing bond, etc. The pro forma structured questionnaires and details of responses obtained are presented in appendix IV, V, and VI respectively.

In order to assess whether the difference in the opinions of the listed companies, issue manager/broker, individual investors and experts as to the major aspects of corporate debenture/bond market in Nepal is significant, chi-square values are computed and the results are presented. Similarly, the response to each choice in those questions where

choices are to be ranked is weighted by the value of the rank assigned to it by the respondents and weighted arithmetic mean is calculated. With the help of this, average weighted arithmetic mean is calculated to find the overall rank for each choice of the listed companies, issue manager/broker, individual investors, experts and all respondents.

Table 4.5: Choice of Securities for Raising Long-term Fund by all Respondents

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
(a)	10	6	36	6	58 (52.73)
(b)	2	0	4	0	6 (5.45)
(c)	4	2	8	4	18 (16.36)
(d)	6	4	10	8	28 (25.46)
(e)	0	0	0	0	0 (0)
Total	22 (100)	12 (100)	58 (100)	18 (100)	110 (100)

Source: Annex-V

4.2.1 Study and Analysis of Questionnaires Relating to Corporate Debenture Market in Nepal

Q.No.1 Appropriate Source of Financing for Raising Long-term Fund

In their overall ranks for raising long-term fund by using different options such as common stocks, preferred stocks, debt securities (debentures), bank loan and others, majority of respondents gave their first priority to option 'a' (common stocks), second priority to option 'd' (debt securities-debentures), third priority to option 'c' (bank loan), fourth priority to option 'b' (preferred stock) and no respondents haven't shown any response towards option 'e' (any others) –Annex - V).

After analyzing the data received by all respondents on choice of securities for raising long term fund, Table 4.5 shows that out of total respondents (i.e., 110), 52.73% respondents gave their first priority to common stocks, 25.46% respondents gave their first priority to debt securities (debentures), 16.36% respondents gave their first priority to bank loan and only 5.45% respondents gave their first priority to preferred stock while no priority to any others. This shows that the majority of the respondents gave first priority to common stocks.

In addition to above, each group response on choice of securities for raising long-term fund is analyzed. The majority of respondents, i.e. 45.45% listed companies, 50% issue manager/broker and 62.07% individual investors gave their first choice to common stocks for raising long-term fund where as 33.33% experts gave their first choice to common stock and no interest has shown towards preferred stocks and others. The practice of issuing common stocks is very popular in the Nepalese capital market because majority of investors are familiar with this security from the very beginning. It can be inferred that common stock market has dominated Nepalese capital market due to the poor practice of issuing other investment alternatives. As preferred stocks, corporate bonds, and very few availability of investment alternatives, majority of investors are familiar with common stock only. Majority of the companies used common stock for raising long-term fund, as it is already popular to investor and easily subscribe.

Q.No.2 Reasons for slow Growth of Nepalese Corporate Debt Market in Nepal

In their overall ranks for the major reasons for slow growth of Nepalese corporate debenture market in Nepal, majority of the respondents gave their first priority to option 'a' (lack of investors awareness towards debt securities), second priority to option 'd'(Limited Issuance of Quality Bonds), third priority to option 'c' (Lack of Proper Legal Provision), fourth priority to option 'b' (lack of capital gain opportunity), fifth priority to option 'e', (poor practice of information disclosure by private organization) **–** Annex – V.

After analyzing the data received by all respondents on reasons for slow growth of Nepalese corporate debenture market in Nepal, Table 4.6 shows that out of total (i.e., 110) respondents, majority of respondents i.e. 45.45% respondents gave their first priority due to lack of investors' awareness towards debt securities which impede the growth of debt market, 18.18% respondents gave their first priority due to limited issuance of quality bonds, 16.36% respondents gave their opinion due to lack of proper legal provision, 10.91% respondents gave their reason due to lack of capital gain opportunity, and remaining 9.10% respondents gave their opinion due to the poor practice of information disclosure by private organization.

Table 4.6: Reasons for Slow Growth of Nepalese Corporate Debenture Market

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
(a)	10	4	30	6	50 (45.45)
(b)	2	2	6	2	12 (10.91)
(c)	4	2	8	4	18 (16.36)
(d)	4	2	10	4	20 (18.18)
(e)	2	2	4	2	10 (9.10)
Total	22 (100)	12 (100)	58 (100)	18 (100)	110 (100)

Source: Annex-V

In addition, while analyzing each group's responses on their reasons, we see these results. The majority of respondents, i.e. 45.45% listed companies, 33.33% issue managers/brokers and 51.72% individual investors, and only 33.33% experts gave the first priority due to lack of investors awareness towards debt securities (Table 4.6). This shows that the important factor for the smooth growth of Nepalese corporate debenture market is investors' awareness.

There are many more tools to make investor awareness about corporate bond market. Among them, issuing debenture in the capital market is one and disclosure of price sensitive information is the other. If the debentures are not issued, how investors know

about that. Similarly without the knowledge of price sensitive information of debenture/bond issuing companies, how they know the financial background, performance etc. of the companies that attracts them towards their debt securities. So, for the growth of corporate bond market the bond issuing companies should disclose its financial performance time to time. Such timely disclosure of price sensitive information helps to attract the investors or public towards their debt securities.

Q.No.3 Reasons for little Practice of Corporate Debentures by Corporate Organizations

Table 4.7: Priority of Reasons for Less Practice of Debentures by Corporate Organizations *by all Respondents*

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
(a)	4	2	10	4	20 (18.18)
(b)	8	4	22	6	40 (36.36)
(c)	4	2	6	2	14 (12.73)
(d)	4	4	12	4	24 (21.82)
(e)	2	0	8	2	12 (10.91)
Total	22 (100)	12 (100)	58 (100)	18 (100)	110 (100)

Annex V.

In their overall ranks on reason for less practice of corporate debenture by corporateorganizations, majority of the respondents gave their first priority to option ‘b’ (lack of sound debt market in Nepal), second priority to option ‘d’(lengthy process of issuing as well as ineffective rules and regulations), third priority to option ‘a’(credit oriented transaction have dominated debenture market), fourth priority to option ‘e’ (increase in financial risk) and fifth priority to option ‘c’ (political instability) -

After analyzing the data received by all respondents on priority of reasons for less practice of debenture by corporate organizations, Table 4.7 shows that out of total respondents (i.e., 110), 36.36% respondents gave their first priority to lack of sound debt

market in Nepal, 21.82% respondents gave their first priority to lengthy process of issuing as well as ineffective rules and regulations, 18.18% respondents gave their first priority to credit oriented transaction have dominated debenture market, 12.73% respondents gave their first priority to Increase in financial risk and rest of the respondents gave their first priority to political instability. This shows that the major reasons for few practice of debenture by few number of private organization is due to the lack of sound debt market in Nepal. Similarly, lengthy process of issuing as well as ineffective rules and regulations is the second major reasons for few practice of debenture by few numbers of private organizations.

Q.No.4 Reasons for Using Bank Loan Instead of Issuing Debentures by Nepalese

Table 4.8: Priority of Reasons Regarding Use of Bank Loans Instead of Issuing Debentures by Nepalese Corporate Organizations by All Respondents

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
(a)	12	6	30	10	58 (52.73)
(b)	6	6	14	6	32 (29.09)
(c)	2	0	10	2	14 (12.73)
(d)	2	0	4	0	6 (5.45)
Total	22 (100)	12 (100)	58 (100)	18 (100)	110 (100)

Source: Annex - V

Corporate Organizations

In their overall ranks on reasons for using bank loan instead of issuing debentures by Nepalese corporate organizations, majority of the respondents gave their first priority to option ‘a’ (bank loan is easily available), second priority to option ‘b’ (collection of funds by issuing debenture is a lengthy and difficult process), third priority to option ‘c’ (cost of bank loan is less than that of debenture issue), and last priority to others – Annex - V.

After analyzing the data received by all respondents on priority of reasons for using bank loans instead of issuing debentures by Nepalese corporate organizations, Table 4.8 shows that out of total respondents (i.e., 110), 52.73% respondents gave their first priority to bank loan instead of bond issue as it is easily available, 29.09% respondents gave their first priority to bank loan as the collection of funds by issuing bond is a lengthy process, and 12.73% respondents gave their first priority to bank loan as the cost of bank loan is less than that of bond issue and only 5.45% respondents gave their first priority to others.

In addition, each group's response on reasons for using bank loan instead of issuing bond is analyzed. The majority of respondents, i.e. 54.55% listed companies, 50% issue managers/brokers, 51.72% individual investors and 55.56% experts gave their first priority to bank loan instead of issuing debentures by Nepalese corporate organizations. Similarly, 50% of issue managers gave their first priority to bank loan as the collection of funds by issuing bond is a lengthy process (Table 4.8). As bank loan is less costly and easily available source of financing, majority of the respondents gave their first priority in using bank loan instead of issuing debenture. However, bank loan is suitable for short term financing and bond issue is suitable for long-term financing.

Q.No.5 Response of Investment in Corporate debentures/bonds

A question had been asked to the total no of respondents on investment in corporate debentures/bonds. Out of total respondents (i.e. 110), 49.09% of respondents replied "Yes" and remaining of them replied "No". The majority of respondents who replied option No is slightly greater than remaining respondents which is negligible.

Table 4.9: Profile of Respondents on Investment in Corporate Debentures/Bonds

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Yes	16	10	14	14	54 (49.09)
No	6	2	44	4	56 (50.91)
Total	22 (100)	12 (100)	58 (100)	18 (100)	110 (100)

Source: Annex - VI

After analyzing the responses received by all respondents on investment in corporation debentures, Table 4.9 shows that the majority of respondents, i.e. 72.73% listed companies, 83.33% issue mangers/brokers, 24.14% individual investors and 77.78% experts of respondents replied "Yes" while remaining respondents replied "No". Most of the individual investors replied "No" which means general investors are far from awareness towards investment on corporate debenture markets and there is high percentage of those investors but very few investors are interested towards it. But most of the respondents of each sector are well acquainted with corporate debenture market which means they are investing on corporate debenture market.

It can be added that the corporate debenture/bond market in Nepal is very lean as the Nepalese capital market is in the emerging stage and its history is also very short.

Q.No.6 Due to the Lack of Large Corporate Houses, Public Awareness, Various kinds of Debt Instruments are not practiced in Nepal

Similarly, another question had been asked in order to analyze poor practice of debt instruments in Nepal due to the lack of large corporate houses and public awareness. Various kinds of debt instruments are not practiced in Nepal. Out of total respondents (i.e., 110), 74.55% respondents agree with the statement asked while only 25.45% respondents disagree with the statement which is shown in the Table 4.10. The majority of respondents agree that the large flotation costs at the time of issue can be bear by large corporate houses only. Also investors only like the debt securities of large and better performing companies. These big corporate houses can raise required funds easily and

they didn't need to issue bonds like securities. Therefore only fewer companies have been practicing issuing corporate debenture (bond) like securities.

Table 4.10: Profile of Respondents on Poor Practice of Various Kinds of Debt Instruments, due to Lack of Large Corporate Houses

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
Yes	16	8	42	16	82 (74.55)
No	6	4	16	2	28 (25.45)
Total	22 (100)	12 (100)	58 (100)	18 (100)	110 (100)

Source: Annex - VI

In addition, to analyze each group's response on agree or disagree on the statement that due to the lack of large corporate houses and public awareness, various kinds of debt instruments are not practiced in Nepal. The majority of respondents, i.e. 72.72% listed companies, 66.67% issue manager/brokers, 72.41% individual investors and 88.89% experts agree with the statement and remaining disagree with the statement (Table 4.10). This indicates that due to the lack of large corporate houses, public awareness, various kinds of debt instrument are not practiced in Nepal.

Q.No.7 Do You Think, Are the Present Rules & Regulations (Present Legal Provisions) Sufficient for Nepalese Capital Market Growth for Corporate Debenture (bond) in Nepal?

The above question had been asked to the total no. of respondents about sufficient of the present rules and regulation for Nepalese capital market for the growth of corporate debenture market in Nepal, Table 4.11 shows that out of total respondents (i.e., 110), only 29.09% respondents were satisfied with the sufficiency of the present rules and regulation for Nepalese capital market for the growth of corporate debenture (bond) market in Nepal while the major portion 70.91% was not satisfied with legal provisions. The majority of respondents replied that the present rule and regulations are insufficient for the growth of

Nepalese corporate debenture market as the Nepalese capital market is in the creeping stage; enough rules and regulation are not made for protection for investors' rights and their mutual benefits.

Table 4.11: Profile of Respondents on Sufficiency of Present Legal Provision Related to Debt Market

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
Sufficient	6	4	18	4	32 (29.09)
Insufficient	16	8	40	14	78 (70.91)
Total	22 (100)	12 (100)	58 (100)	18 100)	110 (100)

Source: Annex - VI

In addition, while analyzing each group's response on sufficiency of present rules and regulation (present legal provisions) for Nepalese capital market growth for corporate debenture (bond) in Nepal, the majority of respondents, i.e. 72.73% listed companies, 66.67% issue managers/brokers, 68.97% individual investors and 77.78% experts have not satisfied that the present rules and regulation (present legal provisions) of Nepalese capital market is sufficient but the remaining portion satisfied with the present rules and regulation for the growth of corporate debenture (bond) market (Table 4.11). This indicates that there is not enough rules and regulation of capital market for the growth of corporate debenture market in Nepal.

Q.No.8 Are There Any Problems Facing by Corporate Debenture in Secondary Market?

A question had been asked to the total no. of respondents about problems facing by corporate debenture in secondary market. Following Table 4.12 shows that out of total respondents (i.e., 110), 63.64% respondents agree that Nepalese corporate debenture is still facing a lot of problems in the secondary market but remaining 36.36% respondents disagree with the problems facing by corporate debenture in secondary market. This shows that majority of the Nepalese organizations are facing problem in secondary market.

Table 4.12: Responses of Respondents on Problems Facing by Corporate Debenture in Secondary Market

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
Yes	16	6	38	10	70 (63.64)
No	6	6	20	8	40 (36.36)
Total	22 (100)	12 (100)	58 (100)	18 (100)	110 (100)

Source: Annex - VI

In addition, each group's response on problems facing by corporate debenture in secondary market is analyzed. The majority of respondents, i.e. 72.73% listed companies, 50.00% issue managers/brokers, 65.52% individual investors and 55.56% experts believe that corporate debentures are facing lots of problems till now in secondary market **(**Table 4.12).

Q.No.9 Present Pace of Corporate Debenture (Bond) Market Growth in Nepal

A question had been asked with five options to the total no. of respondents to get their opinion about present pace of corporate debenture market growth in Nepal. Out of total respondents (i.e., 110), 65.45% respondents present their opinion that present pace of corporate debenture market growth in Nepal is weak, 20% respondents agree with option satisfactory, 7.28% respondents agree with the option very weak, 5.45% respondents agree with the option very good while very few 1.82% respondents agree with the option 'don't know' as mentioned in the following Table 4.13. This indicates that if some homework is done (i.e., revising legal rules and regulation and making it workable for the mutual benefits of issuers and investors, providing better infrastructure facilities continuously for the systematic growth of capital market, punishing the cheaters, making computerized system instead of open cry in NEPSE, establishing credit rating agencies, and making compulsion for timely disclosure of information etc.) then surely corporate debenture market move towards its development.

Table 4.13: Responses of Respondents on Present Pace of Corporate debenture Market Growth in Nepal

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
Very good	2	2	2	0	6 (5.45)
Satisfactory	4	2	12	4	22 (20)
Weak	14	6	38	14	72 (65.45)
Very Weak	2	2	4	0	8 (7.28)
Don't know	0	0	2	0	2 (1.82)
Total	22 (100)	12 (100)	58 (100)	18 (100)	110 (100)

Source: Annex -VI

In addition, each group's responses on present pace of corporate debenture market growth in Nepal are analyzed. The majority of respondents, i.e. 63.64% listed companies, 50% issue managers/brokers, 65.52% individual investors and 77.78% experts present their opinions that present pace of corporate debenture market growth in Nepal is weak. Second majority of respondents are agreed with option satisfactory while 1.82% respondents present their opinions to option don't know and they are individual investors which can be seen in the above Table 4.13. This shows that a lot of work is needed from the concerned authority, government bodies, SEBO/N, NEPSE and other concerned experts group for the development of corporate debenture market which is still in the creeping stage of its development.

4.2.2 Test of Hypotheses

Testing of hypothesis in Q. No. 1

Hypothesis – 1

In 110 random samples of respondents, it contains the following distribution which was noted on the basis of related fields. The test is to draw the choices of various sectors' debt

securities by Nepalese investors.

Table 4.14: Hypothesis Test Regarding to the Choices of Securities

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Common Stock/Equity	10	6	36	6	58
Preferred Stock	2	0	4	0	6
Bank Loan	4	2	8	4	18
Debt Securities	6	4	10	8	28
Total	22	12	58	18	110

Source: Field Survey

Hypothesis Setting

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

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

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

Expected Frequency of RiCj = $\frac{Row\ Total \times Column\ Total}{Grand\ Total}$

$$R_1C_1 = \frac{58 \times 22}{110} = 11.60$$

Similarly,

R_1C_1= 11.60 R_2C_1= 1.20 R_3C_1= 3.60 R_4C_1= 5.60

R_1C_2= 6.33 R_2C_2= 0.65 R_3C_2= 1.96 R_4C_2= 3.05

R_1C_3= 29.53 R_2C_3= 3.05 R_3C_3= 9.16 R_4C_3= 14.25

R_1C_4= 10.55 R_2C_4= 1.09 R_3C_4= 3.27 R_4C_4= 5.09

Table 4.15: Test of Chi-Square

Observed Frequencies (O)	Expected Frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
10	11.60	-1.60	0.2207
6	6.33	-0.33	0.0172
36	29.53	6.47	1.4175
6	10.55	-4.55	1.9623
2 0 4 6 0	1.20 0.65 3.05 5.99 1.09	0.01	0
4 2 6	3.60 1.96 5.56	0.44	0.0348
8	9.16	-1.16	0.1469
4 6 14 4	3.27 5.60 11.92 3.05	2.08	0.3629
10	14.25	-4.25	1.2675
8	5.09	2.91	1.6636
Total			7.0934

Test Statistics under H_o,

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

χ^2 = 7.0934

Degree of freedom = (R-1) (C-1) – 6 [Since 6 degree of freedom loss due to pooling]

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

= 3

Critical Value or Tabulated Value = the critical value of $\chi 2$ at 5% level of significance for 3 d. f. is 7.8147.

Decision: Since the calculated value of χ^2 is less than the tabulated value (i.e., 7.0934< 7.8147), the null hypothesis (H_o) is accepted at 5% level of significance for 3 d. f., the null hypothesis is accepted, which means there is no significant difference between observed and expected frequencies regarding to the choice of securities.

To test whether the difference in the opinions of the respondents is significant, the chi-square test is employed. The calculated chi-square value is 7.0934 and critical or tabulated value at 5% level of significance for 3 d. f. is 7.8147. It can be said that opinions of four responding groups are similar and there is no significant difference with respect to the choice of securities.

Testing of hypothesis in Q. No. 2

Hypothesis – 2

In 110 random samples of respondents, it contains the following distribution which was noted on the basis of related fields. The test is to draw the factors due to which Nepalese debt securities market cannot grow properly.

Table 4.16: Hypothesis Test Regarding to the Reason for the Slow Growth of Debt Securities Market

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Lack of Awareness	10	4	30	6	50
Lack of Capital gain	2	2	6	2	12
Lack of Legal Provisions	4	2	8	4	18
Limited Quality Bonds	4	2	10	4	20
Poor Practice of Information Disclosure	2	2	4	2	10
Total	22	12	58	18	110

Source: Field Survey

Hypothesis Setting

Null Hypothesis (H_0): There is no significant difference between observed and expected opinions regarding to the reason for the slow growth of corporate debenture market.

Alternative Hypothesis (H_1): There is significant difference between observed and expected opinions regarding to the reason for the slow growth of corporate debenture market.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

Expected Frequency of RiCj = $\frac{Row\ Total \times Column\ Total}{Grand\ Total}$

$$R_1C_1 = \frac{50 \times 22}{110} = 10$$

Similarly,

R_1C_1=10	R_2C_1=2.40	R_3C_1=3.60	R_4C_1=4.00	R_5C_1=2.00
R_1C_2= 5.45	R_2C_2=1.31	R_3C_2=1.96	R_4C_2=2.18	R_5C_2= 1.09
R_1C_3=26.36	R_2C_3=6.33	R_3C_3=9.49	R_4C_3=10.55	R_5C_3= 5.27
R_1C_4=8.18	R_2C_4=1.96	R_3C_4=2.95	R_4C_4=3.27	R_5C_4= 1.64

Table 4.17: Test of Chi-Square

Observed Frequencies (O)	Expected Frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
10	10	0	0
4	5.45	-1.45	0.3858
30	26.36	3.64	0.5026
6	8.18	-2.18	0.5809
2 2 10 6	2.40 1.31 10.04 6.33	-0.04	0.0002
2 4 8 2	1.96 3.60 7.52 1.96	0.48	0.0306
8	9.49	-1.49	0.2339
4 4 10 2	2.95 4.00 9.13 2.18	0.87	0.0829
10	10.55	-0.55	0.0287
4 2 6	3.27 2.00 5.27	0.73	0.1011
2 4 8 2	1.09 5.27 8.00 1.64	0	0
Total			1.9467

Test Statistics under H_o,

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

$\chi^2 = 1.9467$

Degree of freedom = (R-1) (C-1) – 9 [Since 9 degree of freedom loss due to pooling]

= (5-1) (4-1) - 9

= 3

Critical Value or Tabulated Value = the critical value of χ2 at 5% level of significance for 3 d. f. is 7.8147.

Decision: Since the calculated value of χ^2 is less than the tabulated value (i.e., 1.9467< 7.8147), the null hypothesis (H_o) is accepted at 5% level of significance for 3 d. f., the null hypothesis is accepted which means there is no significant difference between observed and expected frequencies regarding to the reason for the slow growth of corporate debenture market.

To test whether the difference in the opinions of the respondents is significant, the chi-square test is employed. The calculated chi-square value is 1.9467 and critical or tabulated value at 5% level of significance for 3 d. f. is 7.8147. It can be said that opinions of four responding groups are similar and there is no significant difference with respect to the reason for the slow growth of corporate debenture market.

Testing of hypothesis in Q. No. 3

Hypothesis – 3

In 110 random samples of respondents, it contains the following distribution which was noted on the basis of related fields. The test is to draw the reason of few practices of debt debentures by private organization.

Table 4.18: Hypothesis Test Regarding to the Reasons of Few Practices of Debentures

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Credit Oriented Transaction	4	2	10	4	20
Lack of Sound Debt Market	8	4	22	6	40
Political Instability	4	2	6	2	14
Length Process of Issuing/ Ineffective Rule	4	4	12	4	24
Increase in Financial Risk	2	0	8	2	12
Total	22	12	58	18	110

Source: Field Survey

Hypothesis Setting

Null Hypothesis (H_0): There is no significant difference between observed and expected frequencies regarding to the few practices of debentures.

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

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

Expected Frequency of RiCj = $\frac{Row\ Total \times Column\ Total}{Grand\ Total}$

$$R_1C_1 = \frac{20 \times 22}{110} = 4.00$$

Similarly,

R_1C_1= 4.00	R_2C_1=8.00	R_3C_1= 2.80	R_4C_1= 4.80	R_5C_1= 2.40
R_1C_2= 2.18	R_2C_2= 4.36	R_3C_2= 1.53	R_4C_2= 2.62	R_5C_2= 1.31
R_1C_3= 10.55	R_2C_3= 21.09	R_3C_3= 7.38	R_4C_3= 12.65	R_5C_3= 6.33
R_1C_4= 3.27	R_2C_4= 6.55	R_3C_4= 2.29	R_4C_4= 3.93	R_5C_4= 1.96

Table 4.19: Test of Chi-Square

Observed Frequencies (O)	Expected Frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
4 2 6	4.00 2.18 6.18	-0.18	0.0149
10	10.55	-0.55	0.0287
4 8 16 4	3.27 8.00 15.63 4.36	0.37	0.0087
22	21.09	0.91	0.0393
6	6.55	-0.55	0.0462
4 2 12 6	2.80 1.53 11.71 7.38	0.29	0.0072
2 4 10 4	2.29 4.80 9.71 2.62	0.29	0.0087
2	12.65	-0.65	0.0334
4 2 6 0	3.93 2.40 7.64 1.31	-1.64	0.3520
8 2 10	6.33 1.96 8.29	1.71	0.3527
Total			0.8918

Test Statistics under H_o,

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

$$\chi^2 = 0.8918$$

Degree of freedom= (R-1) (C-1) - 10 [Since 10 degree of freedom loss due to pooling]

= (5-1) (4-1) - 10

= 2

Critical Value or Tabulated Value = the critical value of $\chi 2$ at 5% level of significance for 2 d. f. is 5.9915.

Decision: Since the calculated value of χ^2 is less than the tabulated value (i.e., 0.8918< 5.9915), the null hypothesis (H_o) is accepted at 5% level of significance for 2 d. f., the null hypothesis is accepted which means there is no significant difference between observed and expected frequencies regarding to the few practices of debentures.

To test whether the difference in the opinions of the respondents is significant, the chi-square test is employed. The calculated chi-square value is 0.8918 and critical or tabulated value at 5% level of significance for 2 d. f. is 5.9915. It can be said that opinions of four responding groups are similar and there is no significant difference with respect to the few practices of debentures.

Testing of hypothesis in Q. No. 7

Hypothesis – 4

In 110 random samples of respondents, it contains the following distribution which was noted on the basis of related fields. The test is to draw the sufficiency of present rules and regulation (present legal provisions) related to the debt securities market.

Table 4.20: Hypothesis Test Regarding to the Sufficiency of Legal Provision Related to the Debt Market

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Yes	6	4	18	4	32
No	16	8	40	14	78
Total	22	12	58	18	110

Source: Field Survey

Hypothesis Setting

Null Hypothesis (H_o): There is no significant difference between observed and expected frequencies regarding to the sufficiency of present legal provisions related to the debt securities market.

Alternative Hypothesis (H_1): There is significant difference between observed and expected frequencies regarding to the sufficiency of present legal provisions related to the debt securities market.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

Expected Frequency of RiCj = $\frac{Row\ Total \times Column\ Total}{Grand\ Total}$

$$R_1C_1 = \frac{32 \times 22}{110} = 6.40$$

Similarly,

R_1C_1=6.40 R_1C_3=16.87 R_2C_1=15.60 R_2C_3=41.13

R_1C_2=3.49 R_1C_4=5.24 R_2C_2=8.51 R_2C_4=12.76

Table 4.21: Test of Chi-Square

Observed Frequencies (O)	Expected Frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
6 4 10	6.40 3.49 9.89	0.11	0.0012
18	16.87	1.13	0.0757
4	5.24	-1.24	0.2934
16	15.60	0.40	0.0102
8	8.51	-0.51	0.0306
40	41.13	-1.13	0.0310
14	12.76	1.24	0.1205
Total			0.5626

Test Statistics under H_o,

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

$\chi^2 = 0.5626$

Degree of freedom = (R-1) (C-1) – 1 [Since 1 degree of freedom loss due to pooling]

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

= 2

Critical Value or Tabulated Value = the critical value of χ2 at 5% level of significance for 2 d. f. is 5.9915.

Decision: Since the calculated value of χ^2 is less than the tabulated value (i.e., 0.5626< 5.9915), the null hypothesis (H_o) is accepted at 5% level of significance for 2 d. f., the null hypothesis is accepted which means there is no significant difference between observed and expected frequencies regarding to the sufficiency of present legal provisions related to the debt securities market.

To test whether the difference in the opinions of the respondents is significant, the chi-

square test is employed. The calculated chi-square value is 0.5626 and critical or tabulated value at 5% level of significance for 2 d. f. is 5.9915. It can be said that opinions of four responding groups are similar and that there is no significant difference with respect to the sufficiency of present legal provisions related to the debt securities market.

4.3 Major Findings

Analysis of variables (primary and secondary data) relating to Nepalese corporate debt market helps to draw some major findings relating to problems and prospects of corporate debenture market.

4.3.1 From the Analysis of Secondary Data

- From the history of corporate debt securities starts after the issuance of debenture by manufacturing company BNL in FY 1986/87 in Nepal and then JSML and SRSML in 1993/93 and 1997/98 respectively but features of SRSML's debenture was convertible after 4 years. Par value of each debenture is Rs. 1,000. Needless to say, investors were not interested towards manufacturing sector's debenture securities as there were heavily under subscription by 75,870 units of debenture. By the way, debenture of SRSML was redeemed before the maturity period.
- The debenture issued by manufacturing was fully subscribed through 100% public offering while all the debentures issued by banking sector, were subscribed through private and public offering.
- Secondary data indicates that the history of corporate debenture is very short and it is in infancy stage. Out of total debt securities, only 12% is covered by corporate debt securities (i.e. Rs. 1065.95/8564.34).
- It is well-known statement that higher coupon rate always attracts the large number of investors in the text book of Van Horne (2002), Alexander (1999), and Donald (2000) but corporate debentures of SRSML were heavily under subsrived instead of attracting large number of investors although the coupon rate (14%) of debenture of SRSML was higher than the market interest rate (10.25%). Very low

of SRSML debenture may be due to lack of investors' awareness towards debenture securities. on the other hand, the coupon rate of debenture securities of banking sector higher than market interest rate agree with the writers' statement by attracting large number of investors. If this result continues, corporate debt securities will attract large no. of investors which means more of such bond issues can be expected in the future, particularly from the banks to meet their higher capital requirement under Nepal Rastra Bank directives.

- After the issuance of SRSML of debenture by these three manufacturing companies, there were corporate debentures issue from banking sectors and HBL was the first bank in the case of issuance corporate debenture of amount Rs. 360 million in the FY 2001/02 and over subscribed i.e., 1.12 times. After HBL, there were five banks which as NIBL, EBL, BOKL, NICBL, and NSBIBL which issued corporate debenture in Nepalese capital market but NIBL issued debenture securities two times in FY 2003/04 and 2005/2006 respectively. There were over subscription which infers better future prospectus of Nepalese corporate debenture market but over subscription is not more than 2 times.
- Present value of debenture obtained by calculation shows that if coupon interest rate is greater than the market interest rate, the value of debenture/bond is more than its par value. This concept was strongly supported by Nepalese corporate debt securities. The coupon interest rate (i.e. 8.50) is greater than the market interest rate (i.e., 4.00%) of HBL, the present value of HBL (i.e. Rs. 1085.63) is more than its par value (i.e., Rs.1000). Similarly, coupon rate of all banks are greater than market interest rate which indicates that the above mentioned debentures are under priced. So, such under priced debenture should be bought in order to made profit in the future from price gain.
- The result of duration obtained after calculating above shows that all the seven corporate debt securities have less actual term-to-maturity than their book-term-to-maturity. In addition, their coupon rates are higher than market interest rate. This shows that if market interest rate is lesser than the coupon rate, the duration is also lesser than its maturity period. This means, investors receive income from debenture investment prior to the maturity date as described by Alexander, et.al.2002. In addition, it can be said that duration of debenture is increasing if

coupon interest rate goes on decreasing which means duration is inversely related to coupon interest rate. Less duration always attract the large number of investors as stated by F.R. Macaulay because investors get their whole return before maturity period and less price risk. Less duration of above mentioned Nepalese corporate debt securities and their high over subscription shows that investors are attracted towards them resembles with Macaulay's statement. Therefore, if such types of circumstances continue in future, investors may buy the corporate debt securities of other sectors also.

- At last, the number of corporate debenture was only 10 from FY 1986/87 to 2006/07. The characteristics of Nepalese corporate debenture indicates that the interest provided on debenture is continuously decreasing which may be the main reason for showing poorer response to debentures.However, the recent issues are found to provide relatively higher interests.

4.3.2 From the Analysis of Primary Data

To fulfill the objectives of problems and prospects of Nepalese Corporate Debt market in Nepal, following major findings are obtained after analysis of primary data which are collected by questionnaires method from all respondents i.e. listed companies, issue mangers/brokers, individual investors and experts and has been analyzed using chi-square test and other statistical tools. Findings are represented as follows:

i) With respect to the preference regarding choice of securities, the majority of respondents prefer the Common stocks. Not only the investors but also the listed companies, issue managers/brokers, experts' majority preferences are also significant high in favour of common stocks. In the view of investors, common stock is more popular between investors than other securities. This is due to the poor practice of issuing other investment alternatives as preferred stocks, corporate debentures, and very few availability of investment alternatives, majority of investors are familiar with common stock only. Majority of the companies used common stock for raising long-term fund, as

it is already popular to investor and easily subscribe. This may be the major issue of Nepalese corporate debenture market. This indicates that if other instruments with superior quality are also practiced for raising long-term fund, they may have good prospects of over subscribing. This shows some prospects of better future corporate debenture market. Finally, the result of hypothesis test agrees with this statement too.

ii) With respect to the reasons regarding slow growth of Nepalese Corporate debentures Market, the majority of the respondents presented their opinions in descending order i.e. lack of investors awareness towards debt securities, limited issuance of quality bonds, lack of proper legal provision are the major factors that obstructs the smooth growth of Nepalese Corporate Debenture Market. This infers that to gain investors' awareness towards debt securities, public should be informed about debt and their advantage as more and more public involvement is necessary for improving corporate debt market whereas to encourage the listed companies for supplying quality bonds is another major problems of corporate debt market in Nepal. If the corporate sector issues such bonds, the numbers of investors will increase towards corporate debt securities. Not only this but also proper legal provision should be made sufficient in order to protect for investors' rights and mutual benefits and timely disclosure price sensitivity information is the other to cope with these problems. If above problems are solved then there may be some prospects of corporate debenture market. For this, listed companies should issue corporate debenture frequently in Nepalese capital market and provide proper information of debenture issuing companies, financial background and past performance etc. which attracts investors towards their corporate debt securities. Finally, the result of hypothesis test agrees with this statement too.

iii) With respect to the reasons regarding only few private organizations are practicing corporate debentures as a source of long term-financing, majority of respondents gave their opinions in favour of lack of sound market in Nepal. Similarly, lengthy process of issuing as well as ineffective rules and regulations is the second major reasons. This is also the second serious

problem of Nepalese corporate debenture market. In addition, political instability and increasing in financial risk are other problems that obstruct the smooth growth of Nepalese corporate debenture. Credit oriented transaction is also another problem. If large corporate houses fulfill their required fund by using credit facilities, there is no need of issuing corporate debenture in capital market. This shows that such type of rules and regulations should be revised to make it favourable to debenture investors and issuers. Finally, the result of hypothesis test agrees with this statement too

iv) With respect to the reasons regarding Nepalese organization use bank loan instead of issuing debentures, majority of respondents gave their opinions in favour of easy access to bank loan. And then remaining respondents gave their opinions due to raising of funds by issuing debenture is lengthy process, and cost of bank loan is less than that of debentures (bonds) issue. Although the cost of bank loan is less (i.e., saves high flotation costs) in short-term, it is higher in long-term (as the lending rate of bank is high). Nepalese debenture (bond) issuers are not aware of this fact. So, if we make them aware about this fact, then some future better prospects of corporate debenture market can be seen.

v) With respect to the investment in corporation debentures, majority of respondents of each sector replied yes except general investors due to which majority of respondents replied “No” in overall which is slightly greater but negligible. Most of the individual investors replied “No” which means general investors are far from awareness towards investment on corporate debenture markets and there is high percentage (75.86%) of those investors but very few individual investors are well acquainted towards it. But most of the respondents of each sector are well acquainted with corporate debenture market which means they are investing on corporate debenture market. To increase large number of investors, information about debt securities should be provided to the general investors through reliable means.

vi) With respect to the statement that due to the lack of large corporate houses, public awareness, various kinds of debt instruments are not practiced in

Nepal, majority of the respondents agree with the statement stating that the large flotation costs at the time of issue can be bear by large corporate houses only. Investors' also like the debt securities of large and better performing companies. These big corporate houses can raise required funds easily but they didn't need to issue debentures like securities. Similarly, lack of investors' awareness, they are not interested in corporate debt securities. Therefore only countable companies have been practicing issuing corporate debenture like securities.

vii) With respect to sufficiency of present rules and regulations for Nepalese capital market growth of corporate debentures in Nepal, majority of respondents are agreed that the present legislative provisions regarding debenture markets are insufficient. Some respondents presented their opinions that poor information disclosure from manufacturing and trading companies, high broker's commission, inadequate private placement, lack of regulatory, provisions regarding the trustee of debenture, lack of punishment for the cheaters and lack of establishing credit rating agencies, etc. shows the insufficiency of present rules and regulations of corporate debt securities market of Nepal. If above problems are solved, then corporate debentures market will move in the path of development which can trace the bright future of corporate debt securities. Finally, the result of hypothesis test agrees with this statement too.

viii) With respect to problems for corporate debentures/bonds in secondary markets in Nepal, majority of the respondents from each sector gave their opinions in favour of "Yes" which discourage the investors in purchasing corporate debt securities. It means there is a need of development of secondary market for the growth of corporate debt securities.

ix) With respect to the present pace of corporate debentures/bonds market growth in Nepal, majority of respondents gave their opinions in favour of weak as very few companies have issued debenture in the market and only very few practices of debt securities can be seen in the Nepalese capital market. Another major portion of them gave their opinions in favour of

satisfactory whereas least of them chose option “I don’t know” but they are individual investors. This infers that lack of public awareness due to which very few debt instruments are in practices which shows very low pace of corporate debentures. This indicates that if some homework is done by revising legal rules and regulation and making it workable for the mutual benefits of issuers and investors, providing better infrastructure facilities continuously for the systematic growth of capital market, punishing the cheaters, making computerized system instead of open cry in NEPSE, establishing credit rating agencies, and making compulsion for timely disclosure of information etc. then surely corporate debentures/bonds market may move towards its development.

x) In addition to above all, if inadequate infrastructure facilities are turned into developed state, if political instability turns into stability, making compulsion for timely disclosure of information, poor practice of price sensitive information disclosure system turns into better state, and investors’ interest protection act, trustee listing provision of debenture in NEPSE is maintained, then better future prospects of corporate debenture can be seen. The activities followed by NEPSE and SEBO/N such as trading limited listed shares, trading method based on traditional, trading of securities by open cry, not able to monitor Nepalese capital market effectively which indicates poor infrastructure and can be major problems for developing Nepalese corporate debenture market which is the glance of the NEPSE and SEBO/N.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter summarizes the overall study into three sections i.e. summary, conclusion, and some recommendations provided to the concerned government bodies, general investors and corporate sector for the systematic development of Nepalese corporate debt market. Before arriving to summary, conclusion and recommendations, the researcher has prepared plan, reviewed literatures and analyzed primary and secondary data using different statistical methods.

5.1 Summary

Capital plays key role in financial market, which can be collected by issuing tradable securities such as common stocks, debentures/bonds, preference shares and warrants as a long-term funds in order to mobilize necessary funds for the economic development of a nation. The securities market is the requisite for the sound development of an economy because it not only provides stable long-term capital for organizations and an effective saving vehicle for the public but also functions as an efficient tool for resource allocation.

The history of Nepalese corporate debenture market is in developing state, which can be cleared as Nepalese corporate debenture market is dominated by common stock. Not only government debt securities but also real assets are dominating Nepalese corporate debenture market. The corporate debt market is a key element of capital market. There is no controversy whether this sector should be developed or not. However, it is a major sector and once this sector is developed, capital market will be developed as an overall which causes overall economic development of the nation. If someone said their countries are under-developed, it means they do not have sound corporate debenture market. Hence, corporate debenture market in developing countries has been viewed as an effective tool for achieving economic development and reallocation of capital all over the nation.

The history of corporate debt securities in Nepal started with the issuance of debenture by BNL in the FY 1986/87 and they (corporate debentures) are limited in its existence i.e. ten issued by nine companies from the period of FY1986/87 to FY2006/07 which have similar characteristics but out of them, three from manufacturing sector and remaining

from banking sector. Therefore, for the overall growth of Nepalese capital market, development of corporate debt market is necessity. Very poor practice of corporate debt securities with very similar characteristics is prevailed; this may be due to the lack of issuers and investors' awareness towards corporate debt securities.

5.2 Conclusion

This study is based on primary as well as secondary sources of information. The study of existing corporate debt market of Nepal was accomplished by using secondary data for the period of FY1986/87 to FY2005/06. The valuation and duration of corporate debt securities are analyzed by using the secondary data for the period of FY2001/02 to FY2005/06. In this way, survey of respondents has been accomplished by using primary data of 110 respondents. Out of 110 respondents, there are 22 from listed companies, 12 from issue managers/brokers, 58 from individual investors, and 18 from experts. These respondents of four groups gave their opinions on different aspects of Nepalese corporate debt securities market. The opinion of each respondent group also analyzed on each question, to ascertain the differences in their opinions. For this not only a variety of statistical tests are employed but testing of hypothesis at 5% level of significance by using chi-square is also employed.

This study mainly focuses on analyzing the problems and prospects of Nepalese corporate debt market. Its specific objectives are: (a) to study existing mechanism of corporate debt market in Nepal, (b) to identify problems that obstruct the development of corporate debt market in Nepal, (c) to examine valuation and duration of Nepalese corporate debt securities and (d) to access the future prospects of corporate debt market growth and development based on the opinions of concerned parties.

Finally, the trend of issuing corporate debt securities is also increasing but not at satisfactory level. Participation of individual investors in purchasing corporate debt securities is also not at satisfactory level. Though the banking sectors debentures were oversubscribed, the numbers of investors are few. The general investor shows poor response to the recently issued debenture due to many factors affecting debt securities market.

From the field survey, the researcher found the factors that obstruct the growth of debt securities market. Investors unawareness, inferior interest rate structure performance of issuing bodies, insufficient legal provision, limited supply of quality debenture, political instability, insufficient infrastructure, lengthy process of issuing debenture, etc. are the major problems due to which Nepalese corporate debt securities market could not be developed properly. Therefore, there are a lot of things to be done to make the Nepalese

debt market sound such as improvement of infrastructure of whole capital market & legal provisions regarding debt market, improvement of attitude of investors toward debt securities, good performance of issuing bodies, removal of policy uncertainty etc. should be improved which may help to develop debt market of Nepal.

Nepalese debentures market is still very lean, as very few companies have issued debentures in the market. Issuance of quality bonds with better characteristic features by better performing corporate houses is the demand of present corporate debenture market. Since 1986/87 to till the reporting writing, ten corporate debentures are issued but most of them are from banking sector. SRSM's debentures were heavily undersubscribed while debentures from banking sector were oversubscribed. This means it can be predicted that more of such debentures issued can be expected in the future but numbers of investors are in decreasing level. So, the special emphasize should provide to develop the corporate debentures market. For the development of corporate debt market, only oversubscription is not enough. The number of investors as well as the number of issuing companies should increase. Recently, many factors shows that the corporate debt market has started to grow in comparison to the past.

From this study, the researcher concludes that there are some reasons such as continuously decreasing interest rate of debt securities and increasing number of finance companies, which are providing higher interest rate on deposits due to which general investors are showing poorer responses to the debenture issue. In addition, there are many problems, which are restricting the smooth growth prospect of corporate debt market. Lack of investors' awareness towards corporate debt securities, lengthy process of issuing as well as effective and efficient debenture market, lack of legal provision, limited supply of quality debenture and inadequate infrastructure facilities are serious problems of existing Nepalese debt market whereas poor practice of price sensitive information disclosure system, political insatiability, and investors' particular preferences on debenture issuing companies are major problems of Nepalese corporate debentures market.

The oversubscription of banks' debenture shows some positive signals for the growth of corporate debt market and another important thing is that the government securities are going to trade at NEPSE floor; it means better prospects for the growth of government debt market, which will encourage the corporate debt market growth. If mentioned problems are cured in time, its growth prospect is widely felt by the researcher.

Again, the researcher found that the Nepalese general investors are so much interested on investing common stock while very few investors are interested on corporate debenture.

They are less risky and provide fixed income. Likewise, companies are also attracting issuing common stock than debt securities even though debenture issue is suitable for long-term financing as well as can be less costly source of long-term financing than common stock.

On the other hand, the researcher wants to sum up some prospects of corporate debentures market in his research's conclusion stating that increasing issuance trend of corporate debenture, declining interest rate on deposits of commercial banks, growing participation of banking sector in issuing debentures, lots of public support towards banking sector's debentures, investors' desire to invest in risk free assets, etc. shows the growth prospects of debt securities market.

5.3 Recommendations

The researcher discovered so many weaknesses in all areas and overall system of Nepalese corporate debenture market. The researcher desires to give some advices to concerned authorities i.e., corporate sector, government, issue managers/brokers, individual investors, and institutional mechanism for converting the major problems into strength and grasping the opportunities for the overall development of Nepalese corporate debenture market.

a. To Corporate Sector

Corporate sectors are important stakeholders of corporate debt market. If they do not issue debentures, development of corporate debt securities will be impossible. The researcher gives following suggestions to corporate sector.

- To attract more investors toward corporate debt securities, corporate sectors should increase interest rate on debt securities. If interest rate on debt securities is higher than the inflation rate, the people investing on it don't need to sacrifice the purchasing power on the original investment.

- From the field survey, other instruments with superior quality, like common stock, are also exercised for raising long-term fund; they may have good chances of over subscribing.

- Issued debentures should be listed in NEPSE in order to provide secondary market operation. Provision of trustee should be made in debentures issue. In addition, huge

portion of issued debentures should be subscribed through public offering rather than private replacement.

- Price sensitive information should be completely disclosed in order to gain reputation of corporate companies. True financial conditions and plan should be brought out.

- Inadequate legal provision and conflicting control mechanism should be opposed.

- Public gives a lot of support to banking sector's debt securities. Therefore, debt market growth is possible if it is initiated by banking sector. Similarly, potentiality of debt market growth is higher if it started from top-tier private companies.

b. To Government

Government has main responsibilities in promoting desirable activities and restricting undesirable activities for the smooth growth of Nepalese corporate debenture market. Since development of corporate debenture security is essential for the overall growth of capital market, concerned bodies of government should do following activities for the development of corporate debenture market.

- To attract individual investors towards debt securities, the government should offer some facilities such as tax exemption on income of debt securities; repurchase facility etc. that helps to collect needed funds for corporate sectors.

- Government should make legal provisions to protect the rights of investors. Not only this but also lengthy process of issuing debentures as well as ineffective rules and regulation should be revised frequently according to the current situation of nation, issuers and investors for the development of corporate debenture market.

- It is clear that political stability as well as security of the nation is not favorable for the overall development of country. From which capital market is not also free from it. So, security as well as political stability should be maintained in the country.

- Government should provide authorities to issue municipal debentures to local states by creating necessary laws.

- Implementation and monitoring mechanism should make efficient and effective regarding debenture market.

- Majority of the respondents replied that the infrastructure facility of Nepalese capital market is inadequate for the growth of corporate debenture market. The majority of respondents agree that the large flotation costs at the time of issue cannot bear by small corporate houses. So, government should provide adequate infrastructure, and make the cost of issuing debenture favorable.

- Since, there is only one stock exchange in the country, which is located in the capital and there is no other alternative, participation of the investors from outside the valley is very low. Therefore, to develop a proper debt market, it should provide the opportunity for investing by the people outside the valley, the regional stock exchange concept brought out by the government in ninth-five year plan should be implemented. Expansion of the stock exchange outside Kathmandu will help to increase the number of investors from out of the valley in securities transaction.

(c) To Investors

There are two types of investors such as individual investors and institutional investors. From the field survey, it has found that majority of investors are not interested towards corporate debt securities. So, the researcher gives following suggestions to general investors.

- It is found that majority of Nepalese investors are not interested towards corporate debentures market. It can be due to lack of knowledge about corporate debentures. So, investors should invest their some times in study about corporate debenture market.

- Investors should be aware of their rights so that they may use it when needed while inadequacy of laws should be opposed.

- Investors should change in their perception and attitude on corporate debenture and should invest in corporate securities after properly analyzing risk and return on debentures. Before making investment decision, they should think rationally.

- From the field survey, majority of investors showed least interested towards manufacturing and trading companies. I like to sum up by stating all

manufacturing and trading companies may not be weak. So that, they should identify strong companies and their debentures issue should take positively.

(d) To Institutional Mechanism

There has been making some directing, controlling mechanism of debt securities market, which also looks after Nepalese debentures market. There is NRB, NEPSE, ROC, SEBO/N etc. as institutional mechanism arrangement made by government. The researcher gives following suggestions to institutional mechanism to overrun existing debenture market problems.

- Security Board of Nepal (SEBO/N) should co-operate NEPSE. Procedures of reviewing debentures prospect and issue approval should be quick. SEBO/N should add additional provisions that help to protect investors' interest. SEBO/N should ensure the timely disclosure of price sensitive information. NEPSE is being the trading place of limited listed shares based on traditional method i.e. open cry system. There is a need of trading securities by computerized system i.e. online trading system. Auditing and accounting system should be strictly review and reward and punishment should be provided. Listing process of securities should be simplified. Information disclosure should be strictly enforced to listed companies.

- Company Register Office (ROC) should be transparent and open with modern technology. Bureaucratic procedures must be quick and prospectus should be approved strictly reviewing all economic and technical aspect of companies.

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