Corporate Debenture in Nepalese Security Market
(With Reference to Listed Companies of Nepal)

A

Submitted By:
Thesis

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RECOMMENDATION

This is to certify that the Thesis

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Corporate Debenture in Nepalese Security Market

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has been approved by this Department in the prescribed format of Faculty of Management. This thesis is forwarded for examination.

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VIVA VOCE SHEET

We have conducted the viva voce examination of the thesis presented by

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And found that the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as the partial fulfillment of the requirement for Degree of Masters in Business Studies (M.B.S.)

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DECLARATION

I hereby declare that the work reported in this thesis entitled **"Corporate Debenture in Nepalese Security Market"** (with reference to listed companies of Nepal) submitted to Office of Dean, Faculty of Management, Tribhuvan University is my original work done in the form of partial fulfillment of the requirement of Master of Business Studies (M.B.S.) under supervision and guidance of Mr.Prakash Shrestha,Lecturer, Nepal Commerce Campus.

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ABBREVATIONS

AYTM = Approximate Yield-to-Maturity
ADB = Agriculture Development Bank
ACE = Ace Development Bank Ltd.
AFCL = Ace Finance Company Limited
BA = Bonds Applied
BI = Bonds Issued
BOKL = Bank of Katmandu Limited
BNL = Bottlers Nepal Limited
CI = Coupon Interest
CIR = Coupon Interest Rate
C-4 = Convertible after 4 Years
CBS = Central Bureau of Statistics
Co. = Company
Contd. = Continued
CIT = Citizen Investment Trust
CPI = Consumer Price Index
EBL = Everest Bank limited
et al. = and others
FY = Fiscal Year
GDP = Gross Domestic Product
HBL = Himalayan Bank Limited
HPR = Holding Period Return
IA(M) = Issued Amount in Rs. Million
IM = Issue Manager
I.M./B = Issue Manager/Broker
Ind. Inv. = Individual Investors
IPO = Initial Public Offering
JSML = Joti Spinning Mills Limited
$NIBL_1$ = Nepal Investment Bank Limited (Bond-2067)

$NIBL_2$ = Nepal Investment Bank Limited (Bond-2070)

NICBL = Nepal Industrial and Commercial Bank Limited

NIDC = NIDC Capital Markets

NMB = Nepal Merchant Banking

No. = Number

NRB = Nepal Rastra Bank

KBL = Kumari Bank Limited

LBL = Laxmi Bank Limited

L.C. = Listed Company

MIR = Market Interest Rate

Mfg. = Manufacturing

MP = Maturity Period

NBL = Nabil Bank Limited

NEPSE Ltd. = Nepal Stock Exchange Limited

NSBI BL = Nepal SBI Bank Limited

OS = Over Subscribe

O/U S (x) = Over/ Under Subscribe (Times)

PP = Private Placement

PV = Present Value

Pvt. = Private

SBL = Siddhartha Bank Limited

S.N. = Serial Number

SEBON = Securities Exchange Board of Nepal

SPSS = Software Program for Social Science

SSML = Shree Ram Sugar Mills Limited

TWB = The World Bank

UN = United Nation

Vol. = Volume

Vs = Verses

YTM = Yield-to-Maturity

Yr. = Year

CHAPTER 1
INTRODUCTION

1.1 Background of the Study

Financial market is a place that allows people to trade financial securities (such as stocks and bonds), commodities (such as precious metals or agricultural goods), and other fungible items. Financial markets facilitate raising of capital and mobilizing of savings, and channeling them into productive investment. Thus, it acts as a catalyst for the economic development of a country. Financial markets are basically composed of capital markets and money markets. Capital markets consist of stock markets, which provide financing through the issuance of shares or common stock, and enable the subsequent trading thereof and bond markets, which provide financing through the issuance of bonds or debentures, and enable the subsequent trading thereof. Capital markets deal with long-term securities that have life span of greater than one year. Money markets are the markets for the debt securities that will pay off in the short term (usually less than one year). Nowadays, the concept of commodity markets is also emerging and growing very fast in the economy. Commodity markets facilitate trading of commodities like gold and silver.

In the context of Nepal, the undeveloped capital market is still prevailing in the economy. The Nepalese securities market still could not take its height. The market is very lean in providing investment alternatives to the investors. Among possible various investment alternatives like common stocks, government bonds, corporate debentures, preference shares, rights, options, warrant and convertibles etc., only very few alternatives are available for Nepalese 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.

One of such fixed income securities is debt securities. Debt securities are the important types of financial instruments of the capital market. Debt securities may be debentures, bonds, deposits, notes or commercial paper depending on their maturity

and certain other characteristics. The holder of a debt security is typically entitled to the payment of principal and interest, together with other contractual rights under the terms of the issue, such as the right to receive certain information. Debt securities are generally issued for a fixed term and redeemable by the issuer at the end of that term. Debenture or bonds are assumed least risky securities of investment. Debt securities may be protected by collateral or may be unsecured, and, if they are unsecured, may be contractually "senior" to other unsecured debt meaning their holders would have a priority in a bankruptcy of the issuer. Debt that is not senior is "subordinated".

Corporate debenture is one of its kinds issued by corporations to raise money for long term investment. Debenture holders have no voting rights and the interest paid to them is a charge against profit in the company's financial statements. Thus, business organizations may be benefited by leveraging return on equity by using debenture and bond. Hence debenture is also a tool of maximizing shareholders' rate of return. Some corporate bonds have an embedded call option that allows the issuer to redeem the debt before its maturity date. Other bonds, known as convertible bonds, allow investors to convert the bond into equity.

In Nepal both capital market and debt market are in infancy stage. The history of the development of debt market is short. Besides, there is no proper exercise of debt securities till now. The major components that play vital role in the growth and development of debenture market may be: Security Board, Commercial Banks, Nepal Rastra Bank, Finance Companies, Government and Private Organizations, Brokers, Agent, Stock Exchange Ltd. etc.

The first instance of issuing debenture in the Nepalese history was by Bottlers Nepal Ltd., when it issued 18% coupon rate debenture worth Rs. 5 million in FY 1986/87. During the nine-year period between 1993/94 to 2001/02 debenture issue occupied the third largest share portion in the total issue amount approved by SEBO (5.99%). Only two companies have issued debenture though the time gap between the issues of corporate debenture is as high as five years. Among them, Joti Spinning Mills Ltd. issued 14% coupon rate debenture 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 couple of years, some positive signals can be observed in the Nepalese capital market.

Thereafter, the issuance of the 8.7% Himalayan Bank Ltd. 2009 Debenture and its listing in the secondary market with separate trading system became a milestone in this regard. But, before the listing of HBL's debenture, SSML's convertible debenture was also listed in the exchange without following separate trading system. Very few of these debentures were traded. However, SSML debenture was de-listed (and redeemed) in FY 2001/02. Out of 360,000 units of debentures 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. (NIBL1) has issued Rs. 300 million Nepal Investment Bank Bond 2010 with 7.5 percentage coupon interest with semi-annual payment with 7 years maturity period in the FY 2003/04. Out of 300 thousand units of issue, 100 thousand units are issued to the general public and the rest are privately placed (Bhattarai, 2005:193-194). Again Nepal Investment Bank Ltd. (NIBL2) issued "Nepal Investment Bank Bond-2070" with 6 percentage coupon interest rate paid semi-annually in the FY 2005/06. Out of 250 thousand units of issue, 80 thousand units are issued to the general public and 170 thousand 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).

Similarly, Everest Bank Ltd. had issued debenture of Rs. 300 million with 6 percentage 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 percentage coupon interest paid semi-annually) in the FY 2004/05. Out of 200 thousand units of issue, 50 thousand units were issued to the general public and 150 thousand 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).

Nepal Industrial and Commercial Bank Limited issued Rs. 200 million "NIC Bond–2070" with 6 percentage coupon interest paid annually in the FY 2005/06. Out of 200 thousand units of issue with par value Rs. 1,000, 50 thousand units are issued to the

general public and 150 thousand units are privately placed. Its issue manager is AFCL (Nepal Industrial and Commercial Bank Ltd., Debenture Prospectus, 2006). Nepal SBI Bank Ltd. has issued Rs. 200 million "6 percentage Nepal SBI Bank Debenture-2070" with maturity period of 7 years and semi-annual coupon payment in the FY 2005/06. Out of 200 thousand units of issue, 50 thousand units are issued to the general public and 150 thousand units are privately placed. Its issue manager is CIT (Nepal SBI Bank Ltd., Debenture Prospectus, 2006).

Again after a three years, Nepal Investment Bank Ltd. (NIBL) has issued Rs. 250 million "6.25% Nepal Investment Bank Bond-2071" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2007/08. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed. The bond is issued on 2064/02/16. Its issue manager is ACFL. Total no. of bonds issued are 250,000 units and no. of bonds applied are 300,000 units. It is over subscribe by 50,000 units. The over subscription rate is 1.20 times

Similarly, Kumari Bank Limited (KBL) has issued Rs. 400 million "8% Kumari Bank Limited Bond-2070" (with maturity period of 5 years and semi-annual coupon payment) in the FY 2007/08. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed. The bond is issued on 2064/02/16. Its issue manager is ACFL. Total no. of bonds issued is 250,000 units and no. of bonds applied is 300,000 units. It is over subscribe by 50,000 units. The over subscription rate is 1.20 times

After 7 years, again Himalayan Bank Ltd. (HBL) has issued "8% Himalayan Bank Bond–2072" with par value Rs. 1,000 and semi-annual interest payment of Rs. 500 million in the FY 2008/09, with 7 years maturity periods. 100,000 units were privately placed and 400,000 units were issued to the general public out of 500,000 units of issue. Table 4 shows that total no. of debentures issued was 500,000 units whereas total no. of debentures applied was also 500,000 units. It was neither oversubscribed nor under subscribed. Its issue was managed by ACE.

After issuing of debenture three times, again Nepal Investment Bank Ltd. has issued Rs. 250 million "8% Nepal Investment Bank Bond-2072" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2008/09. Out of 250,000 units of

issue, 50,000 units are issued to the general public and 200,000 units are privately placed. The bond is issued on 2065/03/02. Its issue manager is Ace Development Bank Ltd. Total no. of bonds issued are 250,000 units and no. of bonds applied are 300,000 units. It is over subscribed by 50,000 units. The over subscription rate is 1.20 times.

After the issuing of four times debenture by NIBL, one of the most leading commercial bank of Nepal called Nabil Bank Limited (NBL) has issued Rs. 300 million "8.5% Nabil Bank Bond-2075" (with the highest maturity period of 10 years from commercial band, semi-annual coupon payment) in the FY 2008/09. Out of 300,000 units of issue, 60,000 units are issued to the general public and 240,000 units are privately placed. The bond is issued on 2065/03/15. Its issue manager is NIDC.

After the issuing of bond by Nabil Bank Limited, another commercial bank of Nepal called Siddhartha Bank Limited (SBL) has also issued Rs. 250 million "8.5% Siddhartha Bank Limited Bond-2074" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2009/2010. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed. The bond is issued on 2067/06/09. Its issue manager is ACE. Total no. of bonds issued are 250,000 units. It is neither oversubscribed nor under subscribed.

Finally till the report writing,Nepal Investment Bank Ltd. (NIBL) has issued Rs. 400 million "8.% Laxmi Bank Limited Bond-2075" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2010/2011. Out of 400,000 units of issue, 50,000 units are issued to the general public and 350,000 units are privately placed. The bond is issued on 2068/06/26. Its issue manager is NMB. Total no. of bonds issued are 400,000 units and no. of bonds applied are also 412,500 units. It is over subscribe by 12,500 units. The over subscription rate is 1.21 times.

Recently issuance of debentures or bonds by corporations has proved very popular to raise capital for long term investment. In the past debenture securities issued were under subscribed, but thereafter they are oversubscribing. This shows the growing trend of debenture market. Several attempts have been made for the growth of corporate debenture market in Nepal which includes establishment of SEBON, NEPSE under Stock Exchange ACT 1983, Licensing system of brokers and

amendments in previous legislation. NEPSE has made securities listing Bye- Laws 1996 and transactions Bye- Laws 1990 and has been taking responsibility of making the securities and clearing and settlement activities more orderly and fairly which has also helped in promotion and growth of Nepalese debenture market.

1.2 Statement of Problem

Debenture market in Nepal is not being able to grow smoothly in comparison to common stock. On one hand corporations 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.

Though debentures are less risky than the common stock, investors are interested to invest in ordinary shares. This may be due to the unawareness of investors about debenture securities market. Investors take investment decision on haphazardly basis. Very little investors are rational investors, but large volumes of investor are not rational. Other major obstacles in the development of debenture market may be inadequate legal provisions, limited supply of quality debentures, poor knowledge about securities etc. Thus, this research has been conducted to identify prospects of corporate debenture growth in Nepalese security market. Attention has been given to identify issues/problems restricting Nepalese corporate debenture market and its future growth prospect. This research has highlighted following problems:

- What is the intrinsic value of corporate debentures of listed companies in Nepal?
- What is the duration of corporate debentures of listed companies in Nepal?
- What are the key factors responsible for the hindrance for the growth of corporate debenture market in Nepal according to individual investors, experts, security brokers/agents and listed companies?
- What are the prospects of corporate debenture growth in Nepal according to individual investors, experts, security brokers/agents and listed companies?

1.3 Objective of the Study

Debentures/bonds being one of the important financial securities of capital market are still in infancy stage in Nepalese security market. As such, the main objectives of the study are to identify the issues/problems of corporate debenture based on the current scenario of Nepalese security market and its future prospects for growth in the market.

More specifically, this study intends:

- To analyze the intrinsic value of corporate debentures of listed companies in Nepal
- To analyze duration of corporate debentures of listed companies in Nepal
- To identify the issues/problems that hinder development of corporate debenture in Nepalese security market in the view point of individual investors, experts, security brokers/agents and listed companies
- To access the future prospects of corporate debenture growth in Nepalese security market in the view point of individual investors, experts, security brokers/agents and listed companies

1.4 Significance of the Study

This study tries to explain the theoretical aspects; identify the major issues/problems of corporate debenture market in Nepal and also its future prospects. This study could be beneficial for the policy makers to reform policy, make clear and appropriate legal rules and regulations on debenture security market in Nepal for its growth. This study could help to bring awareness among individual investors that debentures can be equally attractive as common stock. Similarly, this study could also bring awareness among corporations to raise long term fund by issuing debentures.

Since only very few researches have been conducted on the related topic and no proper research has been done specifically focusing on corporate debenture market, it is very new in this field. Thus government, investors, private organizations, security board, concerned government bodies, M.B.S students and other concerned parties can be benefited from this study.

1.5 Limitations of the Study

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

- The study focuses only on corporate debenture market of Nepal.
- The study is based on primary date (which is collected based on personal judgments of respondents) and secondary data (which is collected from published reports of NRB, SEBON, website of NEPSE, journals, newspapers, magazines and unpublished thesis).
- The study covers only 10years date, beginning from FY 2001/02 to FY 2010/11.
- The study has mainly focused on debenture issuing companies, investors, some private companies and other related parties within the Kathmandu valley.
- The study is concerned only on existing securities acts, legal rules and regulations relating to the topic.

1.6 Organization of the study

The study has been organized in to five chapters. Brief information of each chapter is as follows:-

Chapter 1: Introduction

It deals with introduction part of the study like general background, statement of the problems, objective and limitation of the study.

Chapter 2: Review of literature

It includes 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.

Chapter 3: Research methodology

It describes research methodology employed in this study i.e. in what size and shape, research is carried out. It includes research design, sources of data, population and sample and method of analysis.

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 and statistical tools. This chapter explains the major findings of the study as well.

Chapter 5: Summary, Conclusion and Recommendation

This chapter summarizes the overall picture of the study. It contains conclusion recommendation and suggestion on the basis of the findings of the study.

CHAPTER 2
REVIEW OF LITERATURE

2.1 Background

Review of literature means reviewing research studies or other relevant propositions in the related area of the study so that all the past studies, their conclusions and deficiencies may be known and further research can be conducted. It is an integral and mandatory process in research work. It helps to identify the relationship between current and previous studies in the selected topic. The main reason for a full review of research in the past is to know the outcomes of those investigations in areas where similar concepts and methodologies had been used successfully. Also an exhaustive process of such review may offer vital links with the various trends and phases in the researches in one's area of specialization.

Taking this view into consideration, different literatures in line with the corporate debenture have been reviewed in this study. In the first part, literature for conceptual framework about debenture (bond) market (focusing on corporate debenture market), and terms related with it were reviewed. In the second phase, important articles and newspapers related to the research topics, finance journals, previous master degree level thesis, were reviewed. It has helped to find out the research gap and also to precede this study in a systematic manner.

2.2 Conceptual Framework

2.2.1 Meaning and Definition of Public Debt and Private Debt

Debt is anything that one person owes to another, especially a sum of money. A legal definition is that a debt is all that is due to a man under any form of obligation or promise. A person who owes a debt is called debtor and a person to whom he owes it is the creditor. In some countries if the debtor is unwilling to pay the debt the creditor may bring a law suit against him to recover the money. If the court finds that the debt is owed, the creditor obtains a judgment against the debtor. Then if the debtor fails to pay, the creditor may appear in the court officially for an execution of judgment. The

court order gives the creditor right to seize enough of debtor's property to recover the debt and the costs of the trail. This law varies widely from one country, state or province to another. (The World Bank of Encyclopedia, 1996)

Public debt is the debt owned by a government to people and institution within own boarders (i.e. internal debt) and over the foreign creditor (i.e. external debt). Jame Stuart said that public debt should function as the balance wheel of the economy. Stuarts view is "public borrowing must be adjusted to the conditions of trade at the particular time. Public borrowing is inappropriate as long as circulation is full because then it would raise the rate of interest and have undesirable consequences for commerce".

This signifies that unemployment and a slackening of trade and industry should absorb this excess and through its expenditure, through it into new channel of circulation thus use of public debt is conceived as the balance wheel in the economy. It keeps resources fully employed and prevents stagnation in a part of economy from having adverse effect elsewhere. In addition, public debt is a necessary instrument of war finance.

On the other hand, private debt is the debt taken by private business organization. Private debt is taken by issuing debt instruments like debentures and bonds. Loan taken from financial intuitions and money lenders are also known as debt. Corporate bond is another type of fixed income security which is issued by private investors or by government. A corporate bond is a security that stands for 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 the specific promises and details of the issue are written in the bond indenture.

2.2.2 Debt Security Market

Securities are the marketable financial instruments that serve as an evidence of property rights such as Share Certificate, Bond, Commercial Paper, Preferred Stock, Treasury Bills, Warrants, Options, etc. The market where such securities are traded between the number of people, i.e. buyers and sellers who have some need or desire, have resources and are also willing to participate in the transaction, is known as security market.

An individual security provides evidence of either creditor-ship or ownership depending on whether it is a debenture/bond or a stock, respectively (Francis, 1988:10). Thus, security market is a mechanism created to facilitate the exchange of financial assets.

The various types of security markets can be:

a) Primary and Secondary Market

The market that offers the security to the public first time is known as primary market. It is initial public offering market. In primary market issuers inform and request public to buy debt securities. Specifically, in primary market sales of new securities and cash raised from it goes to the issuer. But, trading in other market does not contribute to the issuing company. After the securities have been issued, they are traded among investors in the secondary market.

A secondary market is the place where already issued securities are traded. In other words the secondary market is the only way to turn securities into cash. In the Nepal's context, Nepal stock Exchange is an example of a secondary market.

b) Capital and Money Market

Capital market is the market meant for long–term (more than one year) debt securities issued by the government or a corporation (Bhattarai, 2005:2). Capital market exists in order to bring together buyers and sellers of long–term securities, i.e., it is a mechanism created to facilitate the exchange of financial assets. Long–term securities include the issuance of mortgages and debentures/bonds.

Money market is the market for short–term (one year or less) and highly liquid debt securities. Money market instruments, sometimes, are also called cash equivalents or just cash (Bhattarai, 2005:2). Short–term and intermediate term financing sources include trade credit, bank loan, finance company loan, commercial paper, inventory financing, etc.

c) 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 the purpose of

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 of the 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. Bond is the most important debt financing securities.

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 bond market is normally separated into two issuer segments: domestic (governments and corporate) and international.

d) Government Debt Security Market

The government debt means the debt owned by government to people and institution within its own boarder's i.e. internal debt and over the foreign creditors' i.e. external debt. Generally, the government debt is recognized as government treasury bonds, notes and 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 (Fisher,L and Weil,R.L, 1971:286).

Government and semi–government institutions require funds for various development activities. When government spends more than accumulated amount from taxes, they must borrow through the debt securities (Khan, 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, notes are for one to ten year, and bonds are for over ten years. Municipal bonds are issued by state and local governments. They are similar to treasury and corporate bonds except that their interest income is exempt from state and local income taxes (Bhattarai,

2005:192). The main purpose of issuing securities by the government is to finance their activities. Revenues collected by the government seldom cover expenses and the differences are financed primarily by issuing debt instruments. New instruments are issued to repay the old debt (Bhattarai, 2005:191).

Developed government security markets help to increase the tendency of saving and reduce the poverty. Government securities help to fulfill the budget deficit and to develop corporate debt security market also.

e) Corporate Debenture/Bond Security Market

A corporate bond is a security that stands for 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 the specific promises and details of the issue are written in the bond indenture. Corporate debentures/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. In other words, corporate bonds are similar to other kinds of fixed–income securities that promise to make specified payments at specified time and provide legal remedies in the event of default (Sharpe et.al, 1999:475).

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(kane, 2002:434-435).

Of course, the holders of a company's long–term debt are creditors. 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 if their return is fixed. During liquidation, the claim of debt holders is before that of preferred and common stockholders. Depending on the nature of the debt instruments, however, there may be differences in the priority of claim among the various creditors of a company (Van Horne, 2002:589).

Business firms issue many types of debt; however, only large firms issue debentures/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.

The market where bonds or debt-securities were traded known as debt market. Corporate bonds (debentures) provide capital to the company and the investors get the status of lenders through the debt market. Most of the 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.

Corporate bonds come in several different forms. The basic classification include collateralized (secured) or uncollateralized (unsecured), senior or junior (subordinated), callable or non callable, and convertible bonds. To be successful, private debt markets not only need a disclosure system, a credit–rating system, and bankruptcy laws but authorities should also avoid possible crowding out and statutory restrictions that hinder the development of corporate bond market.

f) International Bond Market

Any bond sold outside the country of the borrower is called an international bond, but it is necessary to distinguish further into two types of international bonds i.e., Euro bonds and foreign bonds. 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 .

Foreign bond is such bond where denominated currency is other than that of the country in which it is issued. Moreover, the foreign bond market refers to bonds issued and denominated in the currency of a country other than the one in which the issuer is primarily located. For example, if Nepalese corporation issues bond with face value in US dollar, then such bond will be foreign bond (Bhattarai, 2005: 194).

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. 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, 1999:484).

Euro bond is such bond which is offered outside the country of the borrower and outside the country in whose currency the securities are denominated. For example, bond issued by Indian corporation that is denominated in US dollars and sold in Nepal is known as a Euro bond (Bhattarai, 2005: 194). As the euro bond market is neither regulated nor taxed, it offers substantial advantage for many issuers and buyers of bonds (Sharpe et.al, 1999:484).

2.2.3 Features of Debt Securities

Although all debt securities do not have the same contractual features all bonds have some common features which are explained as under:

a) Par Value

It is the face value of the bond. The amount of face value is repaid after maturity.

b) Coupon rate

Fixed interest is paid on debenture at certain percentage, which is called coupon rate. Interest is calculated at coupon rate on face value of debentures. Coupon interest is usually paid on annual or semi-annual basis.

c) Price

Price refers the rate at which purchasing and selling securities taken place in the market. Price may be at par or discount or premium.

d) Yield

It is rate of return of bond. Yield is calculated on purchase price or current market price.

e) Callable Feature

It is a clause in a bond indenture which gives the issuing corporation the right to buy back all or part of an issue prior to the maturity date. Call feature helps to the bond issuer to redeem the bond before maturity if the market interest rate falls sharply and the company earns excess return. The additional sum is termed as a call premium.

f) Registration

Bonds can be either registered or bearer bonds for interest and/or principal payments. The issuer maintains records of the ownership of registered bonds, but the holder is assumed to be the owner in case 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.

g) Indenture

It is legal contract or agreement between an issuer of bonds and the bondholder stating the time period for re-payment, amount of interest, if the bond is convertible (and if so, what ratio or what price), and the amount of money that is to be re-paid including the terms of the bond issue. The bond indentures can be a document of several hundred pages, that discusses a large number of factors important to the contracting parties, such as;

- The form of the bond and the instrument
- A complete description of the property pledged
- The authorized amount of the bond issue
- Detailed prospective clauses, or covenants
- A minimum current ratio requirements
- Provisions for the redemption or call privileges

h) Trustee

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

i) Priority to assets and income

In the event of bankruptcy, debt holders have a claim on the company's assets and earnings prior to that of the shareholders i.e. common shareholders as well as preference shareholders.

2.2.4 Instruments of Long Term Bond

Sometimes, debentures and bond are taken with same meaning. However, it is generally classified as follows:

a) Bond

A bond is secured debentures on which a borrower agrees to make of interest and principal on specific dates to the holder of the bond.

b) Mortgage Bond

The long term debt secured by the collateral of specific assets like machinery, equipment of issuing company is called mortgage bond. If the company is unable to pay the bond amount, the bondholders may raise their money by selling the machinery.

c) Debentures

A debenture is unsecured bond, which has no specific property on security. Debenture holders are general creditors whose claim is protected by property not otherwise pledged. A firm whose credit position is exceptionally strong can issue debenture it simply does need specific security.

d) Subordinated Debentures

The term subordinate means "below" or "inferior". If there are subordinated debentures, these debentures have right to get back their principal only after non

ordinate debenture in liquidation. The reasons or the use of subordinated debentures are clear. They offer a tax advantage over preferred stock.

e) Income Bonds

Income bonds provide interest only when the firm has sufficient income to cover the interest payments. Thus these securities cannot bankrupt a company, but from an investors standpoint they are riskier than "regular bonds"

f) Indexed or purchasing power bond

Indexed bonds have their interest rate payment tied inflation index, such as the consumer price index, this protecting the bondholders against inflation.

g) Junk bond

A junk bond has a relatively high risk of default. Junk bonds are riskier than other types of bonds and this pay high interest rate.

h) Floating rate notes

Floating rate note (FRN) is an important means of raising fund at the time of fluctuating interest rate. Therefore it is used to decrease the risk associated in the change in the market interest rate. The interest rate is adjusted periodically with the change in the market interest rate.

i) Term Loan

A Term loan is a contract under which a borrower agrees to make series of interest and principal payments on specific dates to the lender. Term loans usually are negotiated directly between the borrowing firm and a financial institution generally a bank, an insurance company or a pension bond. (Weston and Copeland; 1999: 967)

2.2.5 Terms Related to Corporate Debenture Market

a) Interest Rate

Interest is the cost of using money overtime. Interest expenses (or interest revenue) equal the interest rates times the carrying value of the liability (or receivable) at the beginning of the period. Interest rate features are stated in percentage terms of the par values of the related obligation. The contract value is directly related to interest

rates .So contract will increase when interest rate decrease and vice-versa. 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. But, 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 of 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 of Encyclopedia, 1996:278-279).

Different theories of interest rates are developed. They are expectation theory, liquidity preference theory and Market segmentation theory. The expectation theory maintains that long term yields are a function of the anticipated short term rates that will prevail during the term of the long term security. 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.

b) Inflation

A state in which value of money is falling i.e. prices are raising. Inflation refers to a persistent rise on the general level of price over a certain period to the continuous growth of demand in excess of supply of goods and services. Inflation reduces the purchasing power of consumer and as a persistent and appreciable raise in the general level of price. The real interest rate has been obtained by subtracting the inflation rate from the one-year nominal interest rate. And nominal interest rates are highly correlated with inflation (Kaen, 1995: 160).

In times of changing prices, the nominal return on an investment may be a poor indicator of the real return (real rate) obtained by the investor. This is because part of the additional dollars received from the investment may be needed to recoup the investor's purchasing power due to the inflation that has occurred over the investment

period. As a result, adjustments to the nominal return are needed to remove the effect of inflation in order to determine the real return; and inflation rate is denoted by q.

$$q_t = \frac{CPI_{(t+1)} - CPI_t}{CPI_t}$$

Where,

q_t = Rate of inflation at time t

CPI_t = Consumer price index at time t or at the beginning

$CPI_{(t+1)}$ = Consumer price index at time (t+1) or at the end

Annualized inflation rate = (1-per month q)^{12}

To provide full compensate for the investors, borrower has to adjust the inflation rates with nominal rates (Sharpe et al: 1999). Adjusted, then normal rate of return, r can be defined:

$r = rr + q$

Where,

rr = Real rate of return

r = Nominal rate of return

q = Rate of inflation

Borrower, necessary to consider the inflation rate while determine the interest rate of debt securities.

c) Immunization

Immunization is the strategy for protecting a bond portfolio against the risk of rising interest rates. Theoretically, this is possible because of the twin effects of rising rates. The introducing concept of duration led to the development of the technique of bond portfolio management known as immunization (Sharpe et.al, 2002:429). Immunization will provide a compound rate of return over the immunized period that

equals the yield to maturity (YTM), regardless of the fluctuations in market interest rates during this period.

Investors only need to immunize to lock in a desired rate of return when future market interest rates are expected to change. Investors' desire to immunize (or lock in) an interest rate increase as market interest rates approach what are perceived to be peak levels. Bond investors who expect market interest rates to fall in the future will want to buy bonds at peak interest rates for two reasons. First, bonds will enjoy capital gains if their market interest rates decline. Second, locking in a high 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 YTM that existed when it was purchased.

What does immunization accomplish? According to the theory, 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).

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).

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.

2.2.6 Merits and Demerits of Debt

There are various merits and demerits of the debenture financing from the view point of issuer. They are depicted as below:

Merits:

a) No interference in management and control

Creditors have no interference in business operations. The owner may extend the scope of their operation by using funds furnished by creditors and still maintain their position of control.

b) Less costly

The specific cost of debt capital is less expensive than that of the equity and preferred stock.

c) Facility of trading on equity

The debt enables the firm to trade in equity.

d) Flexibility

Debt provides flexibility in financial structure of the corporation. The company can issue debt or repay whenever required to make financial structure flexible.

e) No ownership dilution

Debenture-holders do not have voting rights; therefore, debenture issue does not cause dilution of ownership.

f) Fixed payment of interest

Debenture holders do not participate in extraordinary earnings of the company. Thus the payments are limited to interest.

g) Remedy for over capitalization

In case of over capitalization the company can redeem the debt to balance its capital structure.

Demerits:

a) Repayment of the debt

Debt usually has a fixed maturity date, and the financial officer must take provision for the repayment of the debt

b) Unreliable source

Only well established companies can benefit from debt financing. Small companies and new companies have difficulty in raising the fund from their sources.

c) Increase financial liability

The firms' liability will increase because most of the debt issue requires some security as mortgages.

d) Cash outflows

Debentures must be paid on maturity. Therefore, at some point, it involves substantial cash outflows.

e) Restricted covenants

Debenture indenture may contain restrictive covenants which may limit the company's operating flexibility in future.

f) Burden to the company

Long term debt is a commitment for a long period, so the company has to pay interest to debt holders at fixed rate whether it earns profit or not.

Similarly, there are various merits and demerits of investing in debt securities form the view point of investor. They are depicted as follows.

Merits:

a) Maturity

Debt securities have a fixed maturity period.

b) Less risk

There is less risk in investing in debentures than preferred stocks and common stocks

c) Fixed and stable income

The investors receive stable and definite income regularly as company provides fixed interest on debentures.

d) Priority of earning

Control right in assets at the time of liquidation is another important feature of debt to investors.

e) Security of investment

Money invested in debenture is secured because it is the debt on assets.

f) Liquidity

Debt securities can sell easily in the open market. Besides this, companies can provide money if we keep debenture as a collateral for security.

Demerits:

a) No right in the share in company's prosperity

Debt holders do not get the share in the company's prosperity when the company earns profits. Holders get the fixed rate of interest on their investment.

b) No right to vote

Debt holders do not carry the right to vote.

c) Interest is taxable

The Interest on debentures is fully taxable.

2.2.7 Buying and Selling Rules of Securities

Buying security with view of generating capital profit is very important investing decision. In bear market, security price fall down. So, investors should buy securities. But, in bull market, security price rise to maximum. So, investors should sell securities.

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 overpriced. Hence selling decision of securities is preferred.

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.

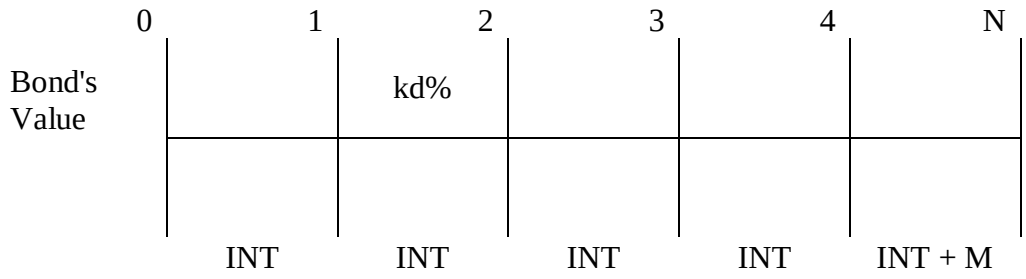
Table 2.1: Buying and Selling Rules of Security

S	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 action (No trading)**

2.2.8 Valuation of Bond

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. Weston and Brigham illustrator's value of bond as follows:

Figure 2.1: Valuation of Bond



Where,

K_d = Appropriate interest rate on bond

N = No. of years after bond is matured

INT = Coupon interest rate

M = Face value, Maturity value or Par value

Similarly,

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

Where,

V_b = Present value of bond

F = Face value or par value

N = Maturity period

I = Coupon interest rate

K_b = Market rate of return on bond or opportunity rate.

P_m = Market price of bond

The bonds can be categories in three forms.

a) Redeemable coupon interest bond

Redeemable bond has finite maturity period and the firm will pay annual fixed amount of interest till maturity and principal will be repay at maturity. The value of a

bond is the present value of its interest payment plus the present value of its par value. When a bond or debenture has a finite maturity, the valuation formula for such type can be express as follows.

Present value (V_b) =I (PVIFA@k, n years) + M (PVIF@k, n^{th} year)

Alternatively,

$$\mathbf{V_b} = \frac{I_t}{(1+k)^t} + \frac{M}{(1+k)^n}$$

Where,

V_b = Present value of bond

I = Coupon interest amount

PVIFA = Present value of interest factor of an annuity

k = Market interest rate/discount rate

n = Maturity period

M = Maturing value

b) Discount (Zero Coupon) Bond

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

$$\textbf{Present value } (\mathbf{V_b}) = \frac{M}{(1+Kd)^n}$$

Where,

V_b = Present value of bond

M = Maturity value

Kd = Market interest rate/discount rate

n = Maturity period

c) Perpetual Bond

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. For an infinite series, the value of bond may be expressed as follows:

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

Where,

V_b = Present value of bond

I = Coupon interest in rupees

K = Market interest rate/discount rate

2.2.9 Bond valuation with semi-annual compounding

If bonds, pay interest semi-annually, it requires modifying bond valuation model. It should divide yield to maturity rate by 2 and maturity period (N) should multiply by 2 like this way, semi- annually interest should use.

We can calculate value of bond using following modified formula:

V_b = $I_{/2}$ (PVIFA@ $k_{/2}$, 2n yrs) + M (PVIF@$_{k/2}$, 2nth yr)

2.2.10 Bond Returns Measures

For bond valuation, there are different methods to calculate required rate of return which are as follows:

a) Yield to Maturity (YTM)

Investors may like to know the rate of return that 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). Yield and bond prices are inversely related.

In computing the yield to maturity, several important assumptions are made which are:

- The bond will be held to maturity.
- The bond will not be called or redeemed by the issuer before specified maturity date.
- Coupon receipts will be reinvested at a rate of return equal to the yield to maturity.
- All cash flows (interest and principal) will occur as indicated in the indenture (i.e., the issuer will not default on the contractual obligation).

Therefore, the yield to maturity of a bond represents the annual rate of return that will occur if certain conditions as mentioned above are satisfied. The YTM can be calculated by using following formula.

By trial and error or interpolation method:

The market price of debt,

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

By Approximation Formula Method:

Approximate YTM can be calculated as

$$\textbf{AYTM} = \frac{I+\left(\frac{M-Vo}{N}\right)}{\frac{M+2Vo}{3}}$$

Where,

AYTM = Approximate yield to maturity

M = Maturity (face) value of bond

Vo = Current selling price of bond

N = Number of years of bond life

I = Interest payment per year

b) Yield to Call

At the time of bond issue, the issuer may have put a convent in its indenture that the bond can be called at any time before maturity. This means that the bond may be redeemed any time before the maturity date. This is known as the call of bond. Yield on such callable bonds are known as yield to call which can be calculated by using following formula.

$$\textbf{YTC} = \frac{I + \left(\frac{Call\ Price - Vo}{N}\right)}{\frac{Call\ Price + 2Vo}{3}}$$

Where,

YTC = Yield to call

c) 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. The period return equals income earned over a period (including capital gain or losses) as a percentage of the bond price at the start of the period. The holding period return (HRR) can be calculated for any holding period. (Bodie et.al, 1999: 422).

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

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

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

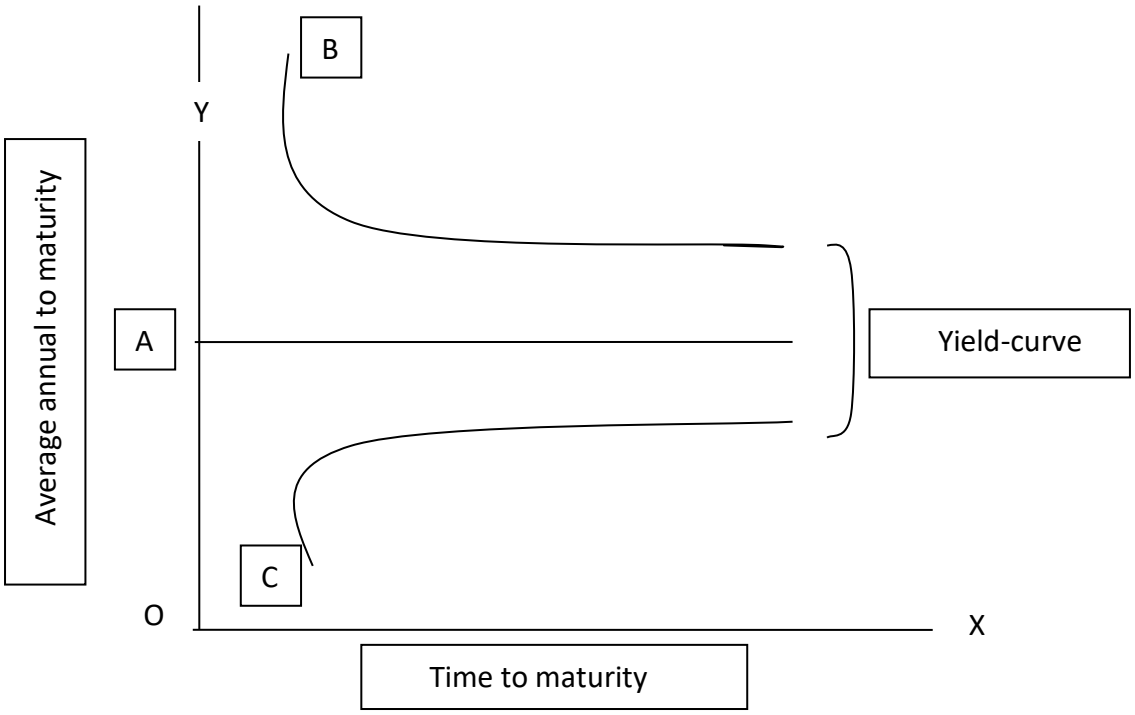
I_{t+1} = the coupon or interest received for period 't'

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.

2.2.11 Yield Curve

The phrase yield curve is for the term structure of interest rate. The relationship between yield and maturity is described by means of a yield Curve. The term of maturity is in horizontal position (time) and the average yield to maturity is in a vertical position. To determine the shape of the yield curve, three theories were developed (Francis, 1986: 339). As 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. The 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. Due to the higher interest rates for a longer period of time and the yield curve would be upward sloping. And, the segmentation theory suggests that the term structure depends on the supply demand conditions. The determination of term structure is viewed as the outcome of the supply and demand in two-segmented market of demand and supply, the markets for longs and for shorts. Such segment of the yield curve is determined independently by the supply and demand conditions peculiar to that maturity segment. 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. The various shapes of yield curve may be seen as in the following figure.

Figure 2.2: Yield curves



Curve A is called a 'flat curve' indicating approximately equality of short-term and long –term yields. Curve B is a descending curve and shows short-term rates significantly above long term rates. And curve C is an ascending curve with short rates significantly below long term rates.

Yield curve, a visual representation of the term structure of interest rates (Madura, 2000: 511) .The slope of yield curves can vary among the countries. While the United States typically has an upward sloping yield curve, in other countries are commonly inverted, implying a lower annualized yield on long-term debt.

2.2.12 Duration of bond

Duration is directly related to term and inversely related to coupon and yield to maturity. Duration is defined as the weighted average number of years that cash flows occur. Cash flows include both coupon and principal payments. The weights are the present value of each cash flow as a percentage of the total present value of all cash flows.

According to Chenny and Moses, “Duration is a function of term, coupon maturity value and yield to maturity. Bonds with “low” coupons and “long” term will have duration greater than bonds with “high coupons” and “short” terms. Also as yield to maturity increases, duration will increase”. Duration led to the development of 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., 1999: 437). A bond’s duration is a convenient way to summarize information about a bond’s volatility or price sensitivity to changes in market interest rates and estimate what affect such interest rates movements would have on the bond’s price.

Macaulay’s duration (MD) can be defined mathematically as follows:

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

Where,

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

t = Time (Year)

TPV = Total present value

2.2.13 Cost of Debt Capital

Cost of capital is recognized rate of different names such as required rate of return, hurdle rate, average cost of fund etc. The average return required by the firm’s investor determines how much must be paid to attract funds. It is the firms average cost of funds which is commonly termed the cost of capital. The cost of capital is the minimum rate of return, which a firm or a project must earn in order to maintain the market value of the firm. It is the minimum acceptable rate of return i.e. cut off point or huddle rate for the investment and financing decision. The analysis of cost of capital is very important. It minimizes the cost of capital in order to maximize the value of the firm. It is also very essential for evaluating and selecting capital projects. There are different sources of capital such as:

a) Cost of debt

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.

Mathematically, cost of debt can be calculated as follows:

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:

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

Where,

t = Tax rate

2.2.14 Historical Development of Corporate Debenture Securities

The history of capital market in Nepal dates back to 1936 in which year the shares of Biratnagar Jute Mills Ltd. was floated. In 1937, Tejarath was set up to facilitate loans to the government employees and was converted into Nepal Bank Ltd. HMG Nepal introduced the Company Act in 1964 and the first issue of government bonds made in the same year through Nepal Rastra Bank to collect the developmental expenditures. It carried 6 percent rate of interest and had the maturity period of five years HMG Nepal announced the Industrial Policy in 1974 and under this policy an institution named Securities Marketing Center (SMC) was established to deal in government securities-development bonds and national savings bonds, and corporate securities of few companies. The government has the virtual monopoly over the security market.

Then, Securities Exchange Center (SEC) was established in 1976 with an objective of facilitating and promoting the growth of capital market. It was the only capital market institution in Nepal. Securities Exchange Act came into force in 1984. Since then, SEC started to operate under this act. The purpose of this act was to provide systematic and favorable market environment for securities ensuring and protecting the interest of individuals and institutional investors as well as to increase the public participation in various firms and companies

SEC had provided facilities to trade the government securities and few of corporate securities like shares and debentures. Only the shares of 10 companies were listed in SEC and there was involvement of no broker and dealer in the securities market. So, SEC itself was undertaking the job of brokering, underwriting, managing public issue, market making for government bonds and other financial services. Apart from this, there was the absence of effective secondary market to ensure liquidity to the securities.

The interim government (1990/91) initiated financial reform program and two indirect investment vehicles-Citizen's Investment Fund and NIDC Capital Markets Ltd.-were established with the collective investment schemes in the corporate sector. Then, due to the world whim of privatization and economic liberalization, the operation of SEC was felt to change to make it compatible with the changing economic system. As a result, HMG Nepal brought about change in the structure of SEC by dividing it into two distinct entities-Securities Board Nepal (SEBON) and Nepal Stock Exchange Ltd. (NEPSE) at the policy level in 1993. Since then they are operating as the main constituents of securities market in Nepal.

SEBON was established on June 7, 1993 with its mission to facilitate the orderly development of a dynamic and competitive capital market and maintain its credibility, fairness, efficiency, transparency and responsiveness under the Securities Exchange Act 1983 (SEBON,2001). It is an apex regulator of the securities market in Nepal. It registers the securities and approves the public issues. Moreover, SEBON frames the policies and programs required to monitor the securities market, provides license to operate stock exchange business and stock brokers and supervises and monitors the stock exchange operations and securities businesspersons.

NEPSE Ltd. is a non-profit organization, operating under Securities Exchange Act, 1983. The basic objective of NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transactions in its trading floor through market intermediaries such as brokers and market makers, etc. NEPSE opened its trading floor on January 13, 1994 through its newly appointed licensed members and has adopted an "Open Out-Cry" system for the transaction of securities except for Kathmandu Valley recently.. The trading floor is restricted to listed corporate securities and government bonds with the market intermediaries in buying and selling of such 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 59 stockbrokers, 14 issue managers, 1 stock exchange and 207 listed companies in the Nepalese securities market. (Source: SEBON Annual report 2010/2011)

In Nepal both capital market and debt market are in infancy stage. The history of the development of debt market is short. Besides, there is no proper exercise of debt securities till now. 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:

The first instance of issuing debenture in the Nepalese history was by Bottlers Nepal Ltd., when it issued 18% coupon rate debenture worth Rs. 5 million in FY 1986/87. During the nine-year period between 1993/94 to 2001/02 debenture issue occupied the third largest share portion in the total issue amount approved by SEBON (5.99%). Only two companies have issued debenture though the time gap between the issues of corporate debenture is as high as five years. Among them, Joti Spinning Mills Ltd. issued 14% coupon rate debenture 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 couple of years, some positive signals can be observed in the Nepalese capital market.

Thereafter, the issuance of the 8.7% Himalayan Bank Ltd. 2009 Debenture and its listing in the secondary market with separate trading system became a milestone in this regard. But, before the listing of HBL's debenture, SSML's convertible debenture was also listed in the exchange without following separate trading system. Very few of these debentures were traded. However, SSML debenture was de-listed (and redeemed) in FY 2001/02. Out of 360,000 units of debentures 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 percentage coupon interest with semi-annual payment with 7 years maturity period in the FY 2003/04. Out of 300 thousand units of issue, 100 thousand units are issued to the general public and the rest are privately placed (Bhattarai, 2005:193-194). Again Nepal Investment Bank Ltd. ($NIBL_2$) issued "Nepal Investment Bank Bond-2070" with 6 percentage coupon interest rate paid semi-annually in the FY 2005/06. Out of 250 thousand units of issue, 80 thousand units are issued to the general public and 170 thousand 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).

Similarly, Everest Bank Ltd. had issued debenture of Rs. 300 million with 6 percentage 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 percentage coupon interest paid semi-annually) in the FY 2004/05. Out of 200 thousand units of issue, 50 thousand units were issued to the general public and 150 thousand units were privately placed. The par value of debenture was Rs. 1,000, with maturity period of seven years. Its issue manager was Nepal NMB (Bank of Kathmandu Ltd., Debenture Prospectus, 2005).

Nepal Industrial and Commercial Bank Limited issued Rs. 200 million "NIC Bond–2070" with 6 percentage coupon interest paid annually in the FY 2005/06. Out of 200 thousand units of issue with par value Rs. 1,000, 50 thousand units are issued to the general public and 150 thousand units are privately placed. Its issue manager is AFCL (Nepal Industrial and Commercial Bank Ltd., Debenture Prospectus, 2006).

Nepal SBI Bank Ltd. has issued Rs. 200 million "6% Nepal SBI Bank Debenture-2070" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2005/06. 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).

Again after a three years, Nepal Investment Bank Ltd. (NIBL) has issued Rs. 250 million "6.25% Nepal Investment Bank Bond-2071" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2007/08. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed. Its issue manager is ACFL (Nepal Investment Bank Ltd., Debenture Prospectus, 2007).

Similarly, Kumari Bank Limited (KBL) has issued Rs. 400 million "8% Kumari Bank Limited Bond-2070" (with maturity period of 5 years and semi-annual coupon payment) in the FY 2007/08. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed. Its issue manager is NMB (Kumari Bank Ltd, Debenture Prospectus, 2008).

After a 7 years, again Himalayan Bank Ltd. (HBL) has issued "8% Himalayan Bank Bond–2072" with par value Rs. 1,000 and semi-annual interest payment of Rs. 500 million in the FY 2008/09, with 7 years maturity periods. 100,000 units were privately placed and 400,000 units were issued to the general public out of 500,000 units of issue. Its issue was managed by ACE (Himalayan Bank Ltd, Debenture Prospectus, 2008).

After issuing of debenture three times, again Nepal Investment Bank Ltd. has issued Rs. 250 million "8% Nepal Investment Bank Bond-2072" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2008/09. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed. Its issue manager is ACE (Nepal Investment Bank Ltd., Debenture Prospectus, 2008).

After the issuing of four times debenture by NIBL, one of the most leading commercial bank of Nepal called Nabil Bank Limited (NBL) has issued Rs. 300 million "8.5% Nabil Bank Bond-2075" (with the highest maturity period of 10 years from commercial band, semi-annual coupon payment) in the FY 2008/09. Out of 300,000 units of issue, 60,000 units are issued to the general public and 240,000 units are privately placed. Its issue manager is NIDC, (Nabil Bank Limited, Debenture Prospectus, 2008).

After the issuing of bond by Nabil Bank Limited, another commercial bank of Nepal called Siddhartha Bank Limited (SBL) has also issued Rs. 250 million "8.5% Siddhartha Bank Limited Bond-2075" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2009/10. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed. Its issue manager is ACE (Siddhartha Bank Limited, Debenture Prospectus, 2009).

Finally till the report writing Nepal Investment Bank Ltd. (NIBL) has issued Rs. 400 million "8.% Laxmi Bank Limited Bond-2076" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2010/11. Out of 400,000 units of issue, 50,000 units are issued to the general public and 350,000 units are privately placed. Its issue manager is NMB (Nepal Investment Bank Limited, Debenture Prospectus, 2010).

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 Related Journals and Articles

Review of different approaches is important in order to build up an approach that can be applied in the context of Nepalese debt securities market. Comparing Nepalese corporate debenture market with respect to international debt market helps to identify issues and prospects on the one hand, and helps in recommending appropriate measures to overcome present problems on the other. Some of the journals, written by different authors, published from abroad are studied and reviewed to understand present debt market of Nepal as there is not sufficient publication regarding corporate bond/debenture market in Nepal.

Following are some of the relevant articles and journals relevant to the research. They have been reviews to extract the gist.

Robert Hanery Scott(1962) prepared a dissertation to know "Debt management for economic stability" The study emphasized on short term and long term debt study to know which is most prominent for economic development, growth and stability. The writer commenced his writing from definition of debt management. According to him "Debt management is to be control by treasury or Federal Reserve authorities over the maturity mix of existing marketable debt in the hand of the public."Maturity structure of the national debt should be manipulated by the authorities to aid in attaining. The broad economic objectives of growth, fully employment price stability and balance of payments equilibrium. Indeed because of size of the national debt in relation to the volume of other financial claims and liquidity base of intervals, corporation and financial instructions, the debt policy that is neutral with respect to economic activating.

Mr. Scott states the country liquidity can be promoted by converting long term debt into equal value short term debt. Hence conversion of long term debt into short term debt effects in liquidity. Since long term debt affects in liquidity, it also affects in spending decisions. Liquidity of assets will increase in aggregate demand. Theory of

debt management prescribed in debt lengthening in inflationary behind and shortening in period of recession. There are following two theories for the deciding short term and long term debt implication in economic liquidity and stability

Keynesian view

Quantity theory view

According to Keynesian theorists, main economic liquidity reason is variation arise in long term investment. When long term investment rate is elastic and moves interest rate is elastic and movement of long-term interest rate in influence in spending. The patter of higher long-term interest rates and lower short term rate results from selling more long term debt and retiring short term debt will have dampening effect. This testing showed lengthening debt reduces spending and longer maturity period raises interest rate.

Maturity period or short-term and long-term debt should manage or control systematically for economic stability. (Scott, Robert Haney 1962, Finance Journal Vol XVII)

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

2.4 Review of Securities Laws and Acts

There is some legislation regarding primary market of securities, which should be followed by companies, which are going to issue securities. Bureaucratic procedures

of securities issue directed and control by legislation of securities. Important legislative provisions of securities have been in security exchange act, 1983; securities exchange regulation, 1983 membership of stock exchange and transaction by laws, 1997, securities allotment guidelines, 1994 securities registration and issue approval guidelines. Like this way, special acts such as insurance act, respective sectors intuitions or companies should follow commercial bank act, finance company act etc.

Important legislative provisions made regarding securities market are such as:-

a) Securities Registration and issue approval guidelines, 2000

SEBO pre-permission and listing requires public issues which should be taken applying for this with containing detail information demanded by securities registration and issue approval guidelines, 2000. It should include following details in application.

- Objectives of public issues and should mention about the application of such raised fund.
- Production and service market detail.
- Description about if company is operating under foreign investment and management.
- Projected company three years net worth, profit and loss A/c balance sheet, name, address, qualification and experience for person's shows prepares statements.
- Name, address, qualification, experience of persons who prepares prospectus.
- Description of capital before and alter securities issue.
- Information of capital before and after securities issue.
- Information of company act 2063, provision No. 20 debentures are issued.
- Information which help people rational investment decision.
- Impact of following risks in operations and management of company.

- Risk of shortage of finance.
- Material shortage risk.
- Production and market risks.
- Delaying in project completion and cost overrun risk.
- Foreign currency rate fluctuation risk.
- Obstacles and result of legal procedures and registration requirement.
- Risk due to rationalization and globalization.
- Risk of government policies change.

Other Risks

- Points of deed if company if operated in foreign investment and management.
- Convertible debentures ratio of conversion with shares and time.
- Information if conversion of debentures and preferred stock in equity changes in board of directors in company.
- Provision of restriction in applying more than one application by one person.
- Photocopy of minor birth of date in case applying in the name of minors.
- Explanation about the objectives of debentures issue, face value of debentures application, maturity period of debentures interest rate, time and method of interest payment in prospectus.
- Explanation about debentures holders right on organization assets as first right person should mention.
- Debt and capital ratio during debentures maturity period should not exceed 70:30. If it exceeds should explain bases or points to prove its rationality.

- Commitment of debenture redemption reserve fund if redeemable debentures are issued.
- Par value of security i.e. share price Rs. 100, debentures Rs. 1000, mutual saving Rs. 10.
- Information about human resource.
- Statement of creditors.
- Name, address and qualification of company secretary.
- Auditor name, address and qualification.
- Agreement made with issue manager of company.
- Agreement of under writing if any.
- Bases of certifying projected financial statements.
- Agreement of under writing if any.
- Bases of certifying projected financial statements.
- Agreement of loan with-blanks and finance companies.
- Detail of assets and liabilities at time of conversion of private limited company into public limited company.
- Commitment and remarks of experts and professional on projected income statement prepared by companies or organization.
- Reasons of deviation of profit if projected profit is greater than 20 percent of last 5 years actual profit.

b) Security Exchange Regulation Act ,1994

It has been issued under security exchange act, 1983. There are following provisions in this regulation.

- Details of memorandum, article of association an d prospectus of the company.
- Acts and rules under which is formulated.
- Detail and current and fixed assets.
- Amount, par value, number, type and special provisions of issuing security.
- Reasons of debentures issues, rationality, board of director's decision and application of fund.
- Other condition and facilities of security issue.
- Reason of change in price of two time issued securities.
- Types, number, amount and transaction of last three years if previous issued securities.
- Issue manager of security and underwriting of securities.
- Provision of representation in board of directors for equity shares.
- Provision about distribution of profit.
- Three year audited and three year projected income statement and balance sheet.
- Name address, duties and responsibilities of directors, managers and chief officers.
- Name, cast, address, qualification of person who prepares memorandum and article of association.
- Number of institutional investors and their representation in board of directors.
- Other detail asked by SEBON.

c) Company Act, 2006 (2063)

There are following important provisions regarding securities issue in company act, 2006.

- Company's objectives and important points stated in memorandum article of association should mention in prospectus. It should also mention place to acquire memorandum and article of association.
- Minimum numbers of shares to hold to board of directors and salary allowance or remuneration provider them
- Promoter's remuneration and rewards.
- Provision about bonus shares.
- Provisions should be mentioned if there is secured for shareholder, employees or other.
- Introduction of directors.
- Reasons of issuing securities in premium.
- Provision of general shareholders representation in board of directors.
- Minimum shares to be subscribed and amount payable on application.
- Reasons, redemptions and debentures outstanding if debentures are issued.
- Description of assets vendor's name, if assets are purchased from securities. It should explain weather can or cannot be paid by shares and debentures.
- Brokerage commission on shares and debentures.
- Expenditures required for company and three year company projected income statement.
- Potential economic risk to desired future course of action.
- Net worth after reducing all liabilities.
- Time of publishing information of share allotment.
- Trustee commission if trustee provided.

- Company balance sheet, profit and loss account, place and time of inspection.
- Description and brokerage commission if securities are underwritten.
- Preference shareholders right an descriptions
- Other necessary descriptions.

2.5 Review of Previous Studies

It has been reviewed different thesis, research report and dissertation prepared by master degree and other students but among these most of the studies is related only government securities. No any study was found related with corporate debt securities.

Acharya (1968) made a case study on "Public Debt in Nepal", with outcome of popularity of purchasing government bonds rather than non-government institutional bonds. Not only this but investors has full trust on government bonds and he added furthermore that government debt is famous these days due to the repayment of debt on maturity which can be adjusted through the issue of new public debt.

Baral (1999) has studied in his research about "All types of securities i.e. corporate, government, debt and owner" which are based on the purely secondary data. Mr. Baral knew that the companies willing to issue securities had to manage their issues themselves although NIDC and RBS had legal authorities to manage but never performed till 1976. Again, he added in his thesis that only one listed company, Shree Ram Sugar Mill, issued the debt and it, debt market, is the least developed which shows that corporate debt securities are dominated by equity shares in the Nepalese securities market.

Sharma (2002) has studied on "Public debt system and practices in Nepal". He has opined mixed view regarding public debt use by government. In his opinion, Nepal has been passing through s critical phase of inadequate financial resources while its duties and responsibilities are widening day by day. But public funds available for the administration and development are limited. Therefore, the government adopts the policy of borrowing internally and externally. He added that the total debt service payment is increasing and external debt servicing growth rate is a remarkably greater

than of internal debt service. The ratio of internal and external public debt to GDP is not so unsatisfactory. He came to the point that the percent of interest servicing in a total servicing is greater than principal servicing. Interest servicing has occupied 58% (app) of share out of total servicing and rest is by the principle servicing. This fact shows all or either following weakness in our debt financing economy.

Kafle (2006) in his research entitled "Problems and Prospects of Debt Market Growth in Nepal," has summarized stating the weakness of Nepalese debt market. Nepalese capital market 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. Due to high preference to national saving bonds, development bonds, over supply of deposits by customers, commercial banks are not issuing debt securities frequently. By the way, big corporate firms could get loan easily from banks at lower cost so they didn't need to issue debt instruments whereas small corporate firms have been facing the problem in raising the fund by issuing debt securities as well as from banks. Lengthy process of issuing debt securities is the main problem that hinders the growth of debt securities market.

Ghimire (2009) in his studies entitled "A Study on Problems and Prospects of Government Debt in Nepal," has found that there has been excessive flow of foreign loans to bridge the resources gap .However, internal borrowing is not emphasized as much as foreign loans in Nepal. He explained that the developing countries like Nepal is always characterized revenue of the country and the government has to raise the required funds through the tax and tax revenue and internal as well as external borrowing. In case of external borrowing, there is the need of foreign currency for repayment which may cause the greater problems. Hence, he suggested that the internal borrowing is the best way of financing development expenditure of the government which helps to control inflation and to mobilize the domestic resources isolated in the country.

2.6 Research Gap

Research refers to a crucial careful and exhaustive investigation or inquiry or examination to discover the new facts or modify the existing theories or principles.

While going through the previous research it has been observed that most of the researches were conducted regarding the system and procedures of public debt, problem and prospects of government debt, etc. The previous researches have covered different areas of debt market whereas this research has covered only corporate debt securities market.

Most of the previous researches have explained the situation of corporate debt securities while this research tries to find out the solution to remove the impediments regarding debt securities market growth. So, this research tries to overcome the gaps of previous research by covering the corporate debt securities market.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a systematic and organized effort that includes a sequence of activities of gathering, recording, analyzing and interpreting the data in order to investigate the specific problem that needs solution. A research study can produce the fruitful results if an appropriate methodology is taken under consideration to highlight and evaluate the different aspect of the study. This chapter describes the methodology employed in this study .This chapter includes research design, nature and sources of data, population and samples of the study, methods of analysis, testing of hypothesis and test of hypothesis.

3.2 Research Design

Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance. The plan is the overall scheme or program of research. According to wolf and pant, "Research design is the plan, structure and strategy of investigations conceived so as to obtain answer to research questions and to control variations. In this research attempts has been made to analyze the “Prospects of corporate debenture growth in Nepalese security market”. The study uses both primary and secondary data to achieve the objectives of the study.

For this purpose descriptive research has been adopted. Descriptive research, also known as statistical research, describes data and characteristics about the population or phenomenon being studied. Descriptive research answers the questions who, what, where, when and how. This research tries to describe the current position and various problems associates with Nepalese corporate debt securities market. Similarly, analytical approach has been applied mainly to examine various related variables of corporate debt securities. Various statistical tools such as time series analysis curvilinear model and chi-square test are used in testing hypothesis to interpret and arrive at conclusion.

3.3 Nature and Sources of Data

Data is the fact, information, views etc. collected systematically and presented formally for the purpose of reaching in the appropriate decision. So, data is necessary for conducting the research work. Without the data we cannot prove the reliability and cannot support the research properly. This research is based on both primary and secondary data. The sources of primary data are mainly questionnaire. A set of questionnaire is developed for various respondents. These are allocated to them and collected after some times. Personal interviews are also conducted during field 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 and SEBO

Secondary data are also used to examine the valuation and duration of corporate bond. The main sources of secondary data are as follows:

- Various quarterly economic bulletins published by NRB
- Various economic reports
- Various statistical year books and other publication of Department of Statistics
- Various reports of Listed Companies, recorded in SEBON
- Various Annual Report of NEPSE and SEBON
- Economic Survey
- Prospectus of debenture issuing banks
- Website of NEPSE Ltd.,(http: www.nepalstock.com)

- Other publications, books, journals, articles, previous research studies, dissertations, The World Book Encyclopedia and websites etc

3.4 Population and Samples

To get information about corporate debt security market in Nepal, more representatives and comprehensive samples are selected for wide coverage of population. There are 207 listed companies in fiscal year 2010/11 out of which only 14 corporate organizations have issued bond till that fiscal year and are taken as the population in study.

For the purpose of primary data collection all the 207 listed companies, market markers, brokerage firms, concerned bodies like NRB, SEBO, NEPSE and individual investors/ institutions are considered as the population of the purpose of questionnaires survey. Under random sampling, total of 24 listed companies, 12 issue managers/brokers, 58 individuals/ institutional investors included corporate debt holders as well as government securities holders and 18 experts mainly from staffs of NRB, SEBON, and NEPSE are taken as a 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 2010/11 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 1: Number of Companies Selected for the Survey

S.N.	Listed companies	Total Population (N)	Targeted Sample No. (n)	Sample %
1	Bank	23	10	43.47
2	Development Banks	61	2	3.27
3	Finance Companies	70	5	7.14
4	Insurance Companies	21	2	9.52
3	Hotel	4	1	25.00
4	Manufacturing	18	3	16.67
5	Trading Companies	4	1	25.00
6	Others Companies	6	0	00.00
Total		**207**	**24**	**11.59**

Source: SEBON Annual Report 2010/11

3.5 Method of Analysis

In this research attempts has been made to analyze "Corporate Debenture in Nepalese Security Market**"**. 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 1986/87 to 2010/11.

3.5.1 Valuation Model

This study used the valuation model as described by Brigham and Houston (2001). The valuation of bond is the sum of the par that is due at the end of bond life. This model is used to find out whether the Nepalese corporate debentures are overpriced or underpriced.

The specific models as:

$V_b = I\ (PVIFA,_{k,\ n}) + M\ (PVIF,_{k,\ n^{th}})$

Where,

V_b = Intrinsic Value of Bond

I = Coupon Amount of Bond

M = Par Value (Maturity Value)

K = Market Interest Rate

N = Maturity Period

PVIFA = Present Value Interest Factor of Annuity

PVIF = Present Value Interest Factor

3.5.2 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 debentures. Macaulay's duration (MD) helps to analyze the actual maturity period for bondholders described by Macaulay (1938) as shown below:

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

Where,

MD = Macaulay Duration

Y = Market Interest Rate (YTM)

T = Term to Maturity

C = Coupon Interest Rate

3.5.3 Statistical Tools Used

Various statistical tools have been used in order to estimate the above models. The major ones are simple arithmetic mean, weighted mean, median, which are explained as below.

a) 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

b) 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.

c) Median

The median value is a value, which divides the total observations into two equal parts such that 50% of items lie above the median and 50% of the items lie below it. If the data set contains an odd number of items, the middle item of the array is the median. In this study, median value of responses for each statement of observations on debt securities practices has been computed.

3.6 Testing of Hypothesis

Hypothesis means a statistical statement about the values of one or more parameters of the population. After setting the hypothesis, it is necessary to test the reliability 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 improbable under this hypothesis. If the results are not improbable, the hypothesis is accepted. The procedure of drawing such conclusion based on sample information is known as testing of hypothesis. Its main function is to suggest new experiments and observation. The statistical hypothesis is tested at 1%, 5% and 10% level of significance.

In testing of hypothesis, Chi- square has been tested. Chi-Square Test is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in one or more categories. It helps to find out difference between the expected and observed frequencies is due to sampling error or it is a real difference.

Expected frequencies are calculated by applying the following formula:

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

Where,

RT = Row Total

CT = Column Total

GT = Grand Total

E = Expected Frequency

Then,

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

Where,

O = Observed Frequency

E = Expected Frequency

χ^2 = Chi-square

The quantity of $\chi 2$ describes the magnitude of the discrepancy between theory and observations.

Following hypotheses is tested in this research:-

Hypothesis No. 1

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.

Hypothesis No. 2

Null Hypothesis (H_o): There is no significant difference between observed and expected opinions regarding to the factors that plays vital role to attract investor towards purchase of corporate bond/debenture.

Alternative Hypothesis (H_1): There is significant difference between observed and expected opinions regarding to the factors that plays vital role to attract investor towards purchase of corporate bond/debenture.

Hypothesis No. 3

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

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

Hypothesis No. 4

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.

CHAPTER 4
DATA PRESENTATION AND 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, 2003:204). This chapter is subdivided into two major parts. First part deals with presentation and analysis of secondary data. Second part deals with presentation and analysis of primary data.

4.1 Presentation and Analysis of Secondary Data

4.1.1 Corporate Debenture Market in Nepal

In the context of Nepal, capital market is very lean in providing investment alternatives to the investors. The history of the development of debt market is short. Besides, there is no proper exercise of debt securities till now. In fact, the present capital market is almost monopolized by the equity shares. For the development of capital market, each and every sector of securities markets needs to be developed. Hence, development of corporate debenture market is a must for the overall development of capital market.

In the Nepalese history, only handful numbers of corporation have issued corporate debentures till now for the purpose of raising long term funds. The total number of such companies comes to be only 14. The first instance of issuing debenture in the Nepalese history was by Bottlers Nepal Ltd., from manufacturing company. Table 4.3 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 has already redeemed.

Then, Joti Spinning Mills Ltd. was the second to issue corporate bond. It had issued 14% debenture of Rs. 20 million (with par value of Rs. 1,000) in the FY 1992/93. Its issue was managed by NIDC (See Table 4.2).

Thereafter, 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. 75,870 units issue were not subscribed. Hence, the under subscription rate was 0.18 times. The issue manage was NIDC. This shows that all three pioneer issuer of debenture were manufacturing companies.

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_1) was the first bank to issue corporate bond from the banking sector in the Nepalese history but forth corporation out of total companies. Table 4.1 shows that it had issued "8.5% Himalayan Bank Bond–2066" of Rs. 360 million with par value Rs. 1,000 and semi-annual interest payment 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 were attracted towards corporate debt securities. Its issue was managed by NMB. So it can be said that the oversubscription of HBL debentures and very low subscription of SRSML debentures shows that investors prefer to invest in corporate debt securities of banking sectors rather than manufacturing sectors.

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 percentage coupon interest with semi-annual payment with 7 years maturity period 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 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.

After that, Bank of Kathmandu Ltd. had issued Rs. 200 million "Bank of Kathmandu bond, 2069" (with 6 percentage coupon interest paid semi-annually) in the FY 2004/05. Out of 200 thousand units of issue, 50 thousand units were issued to the general public and 150 thousand units were privately placed. The par value of debenture was Rs. 1,000, with maturity period of seven years. Its issue manager was NMB Table 4.1 shows that 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.

Likewise, Everest Bank Ltd. (EBL) also 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.

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.The par value of debenture is Rs. 1,000, with maturity period of 7 years (See Table 4.1). NIB bond-2070 is issued on 2063/02/26. Out of 250,000 units of issue, 80,000 were issued to the general public and 170,000 units were privately placed. 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 is 1.03 times (See Table 4.2).

Thereafter, 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. The bond is redeemable after 7 years (See Table 4.1). The bond is issued on 2063/02/29. The bond is issued and managed by AFCL. Total no. of debenture issued is 200,000 units and no. of

debenture applied is 200,000 units (See Table 4.2). This shows that after full subscription, debenture issuance has been stopped.

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 (See Table 4.1). The bond is issued on 2063/03/20. Its issue manager is CIT. Total no. of bonds issued are 200,000 units and no. of bonds applied are 232,400 units. It is over subscribe by 32,400 units. The over subscription rate is 1.16 times (See Table 4.2).

Again after a three years, Nepal Investment Bank Ltd. (NIBL) has issued Rs. 250 million "6.25% Nepal Investment Bank Bond-2071" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2007/08. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed (See Table 4.1). The bond is issued on 2064/02/16. Its issue manager is ACFL. Total no. of bonds issued is 250,000 units and no. of bonds applied is 300,000 units. It is over subscribe by 50,000 units. The over subscription rate is 1.20 times (See Table 4.2).

Similarly, Kumari Bank Limited (KBL) has issued Rs. 400 million "8% Kumari Bank Limited Bond-2070" (with maturity period of 5 years and semi-annual coupon payment) in the FY 2007/08. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed (See Table 4.1). The bond is issued on 2064/02/16. Its issue manager is ACFL. Total no. of bonds issued is 250,000 units and no. of bonds applied are 300,000 units. It is over subscribe by 50,000 units. The over subscription rate is 1.20 times (See Table4. 2).

After a 7 years, again Himalayan Bank Ltd. (HBL_2) has issued "8% Himalayan Bank Bond–2072" with par value Rs. 1,000 and semi-annual interest payment of Rs. 500 million in the FY 2008/09, with 7 years maturity periods. 100,000 units were privately placed and 400,000 units were issued to the general public out of 500,000 units of issue (Table 4.1). Table 4.2 shows that total no. of debentures issued was 500,000 units whereas total no. of debentures applied was also 500,000 units. It was neither oversubscribed nor under subscribed. Its issue was managed by ACE.

After issuing of debenture three times, again Nepal Investment Bank Ltd. has issued Rs. 250 million "8% Nepal Investment Bank Bond-2072" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2008/09. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed (See Table 4.1). The bond is issued on 2065/03/02. Its issue manager is ACE. Total no. of bonds issued are 250,000 units and no. of bonds applied are 300,000 units. It is over subscribed by 50,000 units. The over subscription rate is 1.20 times (See Table 4.2).

After the issuing of four times debenture by NIBL, one of the most leading commercial bank of Nepal called Nabil Bank Limited (NBL) has issued Rs. 300 million "8.5% Nabil Bank Bond-2075" (with the highest maturity period of 10 years from commercial band, semi-annual coupon payment) in the FY 2008/09. Out of 300,000 units of issue, 60,000 units are issued to the general public and 240,000 units are privately placed (See Table 4.1). The bond is issued on 2065/03/15. Its issue manager is NIDC. Total no. of bonds issued is 300,000 units (See Table 4.2) and bonds are redeemable.

Next corporate body was Siddhartha Bank Limited (SBL) which issued Rs. 250 million "8.5% Siddhartha Bank Limited Bond-2075" (with maturity period of 7 years and semi-annual coupon payment) in the FY 2009/2010. The bond was issued on 2067/06/09. Its issue manager is ACE. Out of 250,000 units of issue, 50,000 units are issued to the general public and 200,000 units are privately placed. (See Table 4.1) Total no. of bonds issued is 250,000 units. It is neither oversubscribed nor under subscribed (See Table 4. 2).

Finally till the report writing, Nepal Investment Bank Ltd. (NIBL) has issued Rs. 400 million 8% Nepal Investment Bank Limited Bond-2076" with maturity period of 7 years and semi-annual coupon payment in the FY 2010/11. The bond is issued on 2068/06/26. Its issue manager is NMB. Total no. of bonds issued are 400,000 units Out of 400,000 units of issue, 50,000 units are issued to the general public and 350,000 units are privately placed (See Table 4.1). Total no. of bonds applied is 412,500 units which means that it is over subscribe by 12,500 units. The over subscription rate is 1.21times (See Table 4.2).

It can been clearly observed from the Table 4.1 that although there has been a gap of 1 year between the issuance of bond by SRSML and HBL, continuous issuing of debenture securities has taken place each year thereafter. Four Nepalese banks have issued corporate bond in the same FY 2005/06 but found heavily oversubscribed and/or slightly oversubscribed. And again, other four new leading commercial banks KBL, NABIL, SBL and LBL have issued corporate bond where as HBL and NIBL has repeated in FY 2008/009. This means, more of such bond issues can be expected

Table 4.2 shows the subscription trend of corporate debentures. The 3 manufacturing sectors bonds are under subscribed. The over subscription trend is visible in case of corporate bond issued by banking sector This shows that Nepalese corporate bond market has better future growth prospects. Due to high subscription of corporate debt securities, issuing companies are lured towards debenture markets in the future. But we can see that there seems to be a trend of declining response to debentures as the numbers of issuing companies are increasing as depicted by Table 4.2.

Table 4.1: Debenture issued by the Corporate Bodies (FY 1986/87 to 2010/2011)

Co.	Yr.	Issued Amt. (M)	IPO (Unit)	PP (Unit)	CI (%)	Sector	MP (Yr)
BNL	1986/87	5	0	0	18	Mfg.	0
JSML	1992/93	20	0	0	1	Mfg.	0
SRSML	1997/98	93	0	0	14	Mfg.	C-4
HBL_1	2001/02	360	100,000	260,000	8.5	Bank	7
$NIBL_1$	2003/04	300	100,000	200,000	7.5	Bank	7
EBL	2004/05	300	50,000	250,000	6	Bank	7
BOKL	2005/06	200	50,000	150,000	6	Bank	7
$NIBL_2$	2005/06	250	80,000	170,000	6	Bank	7
NICBL	2005/06	200	50,000	150,000	6	Bank	7
NSBIB L	2005/06	200	50,000	150,000	6	Bank	7
$NIBL_3$	2007/08	250	50,000	200,000	6.25	Bank	7
KBL	2008/09	400	80,000	320,000	8	Bank	5
HBL_2	2008/09	500	100,000	400,000	8	Bank	7
$NIBL_4$	2008/09	400	50,000	200,000	8	Bank	7
NABIL	2008/09	250	60,000	240,000	8.50	Bank	10
SBL	2008/09	400	80,000	320,000	8	Bank	7
LBL	2008/09	350	50,000	300,000	8.50	Bank	7
SBL	2009/2010	250	50,000	300,000	8.50	Bank	7
NIBL	2010/2011	400	60,000	400,000	8	Bank	7

(Source: Annual Report of SEBON 2010/11)

Table 2.2: Over/Under Subscription, Types of Issue and Issue Manager (FY 1986/87 to 2010/2011)

Year	Co.	Issued (Units)	Applied (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_1	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
2007/08	$NIBL_3$	2,50,000	3,00,000	50,000	1.2	AFCL	Redeemable
2008/09	KBL	4,00,000	4,05,258	5,258	1.01	NMB	Redeemable
2008/09	HBL_2	5,00,000	5,00,000	-	-	ACE	Redeemable
2008/09	$NIBL_4$	2,50,000	3,00,000	50,000	1.2	ACE	Redeemable
2008/09	NABIL	3,00,000	300,000	-	-	NIDC	Redeemable
2008/09	SBL	4,00,000	400,000	-	-	ACE	Redeemable
2008/09	LBL	3,50,000	3,50,000	-	-	NMB	Redeemable
2009/2010	SBL	3,00,000	3,00,000	-	-	ACE	Redeemable
2010/2011	NIBL	4,00,000	4,00,000	-	-	NMB	Redeemable

(Source: Annual Report of SEBON 2010/2011)

4.1.2 Valuation of Nepalese Corporate Debt Securities

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. This study used the valuation model as described by Brigham and Houston (2001). The valuation of bond is the sum of the par that is due at the end of bond life. The specific models as:

$$V_b = I\,(PVIFA,_{k,n}) + M\,(PVIF,_{k,n^{th}})$$

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_1, $NIBL_1$, EBL, BOKL, $NIBL_2$,

NICBL, NSBI BL, NABIL$_3$, KBL, HBL$_2$, NIBL$_4$ NABIL, SBL and LBL) 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 4.4.

Table 4.3: Value of Corporate Debenture

Companies	YTM	CIR	Par Value (Rs.)	P V(Rs.)	Buy/Sell Decision
HBL$_1$	5.63%	8.5%	1,000	1,015.85	Buy
NIBL$_1$	4.50%	7.5%	1,000	1,049.37	Buy
EBL	4.48%	6%	1,000	1,023.70	Buy
BOKL	4.45%	6%	1,000	1,029.71	Buy
NIBL$_2$	4.45%	6%	1,000	1,029.71	Buy
NICBL	4.45%	6%	1,000	1,029.71	Buy
NSBIBL	4.45%	6%	1,000	1,029.71	Buy
NIBL$_3$	5.25%	6.25%	1,000	1,047.24	Buy
KBL	5.25%	8%	1,000	1,098.08	Buy
HBL$_2$	5.25%	8%	1,000	1,149.78	Buy
NIBL$_4$	5.25%	8%	1,000	1,122.55	Buy
NABIL	5.25%	8.5%	1,000	1,240.67	Buy
SBL	5.25%	8%	1,000	1,149.78	Buy
LBL	5.25%	8.5%	1,000	1,188.39	Buy

Table 4.3 shows that NIBL$_1$ debenture value (i.e., Rs.1240.67) is greater than all other debentures value. Debentures of HBL$_1$, NIBL$_1$, EBL, BOKL, NIBL$_2$, NICBL, NSBI BL, NIBL$_3$, KBL, HBL$_2$, NIBL$_4$, NABIL, SBL, and LBL 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 NABIL market interest rate (i.e., 5.25%) is less than the coupon interest rate (i.e., 8.5%), the present value of NABIL (i.e., Rs.1240.67) is more than its par value (i.e., Rs.1000).

Similarly, for $NIBL_1$ market interest rate (i.e., 5.25%) is less than the coupon rate (i.e., 7.5%), the present value of $NIBL_1$ (i.e., Rs.1049.37) is more than its par value (i.e., Rs.1000). In the similar manner, coupon rate of EBL, BOKL, $NIBL_2$, NICBL, NSBI BL, $NIBL_3$, KBL, HBL_2, $NIBL_4$, NABIL, SBL and LBL 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

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.

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

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 6.

Table 4.4: Duration of corporate debenture

Companies	YTM	C I R	Duration	Maturity Period
HBL_1	5.63%	8.50%	5.55 yrs.	7 yrs.
$NIBL_1$	4.50%	7.50%	5.70 yrs.	7 yrs.
EBL	48%	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.
$NIBL_3$	5.25%	6.25%	4.76 yrs	7 yrs.
KBL	5.25%	8%	3.90 yrs	5 yrs.
HBL_2	5.25%	8%	5.30 yrs	7 yrs.
$NIBL_4$	5.25%	8%	5.30 yrs	7 yrs.
NABIL	5.25%	8.50%	7.29 yrs	10 yrs.
SBL	5.25%	8%	5.30 yrs	7 yrs.
LBL	5.25%	8.50%	5.30 yrs	7 yrs.

The result presented in the Table 4.4 shows that all the fourteen corporate debt securities have less actual term-to-maturity than their book-term-to-maturity. HBL_1 duration 5.55 years is less than its maturity period 7 years. Also for HBL_1, market interest rate is less than coupon interest rate. Similarly, duration of bond of $NIBL_1$, EBL, BOKL, $NIBL_2$, NICBL, NSBI BL, $NIBL_3$, HBL_2, $NIBL_4$, NABIL, SBL and LBL are less than their maturity periods. Also their coupon rates are higher than 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 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 < 7 years for HBL_1, 5.70 years < 7 years for $NIBL_1$, 5.89 years < 7 years for EBL, 5.89 years < 7

years for BOKL, 5.89 years < 7 years for $NIBL_2$ and so on). Furthermore, we can see in the above table that, decreases in bonds coupon rate (i.e., for HBL 8.5% with duration 5.55 years, for $NIBL_1$ 7.5% with duration 5.70 years, for EBL 6% with duration 5.89 years and so on) increases bonds duration (See Table 4.4). This shows that duration is inversely related to coupon interest rate.

4.2 Presentation and Analysis of Primary Data

4.2.1 Introduction

This study is mainly based on questionnaire survey of the opinions of 114 respondents. Out of 114 respondents, 24 belongs to listed companies in different sectors of business, 13 respondents belongs to issue managers/brokers, 59 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 analyzing 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, factors playing vital role to attract investors towards purchasing corporate debenture, major factors of the slow growth of Nepalese corporate debenture market, reasons for using bank loan instead of issuing bond, etc. by using chi-square method.

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.

4.2.2 Analysis of Opinions Regarding Major Aspects of Corporate Debenture Market in Nepal

a) Q.No.1 Preference of securities for raising long-term fund

Common stock/equity, preferred stock, bank loan (term Loan), debt Securities (debentures), others are the option available to respondents for giving their preferences on the choice of securities preferred for raising long term funds. In their overall ranks for raising

long-term fund by using different options, 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 – II)

Table 4.5: Preference of securities for raising long-term fund

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
(a)	11	7	36	8	**62 (54.39)**
(b)	2	0	4	0	**6 (5.26)**
(c)	5	2	8	4	**19 (16.67)**
(d)	6	4	11	6	**27 (23.68)**
(e)	0	0	0	0	**0 (0)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex- II)

After analyzing the data received from all respondents on choice of securities for raising long term fund, Table 4.5 shows that out of total respondents (i.e., 114), 54.39% respondents gave their first priority to common stocks, 23.68% respondents gave their first priority to debt securities (debentures), 16.67% respondents gave their first priority to bank loan and only 5.26% 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 while least preference was given to preferred 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. 45.83% listed companies, 53.85% issue manager/broker and market maker, 61.01% individual investors and 44.44% experts gave their first choice to common stocks for raising long-term fund where as no interest has shown towards preferred stocks and others.. 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. 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 .

b) Q.No.2 Priority for long-term investment

Among the various type of long-term investment, majority of respondents gave their first preference to option 'b' (government debt securities), second preference to option 'd' (real assets), third preference to option 'c' (corporate debt securities), and no one give their priority to option 'a' (Debt securities of Manufacturing Sector) –**Annex - II**

Table 4.6: Priority for long-term investment

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
(a)	0	0	0	0	**0 (0)**
(b)	11	8	29	9	**57 (50)**
(c)	4	2	12	3	**21 (18.42)**
(d)	9	3	18	6	**36 (31.58)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex –III)

After analyzing the data received by all respondents on priority for long-term investment by all respondents, Table 4.6 shows that out of total respondents (i.e., 114), 50% respondents gave their first preferences to invest in government debt securities, 31.58% respondents gave their first preferences to invest in real assets, only 18.42% respondents gave their first preferences to invest in corporate debt securities and no any respondents gave their first preference to invest in Manufacturing debt securities. This shows that the majority of the respondents gave first preference to invest in government debt securities. But second highest percentage of respondents gave their first priority to invest in real assets as these have high capital gain and less investment risk. Thirdly, only 18.42% respondents give first priority to invest in corporate debt securities as these have higher risk in comparison other two alternatives.

In addition, each group's response on preferable type of long-term investments is analyzed. The majority of respondents, i.e. 45.83% listed companies, 61.53% issue managers/brokers and market makers, 49.15% individual investors and 50% experts gave their first preference to invest in government debt securities whereas least preference was given to first option 'a' (manufacturing debt securities) i.e. only 0%. This shows that although corporate debt has good return with less investment risk. Nepalese investors are least interested to corporate debt securities in comparison to government debt securities and real assets

c) Q.No.3 Reasons for using bank loan instead of issuing debentures by Nepalese corporate organizations:

In regard to the question about the 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 – II)

Table 4.7: Reasons for using bank loan instead of debentures

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
(a)	11	7	31	9	**58 (50.88)**
(b)	7	5	14	6	**32 (28.07)**
(c)	4	1	10	3	**18 (15.79)**
(d)	2	0	4	0	**6 (5.26)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex – III)

After analyzing the data received from all respondents on priority of reasons for using bank loans instead of issuing debentures by Nepalese corporate organizations, Table 4.7 shows that out of total respondents (i.e., 114),majority of the respondents 50.88% respondents gave their first priority to bank loan instead of bond issue as it is easily available. Similarly, 28.07% respondents gave their first priority to bank loan because the collection of funds by issuing bond is a lengthy process.15.79% respondents gave their first priority the cost of bank loan is less than that of bond issue for using bank loan instead of Bond issue. Remaining 5.26% respondents specified various others reasons as first cause for using bank loan instead of bond issue.

Furthermore, each group's response on reasons for using bank loan instead of issuing bond is analyzed. The majority of respondents, i.e. 45.83% listed companies, 53.85% issue managers/brokers, 52.54% individual investors and 50% experts gave their first priority to bank loan instead of issuing debentures by Nepalese corporate organization as bank loan is easily available.

d) Q.No.4 Factors that play vital role to attract investors towards purchasing corporate debentures:

In reference to the question regarding the factor that plays vital role to attract investor towards purchasing corporate debentures (bonds), the first prominent factor was option 'a' (fluctuating interest rate on deposit) while the second, third, fourth and fifth options were 'e' (less risky in comparison to common stock and preferred stock), option 'c' (fixed income), option d' (liquid assets), option 'b' (lack of investment alternatives) respectively –(Annex – II)

Table 4.8: Factors attracting investors towards corporate debentures

Options	L. C.	I. M / B.	Ind. Inv.	Expert	Total
(a)	9	6	23	10	**48 (42.11)**
(b)	3	1	6	0	**10 (8.77)**
(c)	2	2	10	1	**15 (13.16)**
(d)	4	0	7	2	**13 (11.40)**
(e)	6	4	13	5	**28 (24.56)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex-III)

Table 4.8 shows that out of 114 respondents, 48 respondents, i.e. 42.11% of them purchased corporate debentures because of declining interest rate on deposit whereas 28 out of 114, i.e. 24.56% respondents purchased corporate debentures due to less risk in comparison to common stocks and preferred stocks. Fixed income was the first vital factor for 15 out of 114 respondents, making its percentage to be 13.16% While 11.40% of respondents purchased corporate debenture securities because of portfolio with less risk .Lack of investment alternative was the major factor for attracting investor towards purchasing corporate debentures (bonds) for 8.77% of total respondents. Each group responses has also been analyzed for further clarification which shows that 37.50% of listed companies, 46.15% of issue manager/brokers and market makers, 38.98% of individual investors and 55.56% of experts ranked declining interest rate on deposit as the most important factor.

e) Q.No.5 Reasons for slow growth of Nepalese corporate debt market in Nepal:

In response to question regarding the main reason for slow growth of Nepalese corporate debenture(bonds), first priority was given to option 'a' (lack of investors awareness towards debt securities), second priority to option 'd' (limited issuance of quality bonds), third priority of option 'c' (lack of proper legal provision), fourth

priority of option 'b' (lack of capital gain opportunity) and finally fifth priority to option 'e' (poor practice of information disclosure by private organization) by the 114 respondents–(Annex – II)

Table 3: Reasons for slow growth of Nepalese corporate debt market

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
(a)	11	4	31	5	**51 (44.74)**
(b)	2	2	6	2	**12 (10.53)**
(c)	4	2	8	4	**18 (15.79)**
(d)	5	3	10	5	**23 (20.18)**
(e)	2	2	4	2	**10 (8.77)**
	24 (100)	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex-III)

Table 4.9 shows that out of total 114 respondents, 51 respondents i.e. 44.74% respondents considered lack of investor's awareness towards debt securities as the first reason for the slow growth in debt market. Similarly, 23 respondents, i.e. 20.18 % considered limited issuance of quality of bonds as the major reason. 15.79% respondents gave their reasons due to lack of proper legal provision, 10.53% respondents gave their reasons for lack of capital gain opportunity .Remaining 8.77% respondents gave their reasons due to poor practice of information disclosure by private organization as the first major reason for the slow growth in debt market

In addition, while analyzing each group's responses on their reasons, we see these results. 11 out of 24 i.e. 45.83% of listed companies.4 out of 19 i.e. 30.76% of issue managers/brokers, 31 out of 59 i.e. 52.54 % of individual investors and 5 out of 18 i.e. 27.78% experts gave their first priority to lack of investors awareness towards debt securities (Table 4.9) as the major reason. From the respondents' point of view, it is clear that the most important factor for slow growth of Nepalese corporate debt market is lack of investor's awareness.

f) Q.No.6 Do you have any investment in corporate debentures/bonds?

In response to the question "Do you have any investment in corporate debentures/bonds" 56 out of 114, i.e. 49.12% replied "Yes" and the remaining of them i.e. 50.88% replied "No" This shows that there is negligible difference between the number of respondents who have and have not invested in corporate debenture.(Annex – II)

Table 4.10: Investment in corporate debentures

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Yes	17	10	15	14	**56 (49.12)**
No	7	3	44	4	**58 (50.88)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex – IV)

Table 4.10 shows that the majority of respondents, i.e. 17 out of 24 or 70.83% of listed companies, 76.92% of issue mangers/brokers, 25.42% of individual investors and 77.78% experts of respondents replied "Yes" while remaining respondents replied "No" .It is evident from the above table that large no of individual investor are still not interested in investing in corporate debenture. The reasons for it may be many.

g) Q.No.7 Do you think that political instability hinder the growth of corporate bond market in Nepal?

A question had been asked to total no of respondents about the political instability hinder the growth of corporate debt in Nepal. Out of total respondents (i.e. 114), 93 respondents i.e. 81.58% of respondents think that the political instability is the barrier for the growth of corporate debt market while 18.42% do not think that the political instability really affect the growth of corporate debt market in Nepal. The majority of respondents think that political instability is the barrier for the growth of corporate debt market in Nepal–(Annex – II)

Table 4.11: Political instability hinder the growth of corporate debenture

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Yes	18	9	51	15	**93 (81.58)**
No	6	4	8	3	**21 (18.42)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex-IV)

Furthermore, each group response on the political instability hinders the growth of Nepalese corporate debt market is analyzed.18 out if 24 listed companies, i.e.75% listed companies, 9 out of 13, i.e. 69.23% of issue managers/brokers and experts, and 86.44% of individual investors and 15 out of 18 experts i.e. 83.33 of experts agree with the statement that the political instability hinder the growth of Nepalese corporate debt market.

h) Q.No.8 Is stock issue easier than debenture issue?

The above question had been asked to 114 respondents in which 75 respondents answered "Yes" and remaining 39 respondents replied "No". In terms of percentage 65.79% of respondents found issue of stock easier than debenture issue–(Annex – II)

Table 4.12: Issue of stock easier than debenture issue

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Yes	19	7	38	11	**75 (65.79)**
No	5	6	21	7	**39 (341)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex-IV)

Table 4.12 also shows that 19 out of 24 listed companies ,7 out of 13 issue managers, brokers, 38 out of 59 individual investors and 11 out of 18 experts thinks the issue of stock is easier as compared to issue of debenture.

i) Q.No.9 Do you think the present rules and regulations are sufficient for Nepalese capital market growth for corporate debt market in Nepal?

A question had been asked to the total no. of respondents about sufficiency of the present rules and regulations for Nepalese corporate market growth for corporate debt in Nepal, Table 4.13 shows that out of 114 total respondents 32 respondents i.e. 28.07% respondents were satisfied with the sufficiency of the present rules and regulations of Nepal capital market growth for corporate debt in Nepal while the major portion 71.93% respondents was not satisfied with legal provisions. This shows that the majority of respondents replied that the present rules and regulations are not sufficient for Nepalese capital market growth for corporate debt in Nepal–(Annex – II)

Table 4.13: Sufficiency of legal provision for debt security market

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Sufficient	7	4	17	4	**32 (28.07)**
Insufficient	17	9	42	14	**82 (71.93)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex-IV)

In addition, while analyzing each group's response on sufficiency of present rules and regulation for Nepalese capital market growth for corporate debt market in Nepal, 17 out of 24 listed companies, 9 out of 13issue managers/brokers, 42 out of 17 individual

investors and finally14 out of 18 experts have not satisfied with the present rules and regulations of Nepalese capital market is sufficient. In terms of percentage 70.83% of listed companies, 76.92% of issue managers/brokers, 71.18% of individual investors and 77.78% of experts are not satisfied with current rules. This analysis also shows that the major portion of dissatisfaction is among issue managers.

j) Q.No.10 What is your view about present pace of corporate debentures (bonds) market growth in Nepal?

In response to the question regarding the view about Present Pace of Corporate Debenture (Bond) Market Growth in Nepal, 74 out of 114 respondents i.e. 64.91% of total respondents opined that present pace of corporate debenture market growth in Nepal is weak. Similarly, 20.18% respondents agree with option satisfactory, 7.02% respondents agree with the option very weak, 6.14% respondents agree with the option very good while only 1.75% of respondents opined 'don't know'–(Annex – II)

Table 4.14: Present pace of corporate debenture market growth

Options	L.C.	I.M./B	Ind. Inv.	Experts	Total
Very good	3	2	2	0	**7 (6.14)**
Satisfactory	5	2	12	4	**23 (20.18)**
Weak	14	7	39	14	**74 (64.91)**
Very Weak	2	2	4	0	**8 (7.02)**
Don't know	0	0	2	0	**2 (1.75)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex –IV)

In addition, each group's responses on present pace of corporate debenture market growth in Nepal are analyzed.14 out of 24 listed companies i.e. 58.33% of listed companies, 7 out of 13 issue managers/brokers i.e. 53.85% of issue managers/brokers, 39 out of 59 i.e. 66.10% of individual investors and 14 out of 18 i.e. 77.78% of experts opined that present pace of corporate debenture market growth in Nepal is weak. As shown in Table 4.14**.** This shows that a lot of work is needed from the concerned authority, government bodies, SEBON, NEPSE and other concerned experts group for the development of corporate debenture market which is still in the creeping stage of its development.

4.2.3 Test of Hypothesis

a) Testing of hypothesis in Q. No. 1

Hypothesis – 1

In 114 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 4.15: Hypothesis test on choices of securities

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Common Stock/Equity	11	7	36	8	**62**
Preferred Stock	2	0	4	0	**6**
Bank Loan	5	2	8	4	**19**
Debt Securities	6	4	11	6	**27**
Total	**24**	**13**	**59**	**18**	**114**

(Source: Annex-III)

Hypothesis Testing

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

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

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

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

$R_1C_1 = \frac{62 \times 24}{114} = 13.05$

Similarly,

$R_1C_1 = 13.05$ $R_2C_1 = 1.26$ $R_3C_1 = 4$ $R_4C_1 = 5.68$

$R_1C_2 = 7.07$ $R_2C_2 = 0.68$ $R_3C_2 = 2.17$ $R_4C_2 = 3.08$

$R_1C_3 = 32.09$ $R_2C_3 = 3.11$ $R_3C_3 = 9.83$ $R_4C_3 = 13.97$

R_1C_4= 9.78 R_2C_4= 0.95 R_3C_4= 3 R_4C_4= 46

Table 4: Test of Chi-Square (Hypothesis – 1)

Observed Frequencies (O)	Expected Frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
11	13.05	-2.05	0.322
7	7.07	-0.07	0.0007
36	32.09	3.91	0.4764
8	9.78	-1.78	0.3239
2 0 4 6 0	1.26 0.68 3.11 0.95 6	0	0
5 2 7	4 2.17 7.12	0.12	0.002
8	9.83	-1.83	0.3407
4 6 14 4	3 5.68 11.76 3.08	2.24	0.4267
11 17 6	13.97 18.23 46	-1.23	0.08097
Total			**1.97337**

Test Statistics under Ho,

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

χ^2 = 1.97337

Degree of freedom = (R-1) (C-1) – 7 [Since 7 degree of freedom loss due to pooling]

= (4-1) (4-1) - 7

= 2

Critical Value or Tabulated Value = the critical value of $\chi 2$ at 5% level of significance for 2 d. f. is 5.99.

Decision: Since the calculated value of χ^2 is less than the tabulated value (i.e., 1.97337< 5.99), 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 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 1.97337 and critical or tabulated value at 5% level of significance for 2 d. f. is 5.99. 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.

b) Testing of hypothesis in Q. No. 3

Hypothesis – 3

In 114 random samples of respondents, it contains the following distribution which was noted on the basis of related fields. The test is to draw the reasons regarding the use of bank loan instead of issuing debenture:

Table 4.17: Hypothesis testing on use of bank loan instead of issuing debenture

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Essay Access to Bank Loan	11	7	31	9	**58 (50.88)**
Lengthy Process of Issuing debentures	7	5	14	6	**32 (28.07)**
Cost of bank loan is less than Bond Issue	4	1	10	3	**18 (15.79)**
Others	2	0	4	0	**6 (5.26)**
Totl	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex-III)

Hypothesis Testing

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

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

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

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

$R_1C_1 = \frac{58 \times 24}{114} = 12.21$

Similarly,

R_1C_1=12.21 R_2C_1= 6.74 R_3C_1= 3.79 R_4C_1 = 1.26

R_1C_2= 6.61 R_2C_2= 3.65 R_3C_2= 2.05 R_4C_2 = 0.68

R_1C_3= 30.02 R_2C_3= 16.56 R_3C_3= 9.32 R_4C_3 = 3.11

R_1C_4= 9.16 R_2C_4= 5.05 R_3C_4= 2.84 R_4C_4 = 0.95

Table 4.18: Test of Chi-Square (Hypothesis – 3)

Observed Frequencies (O)	**Expected Frequencies (E)**	**O-E**	$\frac{(O-E)^2}{E}$
11	12.21	-1.21	0.1199
7	6.61	0.39	0.023
31	30.02	0.98	0.03199
9	9.16	-0.16	0.00279
7 5 **12**	6.74 3.65 **10.39**	1.61	0.24948
14	16.56	-2.56	0.3958
6 4 **11** 1	5.05 3.79 **10.89** 2.05	0.11	0.00111
10	9.32	0.68	0.04961
3 2 0 **9** 4 0	2.84 1.26 0.68 **8.83** 3.1 0.95	0.17	0.00327
Total			**0.87695**

Test Statistics under Ho,

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

$\chi^2 = 0.87695$

Degree of freedom = (R-1) (C-1) -7 [Since 7 degree of freedom loss due to pooling]

= (4-1) (4-1) - 7

= 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., 0.87695< 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 reason for use of bank loan instead of issuing debenture.

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 1.7906 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 opinion regarding reason for use of bank loan instead of issuing debenture.

c) Testing of hypothesis in Q. No. 4

Hypothesis – 2

In 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 that play significant role to attract investors towards corporate debenture.

Table 5: Hypothesis testing on the factors attracting investors towards corporate debenture

Options	L.C.	I.M./B.	Ind. Inv.	Experts	Total
Fluctuating Interest Rate on Bank Deposits	9	6	23	10	**48**
Lack of Investment Alternatives	3	1	6	0	**10**
Fixed Income	2	2	10	1	**15**
Portfolio with Less Risk	4	0	7	2	**13**
Less Risky in comparison to Common Stock and Preferred Stock	6	4	13	5	**28**
Total	**24**	**13**	**59**	**18**	**114**

(Sources: Annex-III)

Hypothesis Testing

Null Hypothesis (H_o): There is no significant difference between observed and expected opinions regarding to the factors that plays vital role to attract investors towards purchase of corporate debentures.

Alternative Hypothesis (H_1): There is significant difference between observed and expected opinions regarding to the factors that plays vital role to attract investor towards purchase of corporate debentures.

Fixing the level of significance at 5%

Calculation of expected frequencies (E):

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

$R_1C_1 = \frac{48 \times 24}{114} = 10.11$

Similarly,

R_1C_1= 910.11 R_2C_1= 2.11 R_3C_1= 3.16 R_4C_1= 2.74 R_5C_1= 5.89

R_1C_2= 5.47 R_2C_2= 1.14 R_3C_2= 1.71 R_4C_2= 1.48 R_5C_2= 3.19

R_1C_3= 24.84 R_2C_3= 5.18 R_3C_3= 7.76 R_4C_3= 6.73 R_5C_3= 14.49

R_1C_4= 7.58 R_2C_4= 1.58 R_3C_4= 2.37 R_4C_4= 2.05 R_5C_4=4.42

Table 6: Test of Chi-Square (Hypothesis – 2)

Observed Frequencies (O)	Expected Frequencies (E)	O-E	$\frac{(O-E)^2}{E}$
9	10.11	-1.11	0.12186
6	5.47	0.53	0.05135
23	24.84	-1.84	0.1363
10	7.58	2.42	0.77261
3 1 10 6	2.11 1.14 8.43 5.18	1.57	0.29239
0 2 4 2	1.58 3.16 6.45 1.71	-2.45	0.93062
10	7.76	2.24	0.6466
1 4 5 0	2.37 2.74 6.59 1.48	-1.59	0.38362
7	6.73	0.27	0.01083
2 6 12 4	2.05 5.89 11.13 3.19	0.87	0.06801
13 18 5	14.49 18.91 4.42	-0.91	0.04379
		Total	**3.45798**

Test Statistics under Ho,

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

$\chi^2 = 3.45798$

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 $\chi 2$ at 5% level of significance for 3 d. f. is 7.82

Decision: Since the calculated value of $\chi 2$ is less than the tabulated value (i.e. 3.45798< 7.82), the null hypothesis (Ho) is accepted at 5% level of significance for 3 degree of freedom, which means there is no significant difference between observed and expected opinions regarding to the factors that plays vital role to attract investor towards purchase of corporate bond/debenture.

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 3.45798 and critical or tabulated value at 5% significance for 3 d. f. is 7.82. It can be said that opinions of four respondents groups are similar and there is no significant difference with respect to the factors that plays vital role to attract investor towards purchase of corporate debenture/ bond

d) Testing of hypothesis in Q. No. 9

Hypothesis – 4

In random samples of respondents, it contains the following distribution which was noted on the basis of related fields. The test is to draw conclusion regarding the sufficiency of the present rules and regulations for Nepalese corporate market growth for corporate debt in Nepal.

Table 7: Hypothesis testing on sufficiency of legal provision for debt security market

Options	**L.C.**	**I.M./B.**	**Ind. Inv.**	**Experts**	**Total**
Sufficient	7	4	17	4	**32 (28.07)**
Insufficient	17	9	42	14	**82 (71.93)**
Total	**24 (100)**	**13 (100)**	**59 (100)**	**18 (100)**	**114 (100)**

(Source: Annex-IV)

Hypothesis Testing

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 R_iC_j = $\frac{Row\ Total \times Column\ Total}{Grand\ Total}$

$R_1C_1 = \frac{32 \times 24}{114} = 6.74$

Similarly,

R_1C_1=6.74 R_2C_1=17.26

R_1C_2=3.65 R_2C_2=9.35

R_1C_3=16.56 R_2C_3=42.44

R_1C_4=5.05 R_2C_4=12.95

Table 4.22: Test of Chi-Square (Hypothesis – 4)

Observed Frequencies (O)	**Expected Frequencies (E)**	**O-E**	$\frac{(O-E)^2}{E}$
7 4 **11**	6.74 3.65 **10.39**	0.61	0.03581
17	16.56	0.44	0.01169
4	5.05	-1.05	0.21832
16	17.26	-1.26	0.09198
8	9.35	-1.35	0.19492
40	42.44	-2.44	0.14028
14	12.95	1.05	0.085135
Total			**0.778135**

Test Statistics under Ho,

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

$\boldsymbol{\chi^2}$ = 0.778135

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 $\chi 2$ 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., 0.778135< 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 0.778135 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

The major findings from the above analysis are depicted as follows:

4.3.1 Major Findings from Secondary Data Analysis

Secondary data indicates that the history of corporate debenture is very short and it is in infancy stage. The first instance of issuing debenture in the Nepalese history was by Bottlers Nepal Ltd. in the FY 1986/87.In 1993/94 and 1997/98 JSML and SRSML had also issued 20,000 and 93,000 no. of debenture respectively with par value Rs. 1,000. At the time of issuance SRSML financial condition was not very good condition so that company's debenture was heavily under subscribed only 18 % debentures were sold. It showed that investors were not interested towards manufacturing sectors` debenture securities and SRSML convertible debenture was redeemed before the maturity period.

After issuing corporate debenture by three manufacturing companies 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 amounting to Rs. 260 million from the banking sector in the Nepalese history in the FY 2001/02. Thereafter NIBL, EBL, BOKL, NICBL and NSBIBL had also issued debenture securities and all these five banks debenture securities were highly over-subscribed. This indicates that the investors preferred to invest more in corporate debt securities of banking sector than that of manufacturing sector

As stated in the textbook by Van Horne (2002), Alexander (1999), and Ronald and Donald (2000); higher coupon rate always attracts the large no of investors .Although the coupon rate of debenture (14%) of SRSML was higher than the market interest rate (10.25%), but it was heavily under subscribed instead of attracting large no. of investors. Very low subscription of SRSML debenture may be due to lack of people's awareness towards corporate debenture and also lack of people's interest towards manufacturing and trading companies. But the coupon rate of debenture securities of banking sector higher than market interest rate agree with the writers' statement by attracting large no. of investors. If this result continues, corporate debt securities will attract large no. of investors. 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. Banking sector are benefited like foreign private companies are enjoying benefits of debentures, which also shows good prospect of Nepalese debentures market growth as well.

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) when the market interest rate is less than the coupon rate, the value of a bond is more than its par value. This concept was strongly supported by Nepalese corporate debt securities. The market interest rate (i.e., 5.55%) of HBL_1 is less than the coupon interest rate (i.e., 8.5%), the present value of HBL_1 (i.e., Rs.1,015.85) is more than its par value (i.e., Rs.1000). In the similar manner, coupon rate of $NIBL_1$, EBL, BOKL, $NIBL_2$, NICBL, NSBI BL, $NIBL_3$, KBL, HBL_2, $NIBL_4$, NABIL, SBL and LBL are greater than market interest rate, and due to that their present values are greater 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 make profit in the future from price gain.

This analysis has been based on the model developed by F.R. Macaulay (1938) for calculating the weighted average time of Nepalese corporate debt securities. The analysis shows that all the fourteen corporate debt securities have less actual term-to-maturity than their book-term-to-maturity. HBL_1 duration 5.55 years is less than its maturity period 7 years. Also for HBL_1, market interest rate is less than coupon interest rate. Similarly, duration of bond of $NIBL_1$, EBL, BOKL, $NIBL_2$, NICBL, NSBI BL, $NIBL_3$, HBL_2, $NIBL_4$, NABIL, SBL and LBL are less than their maturity periods. Also their coupon rates are higher than 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).

Duration is directly related to price volatility because 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. 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.

4.3.2 Major Findings from Primary Data Analysis

On the basis of the response received on questionnaire sent to 114 respondents i.e. listed companies, issue mangers/brokers, individual investors and experts ,the major findings have been obtained .These findings have been analyzed using chi-square test and other statistical tools in line with the objective to identify problems and prospects of growth of corporate debenture in Nepalese security market.

- In relation to the preference regarding choice of securities for raising long term fund, the majority of respondents gave their first priority to the Common stocks. In the view of investors, common stock is more popular between investors than other securities. Not only the investors but also the listed companies, issue managers/brokers, experts' major preferences are also significantly high in favor of common stocks. Majority of the companies used common stock for raising long-term fund, as it is already popular to investor and easy to subscribe. Other underlying reasons for this may be the poor practice of issuing other investment alternatives as preferred stocks, corporate debentures. Besides, due to very few availability of investment alternatives, majority of investors are familiar with common stock only. 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.

- The opinions of the respondents regarding choices of long-term investment shows that the majority of respondents (i.e. listed companies, issue managers/brokers and market makers, individual investors and experts gave their first preference to invest in government debt securities whereas least preference was given to manufacturing debt securities. This reflects that Nepalese investors are least interested to corporate debt securities in comparison to government debt securities and real assets although they have good return with less investment risk.

- The opinions of the respondents regarding the factors that attract investors towards purchasing the corporate debt securities shows that majority of respondents gave their first preference in favor of fluctuating interest rate on bank deposits. Second important factor was considered to be being less risky in comparison to common stock and preferred stock .Similarly, lack of investment alternatives, fixed income, and portfolio with less risk are considered to be consecutively other necessary factor to attract investors towards corporate debentures. Nepalese investors are risk averter, they like to invest in less risky securities and corporate debt securities match their choices. On the other hand,

declining coupon rate are unable to cover increasing inflation rate, this can be serious problem of Nepalese corporate debenture market. If this problem is managed, some better future prospects of corporate debenture market can be seen.

- Respondents view regarding the causes for the slow growth of Nepalese Corporate Debenture Market shows that lack of investors awareness towards debt securities has been the major burning issue. Whereas limited issuance of quality bonds, lack of proper legal provision are among others which also add fuel to this issue. Hence, it is crucial to derive public awareness towards debt securities and their advantages to gain investors' awareness. The numbers of investors for corporate debt securities will increase towards if the corporate sector issues quality bonds. Similarly steps should be taken towards maintaining sufficient proper legal provision in order to protect investors' rights and mutual benefits and timely disclose price sensitivity information to cope with these problems. Finally, the result of hypothesis test agrees with this statement too A better future prospects for corporate debenture market is visible if this problem can be sorted out.

- As far as the opinion of the respondents regarding the reasons for using bank loan instead of issuing bond by Nepalese organization are concerned, the major highlighted issues are easy availability of bank loan, lengthy and difficult process of collection of funds, less cost on bank loan rather than issue bond and others. Among these factors the most determining factor was easy availability of bank loan. The majority of respondents supported this reason. Besides, they also opined that very lengthy and difficult process of issuing debentures is also the major factors for choosing bank loan instead of corporate bond. And some respondents said that high rate of bond issue and others factors are the major factors of using bank loan instead of issuing bond by Nepalese organization. Finally, the result of hypothesis test agrees with this statement too.

- With respect to the investment in corporation debentures, majority of respondents of each sector replied yes except general investors .However, on the overall basis the major portion of respondents opinion was No. As per the survey, it is visible that major portion of the individual investors replied "No"

which means general investors are far from awareness towards investment on corporate debenture markets. On the contrary, other respondents like Brokers, Listed companies are well acquainted with corporate debenture market .As a result they have been investing on corporate debenture market. This infers that information about debt securities should be provided to the general investors through reliable means. to increase large number of investors,

- Political instability is another issue that hinders the growth of Nepalese corporate debentures market. It's significantly suffering Nepalese debentures market growth. Political instability in form of domestic war, emergency declaration, strike, lock-out etc. activities are creating problems for developing country to develop their economic growth so the Nepalese debenture market also suffering from it whether directly and indirectly.

- Majority of investor still finds issuing ordinary shares easier as compared to corporate debt. 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. Lack of investors' awareness towards debt securities, lack of proper legal provision are also important issues because of which investor prefer stock in relation to corporate debt.

- It is evident from the above analysis that the present rules and regulations for growth of Nepalese Corporate debenture market is not sufficient. This has been clarified with respect to the views received from the respondents. Majority of respondents said that there are lack of investors protection act, trust act, listing provision of debentures in NEPSE is insufficient .Besides that present practice of poor information disclosure from manufacturing and trading companies, high broker's commission, shows the insufficiency of present rules and regulations of corporate debt securities market of Nepal. In addition to that 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. are also burning issues those need to be rectifies at the earliest.

- In response to the question regarding the view about Present Pace of Corporate Debenture (Bond) Market Growth in Nepal 64.91% of total respondents opined that present pace of corporate debenture market growth in Nepal is weak. This infers that only 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 favor of satisfactory whereas least of them chose option "I don't know" but they are individual investors. The major reason behind the slow pace may be the lack of public awareness due to which very few debt instruments are in practices .Hence, efforts should be directed towards providing better infrastructure facilities continuously for the systematic growth of capital market, revising legal rules and regulation and making it workable for the mutual benefits of issuers and investors, , establishing credit rating agencies, and making compulsion for timely disclosure of information etc punishing the cheaters, making computerized system instead of open cry in NEPSE. These efforts will help to overturn the blocking stones and ensure smooth growth of corporate debenture market.

- Easily and smoothly operating primary and secondary market of public debentures indicates significant prospect of private sectors debentures market too if problems are cured in tire.

- .Review of literature shows that debentures have least cart, value can be maximized. Differed equity financing project may be lunched etc. Nepalese debentures companies like Himalayan bank ltd, Everest bank ltd, Nepal investment bank ltd may be benefited like foreign private companies are enjoying benefits of debentures, which also shows prospect of Nepalese debentures, market growth too.

- The activities followed by NEPSE and SEBON 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 SEBON. 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.

CHAPTER 5
SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Capital market is the catalyst for the economic development of a country. Capital market typically involves financial assets (stocks, debentures) that have life span of greater than one year. Capital market helps the economy of the country to rise up. The securities market is essential for the sound development of an economy because it only not provides stable long-term capital for corporation and an effective saving vehicle for the public but also acts as an efficient tool for resource allocation. Corporate debt securities should be well developed and well functioning since debt securities market is being significant contributor in capital market development. There is no controversy whether this sector should be developed or not.

In the context of Nepal, capital market is very lean in providing investment alternatives to the investors. It can be said that the present capital market is almost monopolized by the equity shares. The history of corporate debt securities in Nepal started with the issuance of debenture by Bottlers Nepal Ltd. in the FY 1986/87. In 1993/94 and 1997/98 JSML and SRSML had also issued corporate debenture but both JSML and SRSML debenture were heavily under subscribed. Thereafter, some banking sector has issued redeemable debenture which were heavily oversubscribed. Only 14 issuance of corporate bond are seen from the period of FY1986/87 to FY2010/11 in the Nepalese history. The major reasons for low interest of investors towards debt securities are lack of strength secondary market, poor practice of other debt instruments, very low interest rate and lack of issuers and investors' awareness.

This study is based on primary as well as secondary sources of information. The study of existing corporate debenture market of Nepal was accomplished by using secondary data for the period of FY1986/87 to FY2010/11. The valuation and duration of corporate debt securities are analyzed by using the secondary data for the period of FY2001/02 to FY2010/11.

Similarly, survey of respondents has been accomplished by using primary data of 114 respondents. Out of 114 respondents, there are 24 from listed companies, 13 from issue managers/brokers, 59 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 opinions of each respondent group were 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.

There are many problems which hinder the growth of corporate debentures and bond market in Nepal. 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 from bank loan so they are not interested to issue debenture securities because of poor discloser of information and insufficient legislation. Therefore only countable companies have been practicing issuing corporate debenture like securities.

There are many problems such as insufficient legislative provisions regarding Nepalese debentures market, political instability, poor price sensitive information disclosure, investors more preference on ordinary shares, insufficient infrastructure, lengthy process of issuing debenture, lack of top tier corporate organization. Like this way, there is problem of high preferences of investors on commercial banks (like, HBL, NIBL, EBL) debentures issue.

Investors have not significant positive attitude towards debentures and debentures are still being new security for Nepalese investors. Nepalese debentures market has been suffering from uncertainty of subscription and there is lack of market makers in creation of debentures market. The trend of issuing corporate debt securities is increasing but not at satisfactory level. Participation of individual investors in purchasing corporate debt securities is also not at satisfactory level. There are bureaucratic procedures as well as lack of cooperation and proper coordination among control mechanism. NEPSE is still running through the same traditional method and lacks sophistication in it activities. Although computer system has recently started for purchasing and selling of debentures in Kathmandu, other regions still have to

completely rely on open-cry system in, which may be problem of tomorrow secondary market of debentures too.

There are not only problems in Nepalese debentures market. The research has found many prospects of debenture market growth, which can improve preset conditions of debentures market. Additional capital supply, tax saving of debentures, government tax rebate on debentures interest income, means of meeting deficit budget, growth annually in public debentures outstanding, increase in debentures issue approvals market growth. Debentures approval position is growing and there are not significant problems in primary and secondary market of public debentures, which are also indication of Nepalese debentures market growth prospect. To sum up, conditions do apply and the blocking walls for growth of corporate debentures market are tall. However, the truth cannot be neglected that there is huge prospects for the development of corporate debenture market in Nepal if these constraints are worked out.

5.2 Conclusion

The capital market of Nepal 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. So it is needless to say that the present capital market is almost monopolized by the equity shares. The corporate debt securities market is a key element of capital market. However, since 1986/87 to till this report writing, only 14 corporate debentures are issued but most of them are from banking sector. Out of 14, 3 were issued by manufacturing companies. However, they were undersubscribed while debentures from banking sector were oversubscribed. 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 be increased. Recently, many factors shows that the corporate debt securities market has started to grow in comparison to the past. 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 it can be concluded that issuance of quality bonds

with better characteristics features by better performing corporate houses is the demand of present corporate debenture market.

Nepalese debentures market is still in initial stage or under developed stage. There are many problems, which are restricting its growth prospects. 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, dominance of debenture market by credit oriented transaction, and investors' particular preferences on debenture issuing companies are major problems of Nepalese corporate debentures market. Increasing number of finance companies which are providing higher interest rate on deposits, continuously decreasing interest rate of debt securities are also critical issues due to which general investors are showing poorer responses to the debenture issue. Furthermore, NEPSE and SEBON have weak and ineffective working system. NEPSE is being the trading place of limited listed shares through traditional open cry system and computerized system is lacking except in Kathmandu valley.

If these problems can be solved in time, corporate debenture/bond market is very promising in Nepal. Investors' desire to invest in risk free asset, declining interest rate on deposits of commercial banks, increasing issuance trend of corporate debenture, growing participation of banking sector in issuing debentures, lots of public support towards banking sector's debentures, etc. shows the growth prospects of debt securities 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 securities market which will encourage the corporate debt market growth. Thus, for systematic growth and development of Nepalese corporate bond market as well as overall capital market above mentioned issues must be copped by developing competitive strength on the one hand and capturing opportunities on the other hand.

5.3 Recommendations

The corporate debt securities market is a key element of capital market. However, in the context of Nepalese financial market, the overall important systems of debentures market are sick, lazy, traditional and less effective. Concerned bodies i.e., government, corporate sector, issue managers/brokers, individual investors, and institutional mechanism are not performing their responsibilities effectively. The study has identified various blocking walls that hinder the growth of corporate debenture market in Nepal. Thus, few suggestions have been given below to these concerned bodies for the overall development of Nepalese corporate debenture market.

a) To Government

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

- The current political stability as well as security of the nation is deteriorating day by day. This has been adversely affecting the overall development of country. Capital market is also not free from the impact of this situation. Hence, government should initiate steps to ensure stable political scenario and maintain peace and safety in country at the earliest. Besides this, credit rating agency should also be established.

- Tax rebate had promoted American bond market. Likewise, Nepal government should offer facilities like tax exemption on income of debt securities; repurchase facility etc. to attract individual investors towards debt securities, which helps to collect needed funds for corporate sectors.

- Investors interest protection act should be issued, implementation and monitoring should make efficient and effective regarding debentures market.

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

- NEPSE and SEBON have weak and ineffective working system. SEBON should ensure the timely disclosure of price sensitive information.

- 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.

b) To General Investors

The world investor can be categorized into two types- Individual Investor and Institutional Investor. From the field survey, it has found that majority of investors aren't interested towards corporate debt securities. At the present debentures market, it has found lack of confidence and positive attitude towards debentures.

- During the field survey, it is found that majority of Nepalese investors are not interest towards corporate debentures market. It can be due to lack of knowledge about corporate debentures. They should extend their present investment by properly analyzing risk and return on bonds/ debentures.

- 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.

- Investors should call investors protection act and they should enforce corporate bond issuing companies to enlist that bond issue in NEPSE

- Investor's should invest their times in studying bonds/debentures of companies.

c) To Corporate Sector

Corporate sector is an important stakeholder of corporate debt securities market. During the study, it was observed that corporate sector prefer other financing alternatives rather than debt security. General investor cannot have confidence in debt security unless corporate sector build confidence in debt security and issue debenture/bonds for raising the fund.

- Company should provide continuous and timely disclosure of price sensitive information to the investors that may help to earn good reputations, as result investors likes its securities.

- Corporate sectors should increase interest rate on debt securities. To attract more investors toward corporate 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.

- Companies should issue quality bonds that attract the individual investors.

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

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

- Research and development on debentures and bonds should be promoted and financial performance of manufacturing sector should be improved Capital structure should be made dynamic.

d) To Institutional Mechanism

The Nepal Government has made arrangement of various institutional mechanisms for directing, regulating and controlling Nepalese debentures market. To name a few are NRB, NEPSE, ROC, SEBON etc.

- 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

- Nepal Rastra Bank should encourage in debentures and bonds flotation while meeting capital adequacy problem. It should direct towards dynamic capital structure.

- Security Board of Nepal (SEBON) should co-operate NEPSE. Procedures of reviewing debentures prospect and issue approval should be quick. SEBON should add additional provisions that help to protect investors' interest. SEBON

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.

e) To Securities Legislation

Existing inappropriate provision must be removed and new required provisions should be introduced. New laws relating to investors interest protection, trust act and local authorities right relating to municipal bond issue should be formulated immediately.

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