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## Bond Investments in Nepal

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## ABSTRACT

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Bonds are among the major investment instruments in the world along with stocks. Stocks are shares of the individual companies, but bonds are debt. Investors on bonds are paid interest on loans they have lent to the entities and government while stockholders are part of the ownerships of the companies they have invested on and get dividends depending on the companies' financial performance.

The Nepalese bond market is relatively small and has not done effective work in the security market for years. Nepal Stock Exchange (NEPSE) is the only trading floor that trades mainly shares and comparatively low numbers of development bonds in the country. On the other hand, the USA being the major developer of the bond market in the world has different types of bonds to invest in and the yield curves and credit rating agencies that help to analyze investors to risk their capital.

The neighboring country India still also has an underdeveloped debt market where the two main factors corruption and political instability are quite similar to that of Nepal. Though it has some credit rating agencies which Nepal totally lacks, it has been found that ratings by such agencies are misleading to investors.

While considering the present financial market situation in the country, bankers, brokerages, and academicians have some recommendations to all the parties involved in the trading of every kind of assets, especially debt security. With their many years of experience they have proposals to the government of Nepal on how the bond market could be developed in a shorter time and why is it critical to let people know about bonds and bond terms for the country's economic growth.

## **ABSTRAKTI**

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Velkakirjat ovat merkittävä sijoitusinstrumentti osakkeiden ohella. Osakkeet ovat osa yhtiötä, mutta velkakirjat ovat velkaa. Velkakirjojen omistavielle sijoittajille maksetaan korkoa, kun taas osakkeiden omistajat omistavat osakkeiden kautta myös osan yhtiöstä, johon he ovat sijoittaneet. Usein heille maksetaan osinkoa riippuen yhtiön taloudellisesta suoriutumisesta.

Nepalin velkakirjamarkkina ovat suhteellisen pien, eikä ole suoriutunut tehokkaasti arvopaperimarkkinoilla vuosiin. Nepalin Pörssi on maan ainoa kaupankäynnin paikka, jossa vaihdetaan osakkeita ja velkakirjoja. Toisaalta, Yhdysvalloissa puolestaan on erilaisia velkakirjatyyppejä sijoituskohteina sekä velkakirjaluokitusvirastoja, jotka auttavat sijoittajia riskeeraamaan pääomansa.

Naapurimaassa Intiassa on myös melko kehittymättömät velkakirjamarkkinat, ja siella korruptio sekä poliittinen epätasapaino on samanlaisia kuin Nepalissa. Vaikkakin Intiassa on joitain velkakirjaluokitusvirastoja joita Nepalissa ei ole, on käynyt ilmi, että ne ovat harhaanjohtavia.

Ottaren huomioon maan tämän hetkisen taloudellisen tilanteen, pankkiireilla, kiinteistövälittäjillä sekä akateemikoilla on suosituksia kaikille osapuolille koskien resurssien, ja erityisesti velkakirjojen, kaupankäyntiä. Heidän vuosien kokemuksen johdosta heillä on ehdotuksia Nepalin hallitukselle siitä kuinka velkakirjamarkkinoita voisi kehittää lyhyessä ajassa, ja kuinka se on kriittistä tiedottaa ihmisseille velkakirjoista ja niiden tärkeästä asemasta maan taloudellisessa kehityksessä.

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## LIST OF ABBREVIATION

<b>NRB</b>	<b>Nepal Rastra Bank</b>
<b>GDP</b>	<b>Gross Domestic Product</b>
<b>NEPSE</b>	<b>Nepal Stock Exchange</b>
<b>SEBON</b>	<b>Security Board of Nepal</b>
<b>NYSE</b>	<b>New York Stock Exchange</b>
<b>TRACE</b>	<b>Trade Reporting and Compliance Engine</b>
<b>NASD</b>	<b>National Association of Security Dealers</b>
<b>FINRA</b>	<b>Financial Industry Regulatory Authority</b>
<b>BOD</b>	<b>Board of Director</b>
<b>NASDAQ</b>	<b>National Association of Security Dealers Automated Quotations</b>
<b>S&amp;P</b>	<b>Standard and Poor's</b>
<b>DJIA</b>	<b>Dow Jones Industrial Average</b>
<b>IRR</b>	<b>Internal Rate of Return</b>
<b>CRISIL</b>	<b>Credit Rating and Information Service of India</b>
<b>IICRA</b>	<b>Investment Information and Credit Rating Agency</b>
<b>CARE</b>	<b>Credit Analysis and Research</b>

## 1 INTRODUCTION

In simple terms, a bond is a paper issued by governments or other corporations when they need money to invest in projects. This bond is issued to the public at a certain price determined by the public authorities or companies. The issuers owe the holders a debt and promise to pay the interest annually or semiannually and pay back the principal amount in the maturity period. It is just like shares and stocks issued by the companies in the secondary market but bonds act differently than shares as bond holders are paid interest, generally semiannually while shareholders are paid dividend depending on companies' rule and profit. In Nepal, mainly government bonds are issued. This thesis discusses the concept of issuing bonds in regards of the companies in Nepal, both of the private and public sectors. Since stocks are commonly traded by the corporations, people are unaware of bonds and bond funds and the joint stock companies have not issued bonds because of comfortable and stronger stock markets. It will also highlight the functions of bonds in the security market as how they can help both companies and the lenders. The main objective of the thesis is to emphasize the Nepalese corporations in context of issuing bonds and at the same time encouraging people to make investments. When the government of Nepal cannot act as it should, people are losing money they have invested. So, the aim of this paper is getting another side of bond investment i.e. corporate bonds.

### 1.1 Objectives of the Study

The main objective of this project is to inform people about the bonds in the security market. We focus to analyze the development of the bond market in Nepal; both government and the corporates by trying to find the challenging factors in the present situation of Nepalese bond market. For this reason, it is more reliable to compare the situation with the bond market of the neighboring country, India about what significant changes can be made to improve the security market of Nepal.

## **1.2 Problems and Limitations of the study**

The development of the bond market in Nepal is very difficult and challenging although it is very small compared to other developed security markets in the world. There exist a limited number of listed companies, number of brokers are few and most prominently the investors have not enough knowledge of merits and demerits of the market. Nepal has now diversified the financial sector with an increasing number of financial institutions totally controlled and licensed by Central bank of Nepal, Nepal Rastra Bank (NRB). Currently there are 30 commercial banks classified as A Class, 76 development banks classified as B class, 47 finance companies of C class and minor number of co-operative banks and non-governmental organizations. (Nepal Rastra Bank, Banking, and Financial Statistics. As of July 2015)

The main problem here is lack of different types of securities in the financial market. The capital market of Nepal is still in its first stage of development. Since the mid-80s, it just began the financial sector reform by the establishment of the banking system to the private sector and started the way for the conception of financial institutions. The fiscal year 2009 demonstrates the banking system dominating the Nepalese financial system with assets accounting for 73% of the Gross Domestic Product. On the contrary, the domestic bond market had slightly 13% of GDP in the same fiscal year. It reflects that the bond market of Nepal is still underdeveloped and only ruled by government securities.

To raise money for short term and long-term financing, the government issues treasury bills and national saving certificates. It also issues development bonds which are traded through Nepal Stock Exchange (NEPSE). However, the size of the development bonds is small to satisfy the demand for investments of institutional investors. Similarly, comparing to government securities, fixed deposits with banks provide a higher rate of returns which is why investors do not prefer government securities much. Commercial banks hold approximately 55% of the government securities to meet the liquidity requirements. Nepalese government bond market lacks scopes as issuance is likely to be unpredictable, weakening the

government's validity as a borrower and dismantling the volume of liquid debt instruments needed to develop a yield curve. Due to the passive secondary market, the corporate bonds' market pricing is absent. (Securities Board of Nepal, Annual report 2011-12. Accessed date 12.12.2017)

During the fiscal year of 2010, the corporate bonds just comprised 5% of the total Nepalese bond market. Investors lacking their confidence have caused nearly no issuance of the corporate bonds. Reasons behind this perception of investors are companies' poor transparency of financial reports, lacking corporate governance standards and most importantly not having the system of credit ratings as in other nations. The valuable overflow effects in an economy of the country can highly depend on the development of the bond market. The infrastructures development, as to mention electricity, roads, transportations, and water supply, are Nepal's most current and substantial demands. These aspects need long term capital investments where bond market development plays a crucial role. But some detracting facts have ruined the progress of Nepalese bond market:

- A. Capacity lacking for effective public debt management;** Government debt securities' issuances rely on immediate financial necessity. The central bank of Nepal, also known as NRB, lacks a systematic cash management process to guide decisions on the volume and the issuance of government debt securities. This is the case of upcoming financial securities but the main cause here is lack of performance capacity to control debt and cash management functions and the assessment of the risks fundamental of the existing government debt structures.
- B. Weak legal, supervisory, and institutional foundation;** the cause of the underdeveloped bond market in Nepal is due to the overall rules and regulations that governs the financial markets and banking sectors. In Nepal, the limited number of commercial banks has dominated the financial market. Weaknesses in accounting and auditing standards and corporate governance have decreased the confidence of the investors. Similarly, both

the central bank (NRB) and the Securities board of Nepal (SEBON) have few rules and regulations established for the bond market.

- C. *Lack of credible long-term yield;* there is a lack of an established effective yield curve due to the absence of sufficient and systematic trading data on long term bonds. Without the exact trading data information of long term bonds, it is difficult to set up a yield curve to reflect pricing and interest rates of such corporate and government bonds. An unreliable issuance calendar, minimal volumes in the primary market and insignificant liquidity in the secondary market contribute to the lack of effective benchmark.
- D. *Insufficient issuers and investor base;* both institutional and individual investor base are not sufficient in Nepal to support the security market. Institutions such as insurance companies and pension funds are restrained from investing freely in the bond market because of regulations and guidelines. Lacking mutual funds mean small investors cannot afford funds to participate in the debt securities market.
- E. *Primary dealer system and secondary market;* The government of Nepal does not have the system of primary dealer, that means there is no any firm available that acts as a market maker of the government debt securities. As mentioned earlier only commercial banks and financial institutions are the ones buying the treasury bills sold on auction basis. So, secondary market activities in such treasury bills are low or there is no provision of repurchase facility to the other investors by the central bank.
- F. *Insufficient bond market infrastructure;* the central market infrastructure is not sufficient in Nepal to support a well-functioning bond market. It lacks securities settlement systems as well as central depository system.
- G. *Absence of credit rating agencies and specialized market intermediaries;* Credit rating assists the progress of trading of securities in the secondary market. Investors are highly influenced by such rating agencies and at the same time encouraged to make investments. But the potential investors are

not reported with the market opportunities because of the absence of rating agencies and lacking specialized market intermediaries such as bond research analysts and fixed-income brokerage houses.

**H. High cost of trading and taxation;** on every financial security, the income generated is highly taxed. Interest income taxed at 6% for individual bond holders and 15% for the institutional investors. Consequently, this leads to a trouble in the deduction of tax at source on interest payments during settlement after trades. (Capital market and infrastructure support project. Accessed Date: 10.08.2016)

The research of this thesis is entirely focused on the present situation of the bond market in Nepal. This project is limited to the assessment of the difficult factors in the country's debt market and the amendments that can possibly be made to it with the help of suggestions and guidelines provided by the people involved in this research.

### **1.3 U.S. Corporate bond and the use of TRACE**

This section discusses the U.S. corporate bond market, the basics of corporate bonds and their way of trading. It can be said that the corporate bonds are the principal source of external financing of U.S. companies. The corporate bond market in the USA is very massive. At the end of 2006, the outstanding principal in the corporate bonds was \$5.3 trillion, much larger than municipal bonds transaction.

In the U.S., corporate bonds are contractual promises with the usual face value of \$1000 made by the issuing companies. The "coupon interest rate" is typically paid in installments of 2 times per year. After the initial issuance of bonds, they are traded among dealers and investors in the secondary market where the prices depend on the market perception that the issuing companies would make the promised payments and on economy wide interest rates. Bonds sold by the firms to the public should compulsorily be registered in the Securities and Exchange Commission. Alternately, privately placed bonds are required to be sold only to officially recognized investors. These investors as mentioned by Securities and

Exchange Commission include certain institutes, for instance insurance companies and pension funds.

Companies that issue bonds also hire credit rating agencies to evaluate their debt obligations. Top ranked rating agencies: Standards and Poor's, Moody's and Fitch group hold collectively approximately 95% of the global market share. These rating agencies assign ratings in ordinal to bond issues with the association that highly rated bonds are less likely default on determined payments. The important aspect is the label of bonds and other debt obligations as "Investment Grade" like that of S&P's rating BBB or better and Moody's Baa or better. On the other hand, bonds not rated as "Investment Grade" are high-yield or junk bonds.

Securities market can rely on limit orders, dealer markets or both. In the early decades, corporate bonds were most importantly traded in the New York stock exchange's limit order market. The limit order markets rely on the compliances by investors at any price level to buy and sell or below/above at specific "limit" price. Corporate bonds trading largely migrated away from the New York stock exchange to a dealer-oriented "over-the-counter" market during 1940s (Biais and Green 2007). As defined by the Securities Exchange Commission. "Over-the-counter" market is generic for markets that are not legally organized as "Exchange". Till the date, some corporate bonds are still traded in NYSE. The average traded bonds in NYSE were only 20 in numbers (\$ 20,000 approximately (Hong and Warga, 2000). As of 2002, about 5% of all bonds were NYSE- listed (Edwards, Harris and Piwowar 2007). On the contrary, the dealer market for corporate bonds is normally controlled by large institutional investors. The average trade size in over-the-counter dealer market for institutional trades was \$2.7 million (Bessembinder, Maxwell and Venkataraman 2006).

Corporate bonds are favorable investments for institutes like pension funds and insurance companies. So, quotations are normally provided to the institutional traders in response to phone calls requests. That means before the introduction of **Trade Reporting and Compliance Engine (TRACE)**, the prices of the transaction were only reported to the parties involved in a trade unlike most stocks. Individual

investors had less access to market information than institutes before the TRACE inception. But when Securities and Exchange Commission published the TRACE rules in the beginning of 2001, the bonds trades were matter to public reporting.

With the TRACE rules, for each trade of corporate bonds, the dealer was subjected to report the date and time of execution by identifying the bond, trade size, price and yield. This reported information has now been scattered to the public to create better transparency into the financial markets. Investors and public can access information in the website of Financial Industry Regulatory Authority (FINRA) to view and download market data which includes pricing and volumes of corporate bonds. The systematic studies of TRACE's effects have focused on customers' trading costs parallel to the Kyle's (1985) concept of "tightness on liquidity": which is the cost of completing a buy or sell transaction in short period.

Per the theory, costs of trading seem to decline in a transparent market for specific reasons. Firstly, increase in transparency can assist the progress for implementation of rules against excessive additions or subtractions in retail price relative to an open market. TRACE has helped for the establishment of the current market price for bonds because it is against the Rule 2440 of National Association of Securities Dealers (NASD, now the Financial Industry Regulatory Authority FINRA) for a member to buy or sell securities at any price not reasonably connected to the current market price of such securities. Secondly, better transparency improves dealers' ability to share risks, thereby decreasing dealers' inventory carrying costs, which also reduce could customers' cost of trading (Naik, Neuberger and Viswanathan 1999).

Also, with the empirical evidence on TRACE has been the matter of many articles which have concluded that the increased transparency is associated with the ample declining in investors trading costs. It has also been found in several articles in the financial and trade press which support the common consequence of academic studies that trading costs declined with TRACE, particularly for retail traders. As quoted in Bravo 2003, a commentator from a fixed-income research service mentioned "before TRACE, it would not be unheard of for a trader to use the fact

that there was no way of verifying the information that he gave about where a bond was trading to his advantage.”

But contradicting, Vames (2003) quoted what a fixed-income trader at an investment company referring to the post-TRACE environment is saying “You have not to go to three or four different people to find out where something is trading...When you have access to TRACE information, you have a better idea where things are before you make your first call.” “Increased transparency has clearly helped the small investors and small funds...Many investors now think the real benefit of TRACE lies in knowing that they are not being raked over the coals”, stated a bond trader (Laughlin 2005).

In general, the statistics indicate that the beginning of TRACE in corporate bond markets has somewhat reduced the costs of investors that they had to pay to dealer firms for executing their trades. But an article published by International Herald Tribune concluded that in late 2006, transparency has accelerated the downturn of Wall Street’s oldest professions. “One-fourth of all corporate bond traders, analysts, brokers have lost their jobs in the past two years” (Pittman and Salas 2006b). Similarly, post-TRACE bond dealers hold no large inventories of bonds. With transaction reporting, knowledge of the dealers’ inventory may allow market participants to forecast upcoming trades the dealers will attempt to reconcile inventory. These forecasts in turn may cause price movements averse to them. However, the corporate bond trading activity has shown a slight upward trend during 2001 to 2006. The increase in transparency has benefited investors through reductions in the bid-ask extent that they had to pay to the bond dealers. (Bessembinder et. Al 2008)

## 2 SECURITIES

Securities market lies within the broad area of financial market where purchases and sales transactions take place based on demand and supply. A “security” can be any note, stock, treasury stock, security future, security-based swap, bond, and debenture if it must be simply defined. It is a form of ownership which can easily be traded in the secondary market. Securities are easy to price and so they are the fundamental value of the asset. The creation of securities has helped for the extremely large success of the financial markets.

As a security holder, the investment represents a person to be an owner or a creditor. In Nepal, the security board manages securities transactions and the activities of all the financial professionals for the fraud prevention and assure as if they are under the laws.

The market practice by which securities are transferred temporarily from one party, the lender to another, the borrower is an important business which can be described as “Securities Lending.” In the process of this practice, the lender is obliged to pay a specific amount of interest based on agreed terms whereas the borrower is obliged to return the securities to the lender at the end of the agreed term. (Fabozzi 2005)

A significant issue for knowing how the securities marketplace works is to better understand how the securities are brought into the marketplace. Securities that are trading in the primary market means they are in the process of being brought to the market place. Generally, this activity reports for lower figures of volume than that of operated in the secondary market. The plurality of trades carried on in securities marketplaces around the world daily are the securities that have been brought to the marketplace at a prior point in time and these securities are said to be trading in the secondary market.

It requires special skills and methods for the process of bringing securities to the marketplace. The methods for issuing securities depend upon their types; equity or debt and the historic practices within the financial center. In many cases, issuer publishes details as:

- quantities of shares/stocks and bonds issued and issue price
- detail of the company's activities
- intention for cash raising
- company's financial history

This is the information for potential investors before they make an investment decision. (Simmons 2003)

Below is a description of various types of securities traded in the securities market generally around the globe:

## **2.1 Shares**

Purchasing shares of a company means particularly that an investor has some portion of ownership. Corporations selling shares to the public are public companies and they do it to raise money for products and services development, research and operations expansion. In a most simple way, when a company issues one million shares of stock and an investor has bought twenty thousand shares, then he is subjected to an ownership of 2% ( $20,000/1,000,000$ ) of the company. Investing in a company means purchasing shares of stock in that corporation hoping that the investors later could sell them more than the price they paid for and to get dividends during the time an investor owns them. When the company is financially doing well the value of the investors shares rise and vice-versa when the company does not perform well. (North and Cases 2012)

In the definition of the Indian Companies Act, section 2(46), a share has been defined as “a share in the share capital of a company and it includes stock.” Capital of the company is divided in the units called shares. (Rachchh Minaxi A, 2010)

Corporations issue different types of shares with different rights. Shares are normally classified into two kinds: Preferred and common/equity shares. Common stocks are also referred to as ordinary shares and are the most common share type in the financial market. Dividend paid on common stocks vary with the earnings and profit made by the corporation. It is normally decided by the Company's Board

of Directors (BOD). On the other hand, preferred shares have certain rights differing with that of ordinary shares for instance right to receive higher dividends. Such stocks have higher priority to the company's earnings and assets and in case of the dissolution of the company. When a company is financially weak, it offers investors with preferred stocks entitled to specific dividend and other conditions like redemption dates given in bonds. So, these types of stocks are between bonds and common stocks.

Additionally, a company may also decide to issue different classes of common stocks with different voting rights and dividends. For example, "A" stocks have full voting rights and "B" stocks have no voting rights and cash dividends. Small investors who do not have capacity to afford the high price of A stocks (tens of thousands of dollars of each share) prefer B stocks for instance Warren Buffett's Berkshire Hathaway shares and some wealthy investors are also attracted to these share classes because cash dividend is not paid on these shares to avoid income tax. (Mobius 2007)

Stock exchanges are the most vital divisions of the secondary market where securities are traded. The trading of the shares is done in the stock market. Stock exchanges have geographical locations where dealers and brokers meet to operate orders from institutional and individual investors for securities dealing. People playing in the field on the floor of stock exchange are the stockbrokers who work all day to help other people/investors purchase and sell shares of the corporations (Gomez 2008).

The US stock market is the largest in the world. Investors show their keen interest in investing in US stock markets due to various reasons:

- Differing stock categories
- Absolute persuasive rules and regulations
- High market liquidity and trading volume
- Transparent market and
- Tax-free from capital gain taxes

In the US stock exchange, the numbers of the listed companies are more than ten thousand and the market value totals more than US \$20 trillion. The New York stock exchange (NYSE) has dominated the world's securities market. The other two stock exchanges; NASDAQ stock market and American stock Exchange respectively are major stock exchanges in the United States. (*Chief Securities Limited, Introduction to US Stocks, Accessed Date: 11.03.2015.*

- NYSE; Formed in 1792, it is one of the world's oldest and superior equities market. Linked with the NYSE Group family of exchanges, the trade volume of US equity under NYSE is more than any other exchange group. It includes 78% of the **S&P 500** and 90% of the Dow Jones Industrial Average of the world's largest corporations. NYSE is owned by Intercontinental Exchange (NYSE: ICE), a leading network of standardized exchanges and clearinghouses for financial and commodity markets. (*Intercontinental Exchange. Accessed Date: 12.03.2015*)

Stock market index is the mathematical measurement of the number of shares traded as a group. The components of the S&P500 index are determined by S&P Dow Jones Indices (S&P DJI), the world's largest global resource for index-based concepts, data, and research. S&P DJI publishes over one million indices including industry leading indices such as S&P500, Dow Jones Industrial Average and the S&P/Case Shiller Home Price Indices.

To calculate the value of S&P500 index, here is a basic formula:

$$\text{Index level} = (\sum P * Q) / \text{divisor}$$

On the right-hand side, the numerator is the price of each stock of all 500 companies in the index which is multiplied by the number of shares used in the calculation of index. The denominator is the divisor. Now, for instance if the sum in the numerator is US\$ 10 trillion and the divisor is US\$ 9 billion the index level then would be 1111. Here, in real world it should be noted that the divisor is firm's property and not publicly displayed but normally it is around US\$ 9 billion.

(*S&P DOW JONES INDICES, McGraw Hill Financial, Accessed Date: 16.03.2015*)

Here is an example of a basic stock quote of Apple Inc.; The Company manufactures and markets mobile communications and media devices, computers, and digital music players and including products and services like iPhone, Mac, iPad Apple TV. APPLE'S stock price has faced price volatility in the past. It assumes that the stock price would reflect expectations of future growth and profitability and cash dividend will grow. The common stock of the company is traded under NASDAQ STOCK MARKET LLC with the symbol AAPL.

(UNITED STATES SECURITIES AND EXCHANGE COMMISSION, Annual report of APPLE INC., Accessed date: 18.03.2015)



**Figure: 5 years Stock Price chart of Apple Inc.**

The chart above demonstrates the Price per share of the Apple Inc. from the period of 2010 to early 2015. As of March 17th, 2015, the last real time price is \$127.04 which is 1.67% increase from the previous day and the share trading volume of 50 million. From the price of around \$30 in 2010, there was dramatic increase in late

2012 at around \$100 per share. The figure also shows a drastic fall in the price in mid-2013 and has significantly reached upwards after that year. The market capitalization is around \$738 billion of latest 17<sup>th</sup> March 2015 and the annualized dividend is \$1.88. (Apple Inc. Interactive stock chart, Accessed Date: 18.03.2015)

Market capitalization of a company refers to the value which is computed by the total number of shares outstanding multiplied by the share price of that company (Fridson and Alvarez 2002)

## 2.2 Bonds

Fixed income securities in the debt securities market are bonds and they are cornerstone of the world's economy. Bonds are fixed securities in the sense that once interest rate is set, an investor knows the amount of return he/she gets back if held till maturity. Unlike stocks, bonds holders are creditors to the issuing corporations or governments and are not part of ownerships or profitability of the firms, entitling investors only the promised interest and the principal amount repayment at the time of maturity. (Parameswaran 2011)

Investors should be aware of number of characteristics existing within bonds, but they can be identified with just a few features, one or two:

- *Issue size and Date* of the bonds are the number or quantity of the bonds issued by the corporations and government and the starting day of the bonds issued when it begins to collect the interest respectively.
- *Issuer* is a very crucial factor to be considered. Investors are assured to get paid back their money following issuer's stability. Issuers are four of a kind: local government authorities, supranational bodies such as World Bank, sovereign governments, and corporations. A wide range of issuers exist within the corporate bond markets and their abilities to pay back are labeled by the credit ratings.
- *Face value* also known as par value or the principal amount is the amount of money a bond holder gets back when the bond matures as agreed by the

issuer. In the US, corporate bonds have the usual par value of \$1000 but may be more in case of government bonds. The market value of the bond can be below and above the par value depending on level of interest rates and current bond's status. The face value is not the real price of the bond because the price fluctuates throughout the bond's period in existence of number of variables. Bonds traded at the price above the face value is said to be selling at premium and below the face value is said to be trading at discount.

- *Coupon rate* also referred to as nominal rate is the interest rate that the issuer agrees to pay every year once or twice. The amount of the money of this rate is called coupon. The table above shows the coupon amount (\$50) paid every year where the coupon rate is 5%. In USA, UK and Japan, the coupon is paid semi-annually. In case of Eurobond market, payments of the coupon are made annually and sometimes in the quarterly basis. Normally all bonds make periodic interest payments but zero-coupon bonds as exception.
- *Maturity* is the date in the future on which the issuer repays the obligation or the principal. Maturities of bonds can range from one year to even more than 30 years. Term to maturity is a significant consideration in bond market as it indicates the time over which the investors expect to receive the interest. Term to maturity has effect on bond's yield. The cause of fluctuating price of bonds is due to change in the yields over the time. So, volatility of a bond's price rely on maturity i.e. longer the bonds' maturity greater the price volatility due to change in yields. (Chaudhry 2010)

Along with the above terms used in bonds, there are some other important financial terms referring to the bonds;

### 3 BONDS CURRENT YIELD AND YIELD TO MATURITY

Current Yield is a ratio to the annual coupon interest to the market price of the bond. In mathematical terms, it can be expressed as:

Current Yield= Annual coupon interest/Price. For example, when a bond is selling at \$90 of the bond having face value of \$100 and the coupon rate is 5% then it's current yield would be:  $(\$100*5\%)/\$90 = \$5/\$90 = 5.55\%$ .

When the bond is selling at a discount, the current yield is always higher than the coupon rate and vice-versa in the condition of bond selling at premium. Sells at discount means YTM (Yield to Maturity) > current yield > coupon yield while sells at premium means coupon yield > current yield > Yield to Maturity. Thus, sells at par value refers to current yield = yield to maturity = coupon yield. Current yield only refers to the bond's yield at the current situation and does not reflect the total return throughout the bond's life. (Fabozzi 1997)

The figure below presents the current yield and yield to maturity of the bond having par value of \$1000 maturing in 10 years with the coupon of 8%. When a bond is selling at \$1048 current yield is 7.6% and yield to maturity is 7.3% and when the bond is selling below par value at \$967 yield to maturity is greater than current yield i.e. 8.5% > 8.3%. (Mayo 2011)

Price of Bond	Coupon	Current Yield	Yield to Maturity
\$1,107	8.0%	7.2%	6.5%
1,048	8.0	7.6	7.3
1,000	8.0	8.0	8.0
967	8.0	8.3	8.5
911	8.0	8.8	9.4
882	8.0	9.1	9.9
883	8.0	9.6	10.8
798	8.0	10.0	11.5

**Table: Current yield and yield to maturity at 8% coupon of a 10-year bond**

(Source: Herbert Mayo. *Basic Finance: An Introduction to Financial Institutions, Investments and Management*. Cengage Learning 2011)

However, current yield does not acknowledge the time value of money because the present value of the coupon payments in the future is not considered by the current yield. So, here exists the necessity of measurement of yield to maturity. Yield to maturity is the internal rate of return (IRR) gained by the investors with the assumption that the bond will be held till maturity. (Tsay 2014)

The standard definition of yield to maturity is “it is the single discount rate which, when applied to all future interest and principal payments, yields a present value equal to the purchase price of the security” (Shawn, Hatem, and Paul 2008).

Calculation of yield to maturity is not easier because it estimates the total amount that a bond earns throughout its life. However, it is not a forecast that an investor will earn on a bond as YTM can only be earned under certain circumstances like bond to be held till maturity and the coupon the investors earn to be reinvested. From the above figure, how is the YTM be 9.9% at the bond price of \$882? Simply applying it to the formula one can value the outcome:

**Present value** =  $(C/(1+r)) + (C/(1+r)^2) + \dots + (F/(1+r)^t)$  where,

**Present value is Price of the bond** = \$882

**C means Cash flow** or the yearly coupon to be reinvested = \$80

**t means life of bond** = 10 years

**F means the Face Value** = \$1000

So, when calculated, this gives result to **r or YTM** = 9.9%.

A systematic computer program and financial calculator is used to measure yield to maturity.

Bonds, the debt instruments like bank loans symbolize cash flow payable during a specific period but can be traded in the secondary market in contrast to bank loans (Chaudhry 2010).

When the investor(s) purchase(s) bonds, he/she is entitled to a fixed set of cash payoffs. Until the maturity period of bonds, regular interest payments are collected annually or semi-annually. At the time of maturity, along with the final interest payment, the investors get back the face value of the bond called bond's principal. Here we take an example of commonly valuing a certain type of bond: Suppose that in January 2015, an investor decides to purchase \$1000 face value of 5% US government bonds maturing in January 2020. Annually, the investor is subjected to an interest payment of  $5\% * 1000 = \$50$  or payment made twice in a year of \$25. This interest amount is commonly known as coupon. So, when the bond matures in 2020, the government pays the final \$50 interest plus the principal amount of the investor, \$1000. (Brealey, Myers and Allen 2014) The cash payments for this bond are below:

Cash Payments, US \$				
2016	2017	2018	2019	2020
\$50	\$50	\$50	\$50	\$50

It has been familiar that treasury bonds, notes and bills are traded in the fixed-income market. In the USA, the U.S. Treasury raises the capital by regular auctions of new bond issues. Notes normally mature in 10 years and less while some of the bonds even do not mature for 20 to 30 years. Short term debt issued by the Treasury is less than a year maturing. (Brealey, Myers and Allen 2014)

Let's look at the model of a US government bond where coupons are paid semiannually. The Treasury issued bonds in 1985 maturing in 2015 at 11.25% which are called "the 11.25s of 2015", face values of always \$1000. The coupon payment an investor receives is 5.625% of face value ( $11.25/2$ ) twice in a year or

every six months. (Brealey, Myers and Allen 2014) The sample taken from *The Wall Street Journal's* web page shows the entry for 11.25s of February 2015 where the asked price that an investor needs to pay to buy the bond is 100.3594 meaning that 11.25% bond costs 100.3594% of \$1000 face value or \$1003.594. The sample also shows a yield to maturity of 0.217% (or  $0.217/2 = 0.108\%$  paid semiannually) if the bond is held till maturity. (*The Wall Street Journal, Accessed Date: 01.04.2015 U.S.Treasury Quotes*)

So, why does the price of the bonds in the secondary market have an inverse relationship with the market interest rates? Referring to the previous example of 11.25s of 2015, if an investor demands a semiannual return of 4% instead of 0.85% then with the application of the *Present Value* formula the price of the bond would be \$1203.05 instead of \$1331.40. (Brealey, Myers and Allen 2014)

Continuing with another detailed example, a one-year bond with the interest rate of 6% yields \$1060 in the end. But what happens if the interest rate in the market increases to 8%? Now the investor will not be paying \$1000 for the same bond. As commonly known bond maturity time, coupon and the par value are fixed and symbolize the contractual agreement at the time of initial issues. So, here remains the price of the bond or the present value that the investors are willing to pay to get back \$1060 in maturity. At 8% interest rate the amount \$981.48 would be the present value. (Burton and Brown 2014)

The yield to maturity does not only consider coupon income but also the capital gain and loss that the investors will bear by holding the bond till maturity. (Fabozzi and CFA 2001)

The value \$981.48 an investor paid will result in \$60 of interest at maturity in addition to the capital gain of amount \$18.52 i.e. the price paid subtracted by the par value ( $\$1000 - \$981.48 = \$18.52$ ). For checking, if the interest and the capital gain is added and then divided by the paid price ( $\$78.52/\$981.48=0.8$ ) gives a result to 8% yield. Since, the bond is traded below the par value and known as *Discount from Par*. Higher yield to maturity in the existing bonds draws attention of the purchaser while the lower yield to maturity on those bonds is unattractive to

the potential customers because, conversely if the interest rate changes to 4% from 6% the price of or the present value of the bond would be \$1019.23. It means the bond is traded above the par, commonly known as *Premium above Par*. The capital loss here is \$19.23 which when divided to the purchase price represents a 4% yield. Summing the examples up that is why when the bond price falls; yield to maturity or the market interest rate rises. The lower interest rate gives a result to a higher price. (Burton and Brown 2014)

It can also be concluded that the longer the term to maturity, the greater is the change in the price of the bond. The price of the bonds maturing in fewer years fluctuates less than the longer-term bonds (Burton and Brown 2014).

Along with the two main measures: current yield and yield to maturity, the market participants also consider other yield measures like **yield to call and yield to worst** (Fabozzi and CFA 2001):

### 3.1 Yield to call and Yield to worst

Yield to call assumes that the bond is called at the certain time schedule by the issuer and the call price is the price specified in the called schedule. When the bonds are called before the maturity, customers want their bond value based on the yield to call. It is an estimated yield that would be provided to the investors if called before maturity. Let us consider an 8-year bond of face value \$1000 selling at \$1063.6 at the coupon of 6% with supposing the first call date to be in 3 years. The call price is 103%. Just like the yield to maturity calculation, the computation of the yield to call with the help of present value formula is 4.6%. (Fabozzi and CFA 2001)

For every possible call date, a yield can be measured and additionally, a yield to maturity also can be calculated. So, the lowest of these yields is said to be yield to worse. Taking an example of this, in a callable bond there are only four possible call dates and the yield to call is 5%, 5.5%, 5.7% and 6% for each call date. Then the yield to worst should be 5% since it is the lowest yield to call. But basically, yield to worst does not hold significant meaning as it has underlying assumptions. (Fabozzi and CFA 2001)

The credit of the U.S. government supports U.S. Treasury bonds. These bonds are the greatest segment of the U.S. bond market. The U.S. agency bonds are not backed by the U.S. government but have higher credit ratings and are commonly issued by Federal government agencies. Some of the common types of bonds are described below along with various bond types issued by the U.S. Treasury such as U.S. saving bonds.

- Corporate Bonds: Corporations issue corporate bonds to raise financing for different reasons. The common reasons to issue these types of bonds include companies' expansion, purchasing of new plants and equipment, and the acquisitions of the companies. Rating of these bonds are highly dependent on the creditworthiness of the corporations. Comparing to municipality and U.S. government, corporations have higher risk of default which leads to have lower ratings thus paying higher yield. (Martha 2009)
- Municipal Bonds: Dissimilar to the corporate bonds, municipal bonds are issued by cities, counties, and tax districts for fulfilling projects such as infrastructures development (roads, bridges, public schools and hospitals). General obligation bonds and revenue bonds are the types that fall under municipal bonds. General obligation bonds are assured by the tax authorities who issue the bonds and interest paid is tax exempt normally. While in case of revenue bonds, investors are paid per the income generated by the completion of the projects.
- Zero Coupon Bonds: By the name, zero coupon bonds have no coupon, or they do not pay interest to the investor but are sold at broad discount. At the time of maturity, investors get the face value of the bond. So, the face value subtracted to the discounted price is assumed as the interest gained by the investors. (Martha 2009)

U.S. government and the agencies can raise millions of dollars each year by issuing number of bonds, debt notes and bills. These securities are the safest investments

in the whole world. Like the stocks, U.S. Treasury bills, bonds, and notes are subjects to transferable securities i.e. investors can sell them to other companies and individuals. (Martha 2009)

- Treasury Bills: Also, known as T-bills, they are the short-term needs of the federal government. T-bills are identical to the zero-coupon bonds as the investors don't receive interest checks. Coming in basic denominations of \$10,000, they have maturities of 12, 26 and 52 weeks normally. Investing in Treasury Bills as a long-term procedure would produce fluctuating rates of return. Interest income earned on T-bills is tax exempt from local income taxes but not from federal income taxes. Prior to the maturity, T-bills are not callable by the government.
- Treasury Bonds and notes: Both U.S. Treasury notes and bonds pay interest to their holders (Martha 2009). Treasury notes mature from the period of two to five years to ten years and maturities on bonds are over ten years. Treasury bills and notes are not callable but bonds can be called prior to maturity. The minimum denomination is \$1,000 for notes and bonds. (Boston Institute of Finance 2005).

Additionally, the Treasury also issues bonds that are not marketable but can directly be purchased online, from banks and brokerages (Martha 2009). These bonds are commonly known as U.S. Savings Bonds:

- Series EE Bonds: EE saving bonds have a fixed rate of interest and a maturity of 30 years. Every year in the beginning of May and November, the Treasury announces the interest rate for new EE bonds. Any investors can purchase these bonds from the minimum price of \$25 to the maximum value of \$10,000 which means for example an EE bond can be bought for \$60.20. (Treasury Direct Access Date: 07.03.2016)

They can be paid off for cash before maturity as per the schedule after a holding period of six months. Higher is the percentage return if the bond is held longer. (Boston Institute of Finance 2005)

- Series HH Bonds: One may still own an H or HH Bond, but he/she cannot get new ones (Treasury Direct). Series HH bonds were issued from 1980 to August 2004. As of September 1, 2004, U.S. Treasury has stopped issuing HH/H bonds and investors are no longer allowed to exchange EE bonds with them. (Martha 2009) HH bonds can earn interest up to 20 years but contrary to the EE bonds, the interest is paid every six months and they are always sold at face value. These bonds used to come at the denominations of \$500, \$1,000, \$5,000, \$10,000. So, a HH bond costing \$1,000 is always \$1,000. An investor receives the interest on HH bonds directly to the bank account and the earning is subjected to Federal income tax but not to the state and local income tax.

## 4 DERIVATIVES

“Something that is based on another source” is a common meaning when it comes to know the term “Derivative” and in finance, it is considered as the security that derives its value from the other underlying assets and these assets can be stocks, bonds, market indexes and interest rates. (Loader, David 2005) One derivatives trader stated that it is a productive profession that attracts everyone with the given account below:

*“I sold Derivatives on Wall Street in between 1993 and 1995. During that period the Derivatives group I worked with at Morgan Stanley generated an average of almost \$15million per person. The Derivatives group was the engine that drove Morgan Stanley, a most prestigious and oldest investment bank. Managers in my group received millions in bonus and lower level employees had salary margin in six figures.” (Peery 2012)*

The most common derivatives include: futures and options. A future is a contract where the two parties promise to sell and buy an underlying asset at a specified price and time whereas an option is a contract where one party has right but no obligation to sell or buy the underlying assets at a pre-specified price and date. (Sebastien and Philippe 2012)

In a simple understanding of trading, from an underlying exchange rate, a foreign currency option’s value is derived while a stock index future acquires its value from an underlying stock index (Robert E. Whaley 2006)

- Options: Options are of basically two types, a call option and a put option. In a call option, the owner has not the obligation but the right to purchase a certain number of securities at the price commonly known as exercise price or the strike price. (Arditti 1996)

Consider the following example to illustrate the characteristics of the options: A share of a certain company (suppose XYZ LTD.) is currently trading at the price of \$98.60 and an investor decides to purchase a call on

one share and it has an expiry exactly after six months. So, here the value \$98.60 is termed as strike rate or exercise rate. It is because the stock of the company has either gone up or down due to the various reasons in the financial market just in a moment. At the time of expiry, if the stock has gone to \$100 then he/she makes  $\$100 - \$98.6 = \$1.4$  in a share. And what if the price has fallen to \$95 at the time of expiry? In this case, the investor should have considered a *put* option. No one knows the future price but when an investor thinks the price will fall then he/she is ready to sell the agreed number of shares to make profit. As already said before, referring to the above example, an investor has only the right but not the obligation to buy or sell the stock but to buy an option position he/she should pay the premium.

Below is a simple example of a binary option trading of the Asset; GBP/USD. An IQ option is one of the binary options trading platforms used by small to big investors around the world.



*Source: IQ option Trading Platform, CySEC Regulated, Cyprus.*

- **Futures:** It must be noted that all the future contracts are traded on an exchange. Both the counterparties buying and selling the futures contract

enter an agreement with an exchange (the exchange being commercially secured organization assisted by its members) legally rather than with each other. The most important difference between the futures and options contracts is in the futures the buyer and seller have obligation to buy and sell the agreed underlying asset at the agreed price in the future date making the level of risk equal to both the parties. (Hunt and Kennedy 2004) Peery 2012 has discussed a futures contract to be a patterned contract swapped on an exchange and cleared through a clearing house.

- Forward contracts and swaps: Other than options and futures, forward contracts and Swaps are the other two popular examples of derivatives. Per Brealey, Myers and Allen 2014 as described in their book Principles of corporate finance, a simple example of forward contract is as follows: As of September 2016, Arctic Fuels, a heating-oil distributor has intention to deliver two million gallons of heating oil to its customers in January 2017. In the opposite position, Northern Refineries will produce heating oil next winter but doesn't know for what the oil can be sold. At this point these two firms strike a deal: In September, Arctic Fuels agrees to buy two million gallons at \$3.50 per gallon, to be paid on delivery in January and Northern Refineries agrees to sell at the mentioned price. By now, these companies are the two counterparties in a forward contract. The forward contract builds an offsetting short position for Northern Refineries and an offsetting long position for Arctic Fuels. The offset means that each counterparty finishes locking at a price of \$3.50 unconcerned of what happens to future prices. Forward contract should not be confused with an option because Arctic Fuels does not have an option but has committed to buy oil even if the price in January is much lower than \$3.50 per gallon while Northern Refineries cannot go back from the deal and has no option to sell even if the price turns out to be much higher than \$3.50 in January.

Some companies' cash flows are fixed while others vary with the interest rates level, exchange rates and prices of commodities. For instance, a firm that pays a fixed rate of interest on its debt might prefer a floating rate

payment and the companies that receive cash in Dollar might want them in Euros. The basic idea is that swap allows these firms to change their risks. Swaps market is huge with over the amount of \$460 trillion in 2011 in both interest rates and currency swaps.

## 5 BOND MARKET IN NEPAL

### 5.1 Government Bonds

Government bodies normally issue bonds to raise money either to purchase expensive plants and equipment or to investments in big projects like hydropower (to generate electricity) and manufacturing of mega buildings. Notable obstacles such as country's political instability and lack of qualified and determined political figures have created adverse negative impact in the economy. It is well known that corporate bonds are more complex securities comparing to government bonds because these organizations may not be able to pay back the debts and investors ultimately must worry about the default risk (Brealey, Myers and Allen 2014). On the other hand, corporate bonds are not as easy to trade in large quantities as government bonds.

With the inception of the capital market in Nepal, investors and institutional investors have been provided investment opportunities. The capital market creates investment alternatives for institutions, saving groups and long-term funds for the government and the individuals. The history of the securities exchange in Nepal shows that the very first amendment in the security exchange act (1983) constructed the way for the rebuilding of the stock market called Securities Board of Nepal (SEBON) in 1993 with the aim officially to regulate and develop stock market. It has a sententious role in the gross domestic product (GDP) of the country creating capital formation and growth of the economy. But only the security market does not contribute to the economic growth. Investors' awareness level and financial knowledge provide a sound environment for the growth of the market. The level of awareness normally measures the investors' exposures and the information about

the industry. They should be aware of the investments and the regular updates of the market. The capital market is classified into two different markets; Primary market and secondary market. In the primary market, new securities are issued like bonds and shares while in the secondary market, previously issued bonds, stocks and other financial instruments are traded. The security board of Nepal was established with the aim to develop capital markets by making the financial transactions efficient and responsible. Similarly, its main function is providing licenses to the securities business person. It has the significant work of monitoring the activities carried out by Nepal Stock exchange (NEPSE) where shares, government bonds and debentures are dealt with, just to confirm if they are in accordance with laws and regulations. (Gurung 2006)

## 5.2 Financial Market in Nepal

The Nepalese financial sector involves both banking and non-banking sectors. Nepal Rastra Bank (NRB) and the other commercial banks are in banking sectors while non-banking sector comprises development banks, NGOs, finance companies and cooperatives. These non-banking sectors manage finite banking activities and other financial institutions such as: employees' provident fund, insurance companies and Nepal Stock Exchange (NEPSE). (Kashyap and Tomar 2016)

**Table 3.1 Profile of Financial Market, Nepal, as of 2002-2007**

(US\$ billions except where otherwise specified)

<b>Segment</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>Percentage of GDP</b>		
							<b>2005</b>	<b>2006</b>	<b>2007</b>
Domestic debt securities <b>market</b>	0.94	1.14	1.20	1.19	1.27	1.55	16.1	15.1	14.1
Equity <b>market</b> capitalization	0.41	0.50	0.65	0.96	1.31	2.86	13.0	16.3	25.9
Banking assets	2.37	2.90	3.40	3.67	4.33	7.56	49.7	53.8	68.5
Total	3.72	4.54	5.25	5.82	6.91	11.97	78.7	85.2	108.5

*Source; BIS 2007; World Development Indicators database, World Bank, International monetary fund, International Financial Statistics database; World Bank Staff Calculation.*

The table above demonstrates the banking system with assets accounting for 68.5% of GDP as of the 2007 report. The equity market has grown from \$0.4 billion to \$2.86 billion in five years. On the contrary, the bond market has seen a steady growth from 2002 with \$0.94 billion to in 2007 with 1.55 billion. Though the first government bond issue took place in 1961, the bond market is still underdeveloped due to the lack of long term government and corporate projects. Moreover, various factors such as lack of medium and long-term funding needed for infrastructures' development projects, corporations relying only on bank for funding and their less interest shown in publicly issuing debt are the main causes for the underdeveloped bond market. (Kiatchai, Mu and Saporito 2008)

### **5.3 Current condition and Development of bond market**

The bond market of Nepal is still at a very initial stage of development. The government debt securities dominate the market, but corporate bonds market activities are insignificant due to lack of both investors and issuers. A prime factor developing a bond market not being a top priority is civil unrest and the conflict that has been affecting country's economic growth for more than a decade. (Kiatchai, Mu and Saporito 2008)

Nepal Government's short term financial needs are normally fulfilled by Nepal Rastra Bank which issues domestic public debt on an auction basis. From 55.8% at the end of fiscal year 2002 to approximately 75% in 2007, the share on treasury bills shows a steady growth. By issuing long-term debt, the government also achieves its financial need. Development bonds are issued at face value and the interest rate is decided in advance. The maturity in such bonds ranges from 3 to 20 years and are available to every kind of investors in the market. In July 2007, development bonds were 19% of the outstanding domestic debt while special bonds which are only issued for special purposes accounted for 2.8%. Special bonds can only be purchased by institutions that have import requirements. Since 2003, the value of these financial instruments has dramatically fallen and reflect deterioration in financing of long-term government development projects.

**Table 3.2 Domestic Government Debts, Nepal, 2002-2007**

Type of debt instrument	2002	2003	2004	2005	2006	2007
Treasury bills	55.8	57.7	57.4	58.7	70.0	74.97
Development Bonds	15.1	16.1	20.4	22.8	20.0	19.31
National savings certificates	15.7	13.1	10.5	7.5	4.3	1.53
Citizens savings certificates	0.9	1.1	1.4	1.6	1.9	1.40
Special Bonds	12.6	11.9	10.4	9.3	3.9	2.79

*Sources: Nepal Rastra Bank; World Bank Staff Calculations*

Slightly 0.2% of the GDP has been contributed by corporate bond market and the issuers were mostly the commercial banks. There are two factors to be watched for the absence of the bonds issuance from the capital market: one is that two major corporations' failure of interest and principal amount to pay to investors which eventually corroded their confidence for the future investments and the second is no presence of credit rating system of the small and large corporations and lack of their financial statements every quarter/year. Government and corporations are responsible for the weak and inactive bond market. (Kiatchai et al. 2008)

## 6 COMPARATIVE ANALYSIS

### 6.1 Indian bond Market

Like the debt market of Nepal, the security market of India is also still underdeveloped even though the market is very large. 42% of GDP is the debt in the market capitalization and the government being largest issuer controls the interest rates (Avadhani 2008).

The stock market of India is well developed in comparison to the bond market. Companies settle down their financing problems with the help of equity market and because of unorganized regulations and easy way of raising funds, they prefer equity market to bond market. (Raghvan and Daniel 2012)

Amendment in the Capital market in India formed the Securities and Exchange Board of India (SEBI) and National Stock Exchange of India (NSE) in early and mid-90s. A country's corporate bond market is developed when its government debt

securities and developed first. Government bonds standard yield curve helps to value the corporate bonds and attract investors in the future. However, India's government securities have higher credit ratings attracting the foreign investors and leaving the corporate bonds behind. (Raghvan et al. 2012)

Previously, we discussed the early phase of debt market of Nepal and zero presence of credit rating agencies. But in India there are a number of credit rating agencies like: Credit Rating and Information Services of India (CRISIL), Investment Information and Credit Rating Agency (IICRA), and Credit Analysis and Research Ltd. (CARE) being the top agencies etc. (Avadhani 2008.)

One similar factor causing less attractiveness to the investors in both Nepalese and Indian bond market is corruption. Government bond market helps to provide positive response to the corporate bond market. So, in this case, the lesser the corruption, the larger the chances of developing government debt securities and corporate debts market. (Raghvan et al. 2012)

In the fiscal year 2000-2001, banks provided 14.4% of financing to the large corporations in India while government bond market accounted for 3.5%. Similarly, in 2010-11, the bank financing went to 17.8% and bond market to just 3.9%. These reports clearly show problems in debt. (Banerji, Sanjay et al. 2012)

The graph below also shows the condition of bond market compared with that of other developed countries:

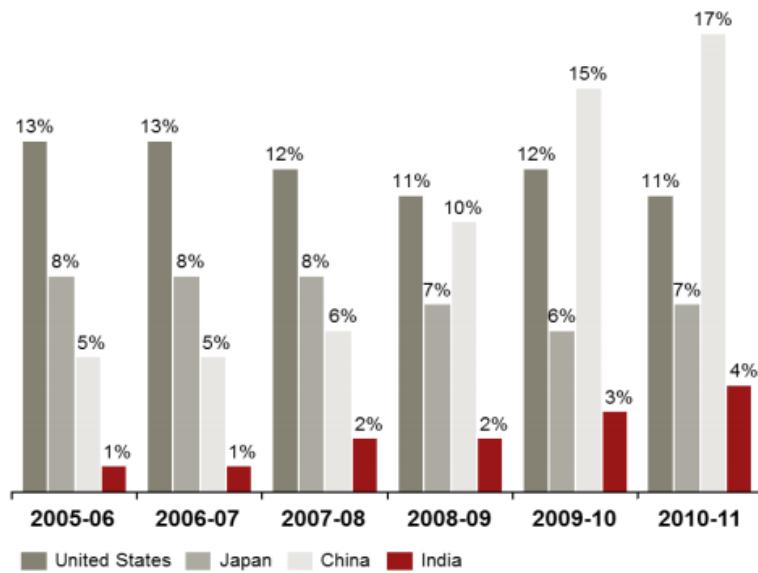


Figure: Share of corporate bonds, source; BIS

There is a lack of trade transparency in the corporate bond market of India. Though it has some credit rating agencies as mentioned earlier, it has been found that ratings of the corporations by such agencies provide misleading information to both individual and institutional investors because such entities are not registered under Credit Rating Agencies (CRAs) categories. (Banarji et al. 2012)

Additionally, liquidity is also the factor that enhances corporate bond market. Demand and supply are the basic things that drive the financial market of the country. Besides these, transparent pricing system in the secondary market which can be observed by the investors increases liquidity to the corporate bond market. Like the bond market of Nepal, India also lacks investors and issuers and even the benchmarking of the yield curve which affects the price observation in the secondary market. (Banarji et al. 2012)

## **7 MEASURES TO DEVELOP BOND MARKET**

Compared to the equity market, bond market is more complex to develop, both the government debts and corporate bonds. Equity market grows very fast, but bond market grows slowly and steadily and it needs more experienced and highly educated market participants. (Harwood 2000)

### **7.1 Role of the Government**

The government of Nepal has interest in developing bond financing, but many factors must be implemented to develop the primary market at first. Asian countries like Pakistan and Sri Lanka have groups now among their governments and market participants to help identify problems of the steady bond market. Educated people in Nepal and other south Asian countries assume that Nepal should dramatically consider the path of development before creating and establishing good bond markets. When a country's government is not stable, the whole economy fluctuates and more often go down side. (Harwood 2000)

### **7.2 Financial Market Participants**

Issuers and the investors are the two main giants of the market without whom there is no beginning of the financial transactions. Financial institutions are the largest market participants and they both are investors and issuers. Institutions such as insurance companies, pension funds, mutual funds and more other financial institutions are the various investors along with private individual investors. Moreover, in finance, mediators are needed and are very helpful to bring together investors and the issuers. Intermediaries help to manage the risk and support the fluctuating market. (Harwood 2000)

### **7.3 Role of investors**

Both the investors and government should commit and negotiate so that the securities market can be developed. Investors expect profitable return on investment. The government must provide enough space for the investors to invest in the projects whether they are foreign or local investors. The government of Nepal

must accept portfolio investment which means it allows foreign investors to purchase securities of the country. Investment in least developed country like Nepal present higher risk but the potential for higher return as well. Investors always measure risk associated with the investments. The country risk mostly affects their investments. So, ultimately it is a government's responsibility to pay attention to the international investors and assure that the country is progressing in the development though slow and steady. (Currie 2016)

## **8 QUALITATIVE ANALYSIS**

To meet the objectives of this paper, interviews have been conducted with some academicians, bond brokers and bond issuers and inquiries have been done via email to the other unreachable authorities of Nepal who could not be contacted by phone calls. The questionnaires to the interviewees can be found in appendix 3, 4 and 5.

Appendices 1 and 2 illustrate the amount (in Nepalese currency) of development bond and government bond published by public debt management department and Security Board of Nepal Respectively.

### **8.1 Academic Overview**

Concerning the situation of the bond market in Nepal, Mr. Deepesh Vaidya, Managing Director of Kriti Capital and Investments Limited was asked the questions and he provides numerous reasons behind its slow growth and advises solutions for its advancement. The source of funding depends on the nature of the business operations done by the companies and the goodwill they have earned in the market from the public. Only the stock market is quite more popular among the financial institutions, corporations, and the private investors. He says, "if a certain company has a stronger brand image and it wants to raise funds for the long term then issuance of bonds can be very important and effective." He has added that comparing to stocks and bank deposits, bonds can be preferable among the investors as return on shares is more volatile and interest provided by the banks are much

lower than the yield from the bond market. The government of Nepal has the most important role to help implement investment protection policies.

Some of the barriers to the steady growth of the bond market he pointed out are: lack of management of available infrastructures and secondary market, lack of rules and regulations for trading, and absence of various types of bonds and insufficient financial institutions. At the end, he recommends that the very first step should be a properly managed secondary market with which actual market price, interest rates on both government and corporate bonds can be determined.

## **8.2 Brokers' Overview**

The responses from two brokerage firms of Nepal out of the questionnaires sent to three highlighted the lack of public awareness being the main common factor of the underdeveloped bond market. Most of the people are unaware of government bonds and corporate bonds existing in Nepal. People investing in the security market are only concerned in shares issued by the government while many do not even know what the term “bond” is. These situations clearly reflect no priority given to enhance the bond market.

“When rules on any type of financial instruments is not regulated and people from every field are not educated or given information on this matter properly then it lacks all our confidence to come forward and do the business”, says one of the brokers. A broker from Shilpa Securities Private Limited acknowledged that the corporation had been registered since 2057 B.S. (2000 A.D.) but they have not handled any trade related to bonds for more than 10 years. “To find sellers and buyers is a difficult procedure”, he adds. Another brokerage firm started trading bonds after two years of its establishment.

Overall, the following proposals are made by the brokers if the country tends to fast growth of the bond market and benefit for the people involved;

- First create awareness among the public and amend the existing bond market for future economic growth.
- Convince people with trust of their investment in bond market and by assuring reasonable returns.
- Apply the rules and regulations made by the government in such financial sector in practice attracting more investors.
- Conduct training and education program to all the parties involved: institutional investors, issuers and public, if necessary.

### **8.3 Issuers' Overview**

Two of the banks who are among the primary issuers of debts and securities of Nepal were interviewed and both answered to the questionnaires. Commercial banks control not only the bond market but also other securities like shares. For maintaining capital -to- risk weighted assets ratio (CRAR) banks issue bonds regarding them as a lower cost fund comparing to equites. One of the bankers provided detail information on how issuing bonds helps banks maintain CRAR in the situation of liquidation. He illustrated the example of bonds being tier two capital in case bank loses all the money of tier one capital (ordinary shares).

Usually, lack of awareness and inconsequential market condition troubles corporations and banks to issue bonds and thus mostly depending on institutional investors. More than 70% of the lenders are private institutions while public funding only accounts for 30% in aggregate. The responses from the bankers demonstrate the significant role of bond market and its importance to the country and individuals. First, financial disciplines are the foundations of a financial market in an economy. Practice of corporate governance, accountability and adhering to rules and regulations while making financial decisions are the disciplines that lead to financial stability in a country. Ultimately, investors are confident and interested in alternative funding like bonds.

*What roles can SEBON and NRB play?*

These two are the most powerful government financial bodies in the country that dominate and guide overall financial institutions and market. So obviously, a country's economy is not progressing without their rules and laws set for these financial institutions come into effect. NRB's primary obligation is to introduce government treasury bills in the secondary market with the help of SEBON's guidance. Nepal Stock Exchange (NEPSE) is only active in shares trading but both NRB and SEBON can play important role to get the government debt traded actively in the stock exchange. Government bonds can be used as a benchmark to generate yield curve. A shape of yield curve is used to predict changes in economic activity. When NRB helps create yield curve and set a benchmark, it will be a significant aspect for individual investors to invest.

## 9 CONCLUSION

In this section, the intention of this project will be presented. Achievements with the help of interviews will be discussed to match with the situation of financial market of Nepal, more specifically in the bond market. Analyzing the situation, this project aims for the necessary amendments to be made to the country's debt securities market with the help of findings. Later, reliability and validity will be discussed as well.

### 9.1 Summary

The project has been started with the brief introduction of three major financial instruments in the world: equities, bonds and derivatives. Subsequently, broader definition of bonds, their increasing demand in financial market, and especially their merits to all the parties involved have been discussed focusing only on the country, Nepal.

Nepal, a developing nation in South Asia has a slow growth of long term debt securities in the financial market. When comparing to India, Nepal needs to focus on its bond market and improvements must be made. The market participants; financial institutions, institutional investors, brokers, banks and issuers along with the government should actively involve in the trading which encourages public to invest. As seen in this project, despite the importance of investments on bond security, several factors have obstructed in creating sound investing environments for the investors. Financial rules and regulations, lack of interest among the market participants with the private investors, complication of trading process and especially lack of public knowledge are the primary examples of such factors.

More precisely, banking institutes and government agencies have important roles in upgrading the financial market in the country. So, for this reason they must inform and guide the public with necessary information, and benefits and risks associated with their investment in the security they are trading with. Similarly, investors also have few obligations when investing in stocks and bonds. They must be able to differentiate between bonds and shares, trust the government regulated bodies and invest in bonds issued by banks, government and corporations. Since, bond market is less volatile and gives normally fixed return of interest, it can be used as a main cause of attraction to public.

All the interviewees who participated to accomplish this project have strong recommendations and suggestions to government of Nepal and its financial bodies; NRB and SEBON. as they have analysed the present financial situation.

## **9.2 Reliability and Validity of the Research**

When a research on the same topic is carried out by another researcher in the same setting and the findings would be the same then the research can be judged reliable (Blaxter, Hughes and Tight 2010). In this project, the interviewees cooperated effectively with the researcher. The interviewees are unknown to one another and the questionnaires have been sent in the same period. Any other researchers conducting the same research with the similar questionnaires will have same results but not certainly identical.

If Brokerages, banks and corporations other than the above interviewees are questioned in the same topic, the result would still be similar considering the present financial situation of the country. Therefore, the research findings can be considered reliable but most importantly *time and effort* of the government and all the other market participants must be constant in this case. It is because in number of years' government may be able to resolve the present problems with the financial system and people can surpass it with education and technologies. But new problems will be always present.

Blaxter et al 2010 have also defined validity of the research to be the methods used by the researcher directly related/measured to the issues explored. Here the research has tested to measure the situation and amendments needed to make in the country's debt security and is accurate.

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## 11 APPENDICES

### Appendix 1

Development Bond Auction Result Summary Sheet															
Time series Data															
S.No.	Auction Date	Issue Date	Maturity Period	Bond Name	Maturity Date	Offered Amount (in crore)	Bid Amount (in crore)			Allocated Amount			Cutoff Rate	Number of Participants	Number of Bids
							Competitive	Non-Competitive	Total	Competitive	Non-Competitive	Total			
<b>FY 2070/71</b>															
1	2070/07/28	2070/08/06	5	2075 "Kha"	2075/08/06	300.00	2,402.43	242.01	2,644.44	210.00	90.00	300.00	3.25%	86	490
2	2070/09/04	2070/09/08	7	2077	2077/09/08	600.00	2,802.00	254.00	3,056.00	420.00	180.00	600.00	3.49%	80	479
<b>FY 2071/72</b>															
1	2072/02/14	2072/02/17	5	2077 "Ka"	2077/02/17	500.00	3,665.40	68.21	3,733.61	431.79	68.21	500.00	4.00%	78	470
2	2072/02/21	2072/02/22	7	2079	2079/02/22	500.00	4,161.25	63.50	4,224.75	436.50	63.50	500.00	3.44%	72	448
3	2072/02/28	2072/02/29	9	2081	2081/02/29	500.00	3,704.75	60.00	3,764.75	440.00	60.00	500.00	3.08%	68	456
4	2072/03/10	2072/03/11	10	2082	2082/03/11	1,000.00	4,715.70	188.05	4,903.75	811.95	188.05	1,000.00	2.99%	73	472
5	2072/03/17	2072/03/18	15	2087	2087/03/18	500.00	3,742.50	100.00	3,842.50	400.00	100.00	500.00	2.65%	51	276
<b>FY 2072/73</b>															
1	2072/11/30	2072/12/01	8	2080	2080/12/01	1,200.00	3,063.85	340.00	3,403.85	960.00	240.00	1,200.00	3.97%	63	302
2	2072/12/18	2072/12/19	11	2083	2083/12/19	1,300.00	2,584.70	305.50	2,890.20	1,040.00	260.00	1,300.00	4.44%	48	312
3	2073/01/02	2073/01/05	12	2085	2085/01/05	1,300.00	2,777.00	295.00	3,072.00	1,040.00	260.00	1,300.00	4.74%	48	289
4	2073/01/09	2073/01/10	13	2086	2086/01/10	1,300.00	2,657.00	100.00	2,757.00	1,200.00	100.00	1,300.00	4.94%	47	265
5	2073/01/16	2073/01/17	15	2088	2088/01/17	1,100.00	2,964.00	42.00	3,006.00	1,058.00	42.00	1,100.00	4.94%	43	270

Source: NRB, public debt management department. FY 2070/71= 2013/2014 A.D. Amount 1 crore = 10 million

### Appendix 2

#### Performance of Citizen Investment Trust

S.N.	Particulars	Fiscal Year						
		2007/08	2008/09	2009/10	2010/11	2011/12*		
1	Investment	194.78	151.53	142.26	1338.85	157.31		
	(a) Share/Debenture	88.95	90.80	97.95	118.43	117.00		
	(b) Government Bond	10.00	10.00	10.00	10.00	10.00		
	(c) Bank Deposit	81.93	16.34	2.64	1.55	13.00		
2	Net Income	47.68	34.25	13.98	12.66	15.26		
	(a) Dividend in Share	3.30	3.85	4.29	6.73	6.74		
	(b) Interest in Government Bond/ Debenture	0.8	3.49	2.08	2.00	2.00		

*Source: Security Board of Nepal*

### **Appendix 3 Interview questionnaires for corporation**

1. Which financial instrument your organization intend to trade most?
  - a. Shares
  - b. Bonds
  - c. Derivatives and other assets backed securities, if any?
  
2. What primary source of funding your organization prefer for investments? And why?
3. What in your opinion as an organization can do to develop Nepalese bond market?
4. From 1 to 5, rank your number to the following causes of slow growth of bond market in Nepal. 1 equals to *least obstacle cause*, 5 equals to *most obstacle cause*
  - a. People's awareness
  - b. Trading platform
  - c. Cost
  - d. Financial rules and regulations
  - e. Number of private and institutional investors
  - f. Credit rating agencies

### **Appendix 4 Interview questionnaires to brokerage firm**

1. Which financial instrument your organization intend to trade most?
  - a. Shares
  - b. Bonds
  - c. Derivatives and other assets backed securities, if any?
  
2. What in your opinion as an organization can do to develop Nepalese bond market?
3. From 1 to 5, rank your number to the following causes of slow growth of bond market in Nepal. 1 equals to *least obstacle cause*, 5 equals to *most obstacle cause*
  - a. People's awareness
  - b. Trading platform
  - c. Cost

- d. Financial rules and regulations
- e. Number of private and institutional investors
- f. Credit rating agencies

#### **Appendix 5 Interview questionnaires to commercial bank**

1. What are banks primary source of raising capital?
  - a. Bank deposits
  - b. Shares and debentures/bonds
  - c. Others, mention if any?
2. What has NRB influence on commercial and development banks in terms of issuing securities?
3. Can central banks act as market makers (brokers – dealers) to trade bonds and other securities? Please explain.
4. What in your opinion as an organization can do to develop Nepalese bond market?
5. From 1 to 5, rank your number to the following causes of slow growth of bond market in Nepal. 1 equals to *least obstacle cause*, 5 equals to *most obstacle cause*
  - a. People's awareness
  - b. Trading platform
  - c. Cost
  - d. Financial rules and regulations
  - e. Number of private and institutional investors
  - f. Credit rating agencies