

# **Chapter I**

## **1. Introduction**

### **1.1.1 Background of the study**

Economic growth of any nation is highly influenced and characterized by development and expansion of capital market. The capital market has more significant role in developing economies like Nepal. The stock market plays important role encouraging and canalizing the saving to provide the entrepreneurs for investment in profitable projects. The Nepalese economy is in developing phase. It has been adopting planned economic development since four decades. Now, it has introduced liberal policy for the better improvement of the economy. However, any type of strategy or policy for development requires a steady supply of capital funds. So in order to speed up the pace of development, financial sectors have crucial roles, as they pool scattered savings for capital formation. Financial markets and institutions are the key to the development of any economy, whether developed or developing. So, stock market plays a vital role in the economic development of a country. "Any types of capital requirements like long-term, medium-term or short-term etc, for organizational activities, among such funds; long-term funds are highly significant for future growth and prosperity. Capital requirements for the organization are mostly managed through financial or capital market. Capital formation is the ultimate function of capital market. It transfers funds from those having surplus fund to those who need funds to invest in tangible assets." (Fabizzu: 1992, 12).

Financial markets have crucial roles, as they can pool the scattered savings for the capital formation. They are the intermediary link in facilitating the flow of funds from savers to investors. By providing an institutional mechanism for mobilizing domestic savings and efficiently channelling them into productive investments, they lower the cost of capital to investors and accelerate economic growth of the country. Financial intermediation between borrowers and savers is done by commercial banks. This credit market enables debt financing for investments. An alternative method of intermediation is through equity financing. This is only possible through the development of capital markets. Financial markets collect the scattered savings of the public and also provide the funds for the investors as in the form of loan to invest

in the various productive sectors. "Securities market contributes to mobilization of domestic saving by enhancing the set of financial investments available to sever diversify their portfolio and doing so, they provide important sources of investment capital at relatively low cost" (Dailami and Aktin: 1990).

"Securities prices play an important role by providing signals in allocating the scarce resources and investors can choose among the securities that represent ownership of the firm's activities under the assumption that securities prices at any time 'fully reflect' all available information. A market in which prices always 'full reflect' is called, efficient market" (Fama: 383). If the capital market is efficient, the current market prices of companies fully reflect available information and there is no question of share price being under-priced and over-priced. The phenomenon of under-valuation of shares is possible only in an inefficient capital market. An efficient capital market is an essential pre-requisite for the economic development of the country. But the development of the efficient capital market depends upon the availability of the savings, proper organization of the investors and regulation of investment etc.

"There is the strong correlation between various measures of securities market development and long run economic growth. Securities market liquidity in said to have positive impact on long run economic growth, capital accumulation and productive growth" (Levine and Zervous: 1998). Financial sector reforms in Nepal over the past ten years including the liberalization of interest rates, creation of the basic regulatory framework and development of long-term governmental securities markets have led to some significant improvements in the financial sector. It is essential to flow the financial resources easily accessible and in a simple manner which would, in turn, help to achieve the desired results through various economic activities.

To value a company and its stock many investors look at the P/E ratio, price over earnings. It can be used as a multiple or just as an indication whether a company is "under or over valued". To use the P/E ratio as a benchmark for valuation is a very popular approach having its uncomplicated procedure. The first study of the P/E ratio was done by Nicolson (1960), who showed that companies with low P/E ratio on average subsequently yield higher returns than high P/E companies. The difference, Nicolson demonstrated, was the value premium. According

to Nicolson's results an investor of a common stock should place its investments in companies with low P/E ratio. These results were later confirmed by another study made by Basu (1975, 1977). The majority of studies done on P/E ratio, aim to identify the fundamental corporate factors and forces which describe the variations in the P/E ratio across stocks. There are some studies that have used the corporate fundamental factors as explanatory forces in cross-sectional variations of P/E ratio. Some of them are Malkiel and Cragg (1970), Beaver and Morse (1978), artholdy (1993) and Bourgeois and Lussier (1994), who all focused on trying to explain the variability of the P/E ratio. Other studies, including Basu (1977), Bauman and Miller (1977), Goodman and Peavy III (1983) and Johnson, Fiore and Zuber (1989) estimated the relative performance of low and high P/E portfolios. This was done in order to establish the strategy that stocks with low P/E ratio is under valued and therefore should outrun stocks with high P/E ratio.

In recent years the studies have become more focused on the P/E as an explanatory variable instead of its anomaly effect. These papers have often analysed to what extent one variable can affect the P/E ratio. This was done by Amoako-Adu and Smith in 2002 when they analysed the relationship between the interest rate and the price earnings ratio in the Canadian market. This study looked at the TSE 300 index and seven under groups (financial services, utilities, merchandising, consumer products, industrial products, metal and minerals and gold and silver). They found that there was a negative correlation between the interest rate and the P/E ratio, in other words, when the interest rates increased the P/E ratio decreased. In 2005 Anderson and Brooks made a similar study, in which they decomposed the price earnings ratio to improve it as a tool for valuation. They say that the P/E ratio of a particular stock is partly determined by outside influences, for example the year it is measured, the size of the company and the sector in which the company is operating. In this study, they examined all companies at the UK stock exchange during 1975-2003 and decomposed the outside effects. By giving the outside variables different weights and by that, isolate these influences, they were able to better predict the future returns.

Papers concerning this area are important due to the fact that the P/E ratio is widely used, for example as explanatory variable when trying to predict stocks future returns. Fama and French did this in a study in 1992 when they used the P/E ratio together with the book value of equity

and the size of the company. The P/E ratio is also very important since many investors use the ratio as a comparable multiple for investment choices and when they valuing a company. The knowledge of the explanatory forces to the P/E ratio is therefore vast. Prior to this paper there have been similar studies on other markets, but none of them have focused on finding the total explanatory forces to P/E on both company basis and time basis. As mentioned above there have been some studies which resembles these ones and there has been several studies which examined the stock returns and its influences on the P/E ratio. The objective of this study is to map and examine the influences and explanatory forces to the price earnings ratio in the context of Nepalese stock market. It will tried to identify how the variables (Market capitalisation (MC), Dividend yield (D/Y), Return on equity (RoE) and Market to Book (M to B) value) affect the value of the firm and the P/E ratio and thereafter attempt to spot what specific factors that influences both the value of the firm and the P/E ratio of two different sectors (Banking sector: commercial banks and development banks; F & I sector: Finance and Insurance companies) of Nepalese stock market. The study will be made upon data from the Nepalese stock exchange over a period from 2003/04 to 2008/09.

### **1.1.2 History and development of Securities Market in Nepal**

The history of the development of securities market in Nepal is not very old. The remarkable event in the development of securities market can be observed only after the enactment of Company Act for the first time in 1936. In 1937, the ordinary shares of Biratnagar Jute Mills Ltd. and Nepal Bank Limited were issued under the Company Act, 1936. Similarly the first issuance of government bond was in 1964. The Nepalese capital market has its beginning with the establishment of the Securities Marketing Centre in 1976. It was the first institution established for the purpose of developing the security market in the country. Initially, it was assigned the job for promoting secondary market for the government securities.

In 1983, the Securities Exchange Act was enacted with the objective of developing a market for stocks. Later in 1984, Security Exchange Act was promulgated and this institution was converted into the Securities Exchange Centre (SEC) under the ownership of the HMG of Nepal, Nepal Rastra Bank (NRB) and Nepal Industrial Development Corporation (NIDC). The main function of SEC was to assist in the development of a capital market by performing the role of a broker,

underwriter, and share issue and to sell government bonds. After the inception of the SEC, shares of various manufacturing, trading and banking companies were listed. In the mid 80's, Nepal opened its door to foreign investors as joint venture partners in the banking sector, which revolutionized commercial banking services in Nepal. Since then, a variety of private sector based financial institutions are evolved. In 1992, the Finance Companies Act was amended. These enabled finance companies to be established to function in various areas such as leasing, housing finances and hire purchases. These institutions were also allowed to perform capital market functions such as share issues, portfolio management, market making and custodial services.

Nepal Stock Exchange, in short NEPSE, is established under the company act, operating under Securities Exchange Act, 1983. The basic objective of NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transactions in its trading floor through member, market intermediaries, such as broker, market makers etc. NEPSE opened its trading floor on 13th January 1994. Government of Nepal, Nepal Rastra Bank, Nepal Industrial Development Corporation and members are the shareholders of NEPSE. NEPSE replaced the open-out-cry trading system with fully automated screen-based trading system (ATS) 24 August 2007, under the CFG project of the Nepal Government. The system helps to eliminate all possible human errors of the open-out-cry system. Several international practices have been incorporated to make the system internationally applicable and modifications made to customize existing rules and regulations of the country.

In 1994, NEPSE started its trading with 62 listed companies. From 2005 onwards government bonds are being listed and traded on NEPSE. At present, there are 159 companies listed in NEPSE. Until now 47 companies which didn't comply with the legal requirements have been de-listed from NEPSE.

Securities Board of Nepal (SEBON) was established by the Government of Nepal (GoN) on June 7, 1993 as an apex regulator body of securities markets in Nepal. It has been regulating the market under the Securities Ordinance, 2006 issued on September 23, 2006. The major function of SEBON is to build a dynamic, competitive, credible, fair, efficient, transparent and responsive

securities market. The objective of the SEBON is to promote and protect the interest of investors by regulating the securities market. To regulate the securities market SEBON has enacted various securities laws, like: securities act 2006, securities board regulation act 2006, securities businessperson (broker, dealer, market maker, merchant banker) regulation act 2006, and so forth.

#### Milestones in Nepalese Stock Market

1936	Introduction of Company Act.
1937	Floation of shares by Biratnagar Juit Mills and Nepal Bank ltd.
1964	Issuance of government bond
1976	Establishment of Security Board
1984	Security Exchange Act became introduced
1992	First amendment of Securities Exchange Act
1993	Publication of Securities Exchange Regulations. Establishment of Securities Board of Nepal. Conversion of Securities Exchange Centre into Nepal Stock Exchange Ltd (NEPSE)
1995	First amendment in the Securities Exchange Regulations Guidelines for Registration and Issue Approval of Securities
1997	Second amendment to Securities Exchange Act, Securities Investment Trust Act
1998	Second amendment to Securities Exchange Regulation Securities Board disclose strategic plan for five years
2006	Use of circuit breakers to stop the price of a share from rising or falling sharply
2007	Replacement of open-cry-out trading system with fully automated screen based trading system (ATS)
2007	Implementation of index based circuit breaker system
2008	NEPSE made OTC (over the counter) Bylaws with the approval of Security Board of Nepal
2008	NEPSE started trading of promoters share of listed company

Source: Business Age (2001) & NEPSE Publication (2008)

### 1.2 Statement of problem

Studying the P/E ratio and valuation of stock what affect it is very important since, as far as I know, no similar studies has been done on the Nepalese stock market. All investors and business or economic students know that the macro environment often has a great impact on companies'

performance and therefore affect the future earnings and stock price. Thus it is of great interest to try to explain how a change in these variables affects the P/E ratio and value of stock.

In the first part of the study, the following independent variables will be examined and tried to find out its' effect.

- What effect will show in relation between the P/E ratio with the RoE in valuation of stock?
- When the risk on the stock market change, what influence will that have on the P/E ratio and valuation of stock?
- Does the dividend yield have any affect on the P/E ratio and valuation of stock?
- Is market growth a variable that affect the value of the stock and the P/E ratio?

In the second part, the following three company specific variables will be examined:

- Does the dividend yield ratio have any affect on the P/E ratio and the valuation of stock?
- Does size, expressed as the market value influence the P/E ratio?
- Does the similar multiple, market to book have any affect on the P/E ratio and valuation of the stock?

It will try to define to what extend these variables affect the P/E ratio and valuation of stock and try to display differences and similarities in the two sectors (banking sector: commercial banks and development banks; F & I sector: Finance and Insurance companies) of the Nepalese stock market.

### **1.3 Objectives of the study**

The purpose of this study is to identify the variables that affect the P/E ratio and valuation of stock on the Nepalese stock market and its related sectors. In addition, following are also the purposes of this study.

1. To explain what variables that steers the P/E ratio and valuation of stock.

2. To map and examine the influences and explanatory forces to the price earnings ratio and valuation of stock in the context of Nepalese stock market.
3. To show the situation of the stock market in Nepal on the basis of findings.
4. To study D/Y and P/E relationship.
5. To study impact of P/E on RoE.
6. To change the trend of evaluation pattern of stock market and its related sectors in Nepal for safe investment in security market.

#### **1.4 Focus of the study**

This study is primarily for investors in the Nepalese stock market but also for finance students and people with an interest in the stock market. To understand clearly the material presented in this study, the reader should have previous knowledge in the area as well as some econometric comprehension. In Nepal, there is a lack of wider investment opportunities that provide good return. Most of the public investors have not well enough knowledge about the real strength and weaknesses of the public companies in which they are going to invest or they are investing. In addition to it, they may not be able to analyze and interpret the real financial position of the firm on the basis of available data and information. In this context, it is my interest to focus the study to explain how a change in these variables affects the P/E ratio as well as in valuation of stock and to aware to all investors and business or economic students that they can easily understand the macro environment and its great impact on companies' performance as well as its affect to the future earnings and stock price.

#### **1.5 Limitation of the Study**

This study attempts to map and examine the influences and explanatory forces to the price earnings ratio and valuation of stock in the context of Nepalese stock market. Due the various difficulties, this study will be accompanied by some limitations.

Basic limitations of these studies are as follows:

1. The major portion of analysis and interpretation is based on the available secondary data and information. So, the consistency of findings and conclusions will be strictly based on the reliability of the secondary data and information.
2. This study carries out only a period from year 2003/04 to year 2008/2009 trend of NEPSE.



3. Only banking sector: commercial banks and development banks; F & I sector: Finance and Insurance companies are taken for the study of year 2003/04 to year 2008/2009. But to understand the trend of the stock market, some data are taken from 1996/97 to 2008/09.
4. Time and financial constraint will be the major limitations of the study.
5. This study has been done for the partial fulfilment for the requirements of M.B.S. Degree in Management.

## 1.6 Outline

### Chapter - I: Introduction

*In this chapter, the background for the chosen topic will be presented and issues about the valuation of the stock, the P/E ratio and the different factors will be raised. The purpose for this study is to identify what independent variable that affect the value of the stock, P/E ratio and what specific factors that have an impact on the stock. The discussion of the problem, previous studies and the purpose of this study will be presented.*

### Chapter - II: Review of Literature

*In this Chapter of the study, the required theory for the study will be displayed and explained to understand the methodology and the analysis. It will cover both the theory of the multiple of interest and the theory used when conducting the tests to ensure the significance. This chapter provides current stage of the research work and guidelines or further study and helps to avoid unnecessary duplication of research work as well as it reviews the related studies.*

### Chapter - III: Research Methodology

*In this chapter the procedures throughout the study will be illustrated. It is the process of arriving to the solution of the problem through planned and systematic dealing with the collection, analysis and interpretation of fact and figure. It consists of research design, population and sample study, sources of data, data processing procedure and technique of analysis of data. Our choices of methodology and sources that provided information are presented. The chapter ends with a detailed presentation of the variables used.*

#### Chapter - IV: Data Presentation and Analysis

*In this fourth chapter, the results will be analyzed. The study is more analytical and empirical. It covers quantitative methodology using financial and statistical tools. This study has been mainly based on secondary data gathered from respective annual reports of NEPSE and SEBON.*

#### Chapter - V: Summary, Conclusions and Recommendations

*In this last chapter, the conclusions will be drawn upon the analysis above. Based on these conclusions, some suggestions and recommendation will be suggested which may help concerned individual, line agencies or organizations for better improvement of the Nepalese Stock market in future.*

**Bibliography**

**Appendix**

## **Chapter-II**

### **2. Review of Literature**

Review of literature is the most important part of the study. Without clear concept on the subject matter, the study might not be conducted with in its periphery. This chapter provides current stage of the research work and guidelines or further study and helps to avoid unnecessary duplication of research work as well as it reviews the related studies. It is divided into four sections: conceptual framework, analysis pattern of security market, research reviews and Research Gap. The first section of this chapter; conceptual framework review covers the concepts of basic terms used in the study, the second section; analysis pattern of security markets and third section; research review includes the review of National and International Journals/Books along with Master's thesis. And finally, the fourth section identifies the research gap among the others researches.

#### **2.1 Conceptual Framework**

##### **2.1.1 Price Earning (P/E) ratio**

Some companies never pay cash dividend and retain all of their earnings. In this situation we cannot use dividend to value the stock. Now, the analysts use price earning ratios for the valuation. Retaining all earnings, some companies may grow but some may decline, whatever may be the situation, the price earning (P/E) ratio, also known as earnings multiplier, is used to value the stocks.

The simple method of the stock valuation is the price earning ratio model. Fundamental analysts estimate the value of the stock by multiplying the expected earning per share and the normal price earning ratio for the stock.

$$\text{Price earning (P/E) ratio} = \frac{\text{Market price per share (MPS)}}{\text{Earning per share (EPS)}}$$

### **2.1.2 Market value and value of the firm**

Market value is the secondary market is determined by the demand and supply factors and reflects the consensus opinion of investors and traders concerning the "Value" of the stock the market value is influenced by many factors including economic and industry's conditions, expected earnings and dividends and market and company's risk considerations. (Cheney and Moses, 1999, P: 417- 418)

Market Capitalization is the value of the firm. Generally market capitalization is equal to the number of share outstanding multiplied by share prices if other things are constant large market capitalization means smaller stock return, higher liquidity and marketability.

$$\text{Market Capitalization} = \text{Market Price of Share} \times \text{Listed Number of Share of Each Company}$$

### **2.1.3 Market to book (M to B) ratio**

The market value of equity divided with the book value of equity has been investigated by many. Some analysts consider a firm with low market to book value to be a “safer” investment, seeing the book value as a floor for the value of the firm and therefore supporting the market price. They view the book value as the level below which market price will not fall because the company always has an option to sell its asset for the book value. But of course in some cases a firm has been sold for less then the book value. Nevertheless, a low market to book value can be seen as some kind of margin of safety. It should be mentioned that the book value does not necessarily represent the liquidation value of the firm which makes the margin of safety notion unreliable. The theory of a high market to book value indicates that investors think that the firm has opportunities of earning a rate of return that is greater than the market capitalization rate, k. (Bodie, Kane, Marcus, 2007)

This ratio measures that the market situation per share in the competitive open market with respect to book value per share of companies. This ratio indicates the price that the market is paying for the share that is reported from the net worth of companies.

This is important to compare the market share prices of different stocks on the basis of the book value per share. It shows the market share price of a stock as a percentage of book value per share and the effect of later on the former. The higher ratios represent to conclude that the better performance of companies in terms of market price per share to book value per share. This ratio can be derived by dividing market price per share by book value per share. Thus,

$$\text{MPS to BVPS Ratio} = \frac{\text{Market price per share}}{\text{Book value per share}}$$

#### **2.1.4 Return to equity (RoE) ratio**

Return is the income received on an investment ROE is the ratio of net income to common equity. It measures the rate of return on common stock holder's investment it is calculated as net profit after tax by net worth.

$$\text{RoE} = \frac{\text{Net profit after tax}}{\text{Net Worth}}$$

#### **2.1.5 Regression analysis**

Different methods of regression can be applied when analysing a relationship between variables. A multiple regression analysis will be used, the different variables will be analysed in order to determine the affect to the P/E ratio and the value of the firm. The set up a hypothesis which implies that the coefficients will be insignificant, if they are explanatory, and they should also be proven to be statistically significant in affecting the P/E ratio and the value of the firm. To do this, the level of significance at 5% has been chosen based upon similar studies. To exclude the possibility of other factors, which have any explanatory power in the regression, no factor should in advance be excluded. However, there should be a possible way of adding the factor, so some variables have been used which all were possible to gather information about. A time-series analysis regression has been chosen for the analysis.

## **2.2 Analysis pattern of security market**

### **2.2.1 Technical analysis**

Technical analysis uses various kinds of mechanisms, tools. Strategy and forecast the stock price on the basis of past data and information. This analysis is faster, easier, more result oriented and more market oriented philosophy than fundamental analysis. Some of the major techniques of technical analysis are as follows.

#### **a) The variable Dow Theory**

The Dow Theory is one of the oldest and most famous technical tools; it was originated by Charles Dow, founder of the Dow Jones Company and editor of 'The Wall Street Journal Around' 1900. The Dow Theory is used to delineate trends in the market as a whole or in industrial securities.

The market is always considered as having three movements, all going at the same time. The first is the narrow movement from day to day. The second is the short swing, running from two weeks to a month or more, the third is the main movement, covering at least four years in duration. (Francis. J. K, 1997, P: 523- 524)

The Dow Theory views the movement of market price as occurring in three categories:

#### **i) Primary Movements**

These are called bull and bear markets. Bull markets are where prices move in an upward manner for several years. Bear markets, are where prices move in a downward manner for several months or a few years. (Francis. J.K & R.W Taylor, 2004: P- 201)

#### **ii) Secondary Movements**

There are up and down movements of stock prices that last for a few months and sometimes are called corrections. (Francis J.K & R.W. Taylor, 2004: P- 201)

#### **iii) Tertiary movement (Daily Movement)**

These are simply the daily fluctuations. The Dow Theory asserts that daily fluctuations are essentially meaningless random higgles. None the less, the Chartist should plot the

asset's price or the markets average each day in order to trace out the primary and secondary trends. (Francis J. K. 1997, P: 524- 525)

b) Relative Strength

Analysis have traditionally used relative strength measure to select industries and individual companies, one measure of relative strength for an industry is the ratio of industry stock price to the price of stocks in general. If the relative strength ratios are increasing, the industry stock prices are increasing at a faster rate than stocks in general. When analysts think the overall market is bullish, industries with the highest relative strength will be attractive. With the bearish forecast, low relative strength industries will be preferred. (Cheney & Moses, 1993: P- 253)

c) Breadth of Market

A breadth of market indicator tries to measure the strength of the market's upward or downward movement. Daily newspaper report the number of issues that advance and decline in price each in the various exchangers. Daily the net advances, which are the number of issues that advance minus the number of issue that decline, are accumulated by technicians. Technicians hope to observe the direction of the underlying markets movement by studying net advances; they try to determine the market's trend.

d) Charts

Technical analysis use three basic types of chats i.e. bar, line and point & figure chart (PFC). Bar charts have a series of verticals bars representing each day's price movement. Each bar has a range from the day's lowest price to the day's highest price. A small cross on each bar signifies the day's closing prices. A Line chart is a graph of successive day's closing price. Point and Figure Chart (PFCS) are a third and move complex types of chart. Technical analysts use PFCs to predict not only several in price trends for common stock but to forecast future price movement. By studying PFCs, technicians determine when to buy and sell. (J.C Francis & R.W Taylor, 2004, P: 199- 200)

e) Contrary opinion

The idea behind contrary opinion is that the majority of the traders in the market are wrong. So, when the crowd does something such as sell, the contrarian should do the opposite and buy. Several contrarian rules are currently used. There will be two of the more popular are below.

(i) ODD – LOT Theory

Round lots are transactions in multiple of 100 shares. Odd-lot transactions are for less than 100 shares. Odd-lot transactions are supposedly done by amateur investors who are usually wrong, according to the constraints. Therefore, when the odd-lot purchases are relatively high, stock prices are likely to fall and when the odd-lot sales are low the end of a bear market is supposed to be close at hand.

(ii) Theory of short sale

Short sales are done by investors who borrow the securities from a broker and sell them. The short seller hopes to profit by replacing the borrowed securities at a lower price than what they sold them for. Constraints believe that short sellers are usually wrong, so when short sales are high, indicating a bearish attitude about the market, constraints take a bullish attitude about the market. Another group of investors take the opposite view of the restriction short-sells approach. This group believes that short sellers are more sophisticated than the average investors and when short sales are up, a more bearish situation is indicated for a market. (Francis J.K & R.W Taylor, 2004: P-204)

f) Trading volume

Volume technicians believe they can get a better idea whether the market is bullish or bearish by studying its price moves in conjunction with trading volume. If trading volume is high on the days when the market price is moving up e.g. this is considered bullish, on the other hand, a low volume on days when the market is moving up is considered to be less bullish or ambiguous. (Francis J.K & R.W Taylor, 2004: P-206)

g) The confidence index

The confidence index is originated in 1932 and is reported each week in the 'market laboratory/Bonds' section of Barron's. This technical indicator compares the yield on high-



grade bonds to the yield on medium grade bond. The underlying logic of this indicator is when investor fell confident about the economy, they are willing to move funds from high to medium -quality bonds. As this take place, the yield on the lower quality bonds tend to increase more slowly than the yield on high-quality bonds, causing the yield spread to narrow and the ratio to rise, implying the market confidence. (Cheney and Moses, 1999: P- 242)

#### h) Moving average

A moving average is a smoothed presentation of underlying historical data. Each data point is the arthematics average of a portion of the previous day. A ten day moving average measure the average over the previous ten trading days, a twenty - day moving average measures average value over the previous twenty days, and so on. Regardless of the time period used, each day a new observation is included in the calculation and the oldest is dropped, so a constant number of point are always being averaged. Advocate of moving averages in stock selection believe that changes in the slope of the line are important. A stock whose twenty day moving trading average line has been trending up might become a candidate for sale if the line turns down ward. (Bhalla.V.K, 2001, P: 428-29)

### **2.2.2 Fundamental analysis**

Fundamental analysis (intrinsic value) is the method to evaluate the true worth of the stock by analyzing the financial data and information of the issuer. Fundamental analysis is mainly focused on the prospectus, annual and quarterly reports of the issuer as well as any available current news relating to the issuer. It also studies the issuers' income and expenses, assets and liabilities, management and position in its industry.

Fundamental analysis uses different models like Top-Down versus Bottom-Up forecasting, probabilistic forecasting, econometric models, financial statement analysis etc. to estimate the value of securities. (Sharpe, Alexander and Bailey, 2001: 850). Hence, fundamental analysis is a stock valuation method that uses financial and economic analysis to predict the movement of stock prices. It is performed on historical and present data, but the objective is to predict future stock prices or business performance. It is based on determining the stock prices on the basis of the earnings made by the company and dividends declared by the company. It provides the

intrinsic value of the stock and facilitates the investors whether to buy or sell the stock. Such intrinsic value of the stock will be the true value after analysis of the financial performance of the company.

Whatever the stocks are priced over or under the true value of stock, the recommendation of sales or purchase is called for after extensive analysis, the investors derive an estimate of the intrinsic value of securities, which is then compared to its market price. If the value exceeds the market price, the security should be acquired and vice versa. Following this rule, they believe above average return can be attained, given that market is inefficient in pricing the shares. (Reilly, 1986: 347)

Fundamental analysis uses public information to calculate a fundamental value for a share, and then offers investment advice by comparing the fundamental value with the current market price. Fundamental analysis is not possible if capital markets are semi-strong form efficient, since security prices will already fully and fairly reflect all publicly available information (Watson, 1998: 31).

Fundamental analysis approach involves study of various factors like economic influences, industry factors, firms' financial statements and company information like product demand, earnings, dividends and management performances to calculate an intrinsic value of the security. Under this theory, the investor should only analyze such fundamental factors that may enable them to select the undervalued future of the company. Fundamental analysis always seeks for new information before other investors. A fundamental analyst uses different models to estimate the true or estimated value of the stocks for making appropriate investment decisions, such models are Top-Down versus Bottom-Up forecasting, probabilistic forecasting, econometric models, financial statement analysis etc.

The investor who uses Top-Down forecasting model, starts his analysis with global economic, including both international and national economic indicators, such as GDP growth rates, inflation, interest rates, exchange rates, productivity, and energy prices. He narrows his search down to regional \industry analysis of total sales, price levels, the effects of competing products,

foreign competition, and entry or exit from the industry. Only then does he narrow his search to the best business in that area. The Bottom-Up investor starts with specific businesses, regardless of their industry/region. There are some limitations behind the fundamental analysis.

They are as follows:

- i. The analysis and information may be incorrect.
- ii. There is a chance of disguising the real return of the company backed by various reasons and with the help of new/innovative accounting systems.
- iii. The fundamental analyst may not be fully able to understand the economy of the industry due to the existence of other various external factors.
- iv. The entire fundamental analysis is based on a rational scientific analysis of data that the market is rarely rational.

The available information relating to the price of the stock changes overtime. Due to that cause, the price of stock also changes. This means the fundamental analyst should always analyze the affecting factors and estimate the true value of stock in order to make correct investment decisions and get appropriate return. Therefore, fundamental analysis is the never-ending process.

## **2.3 Review of Journals/books**

So far there are no such advanced and research based journals in the field of finance in Nepal. There are very limited numbers of journals associated in the subject of management and it is further hard to find any article in the subject matter of finance. In Nepalese context, there are limited studies available with stock market and most of the studies are related to the theoretical concepts. So, some foreign well-known journals/books are taken into considerations, which are spread out all over the world.

### **2.3.1 Review of Journals/books of international studies**

There are some studies that have used the corporate fundamental factors as explanatory forces in cross-sectional variations of P/E ratio. Some of them are Malkiel and Cragg (1970), Beaver and Morse (1978), artholdy (1993) and Bourgeois and Lussier (1994), who all focused on trying to

explain the variability of the P/E ratio. Other studies, including Basu (1977), Bauman and Miller (1977), Goodman and Peavy III (1983) and Johnson, Fiore and Zuber (1989) estimated the relative performance of low and high P/E portfolios. This was done in order to establish the strategy that stocks with low P/E ratio is under valued and therefore should outrun stocks with high P/E ratio. By giving the outside variables different weights and by that, isolate these influences, they were able to better predict the future returns. Amoako-Adu and Smith in 2002 when they analysed the relationship between the interest rate and the price earnings ratio in the Canadian market. This study looked at the TSE 300 index and seven under groups (financial services, utilities, merchandising, consumer products, industrial products, metal and minerals and gold and silver). They found that there was a negative correlation between the interest rate and the P/E ratio, in other words, when the interest rates increased the P/E ratio decreased. In 2005 Anderson and Brooks made a similar study, in which they decomposed the price earnings ratio to improve it as a tool for valuation. They say that the P/E ratio of a particular stock is partly determined by outside influences, for example the year it is measured, the size of the company and the sector in which the company is operating. In this study, they examined all companies at the UK stock exchange during 1975-2003 and decomposed the outside effects.

Fama and French (1992) tried to predict returns across securities by the ratio of book value of the firm's equity to the market value of the equity. They divided firms into 10 groups according to there book to market value and examined the average monthly return of the stocks in the 10 different groups during July 1963 to December 1990. They found that the decile with the highest book to market value (lowest market to book value) had an average monthly return of 1.65%, while the lowest decile only hade an average of 0.72% a month.

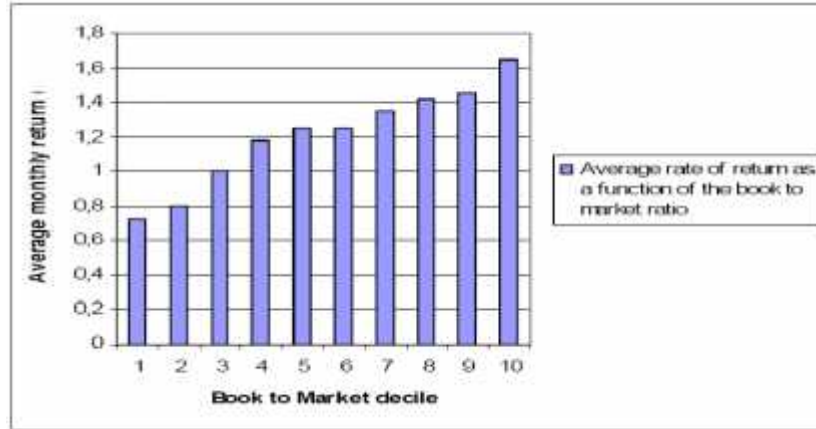


Figure 2.1: Average monthly return as a function of the book to market ratio

The figure 2.1 shows the average monthly return as a function of the book to market value with ten as the decile with the highest book to market value. The dramatic dependence of returns on book to market value is independent of beta, which indicates that either high book to market ratio firms (low market to book value) are relative under priced or that the book to market ratio serves as a proxy for a risk factor that can affects the equilibrium expected returns.

The so-called size or small-firm effect was first documented by Banz in 1981. He shows that the historical performance of portfolios formed by dividing the NYSE stocks into 10 portfolios according to the size of the firm each year, were different. The firm size was measured by valuing the total outstanding equity, in other words the market value. The annual average return is consistently higher for the small firms compared to the portfolio with larger companies. The difference in returns between the portfolio with the biggest companies and the portfolio with smallest companies was 10.3% from 1936-1976. On the other hand, the smaller companies tend to be riskier. But even when the returns were adjusted to the risk by CAPM, there was still a consistent premium for the companies with a smaller market value. After the risk was adjusted the annual average return was 6.7% higher than the bigger-sized companies. The diagram shows the average return in excess of the risk-free rate and the return in excess of CAPM during 1926-2003. Where 1 is the portfolio with the smallest firms and 10 is the portfolio with the largest firms. (Bodie, Kane, Marcus, 2007).

### 2.3.2 Review of Journals/books of National studies

**Prof. Dr. Radhe Shyam Pradhan (1994)**, “Financial Management Practice in Nepal”, had focused on price earning ratio of the stock. Large stock have large P/E ratio, large ratio of MV to BV of equity and smaller dividends. P/E ratios and dividend ratios are more variable for smaller stocks whereas MV to BV of equity is more variable for larger stocks. Stock with large MV to BV of equity has large P/E ratio, and lower dividends. P/E ratio is more variable for stocks with large MV to BV ratios and dividend ratios are more variable for stocks with smaller MV to BV. Stocks paying higher dividends have higher liquidity, lower leverage, higher earning, and higher turnover and higher interest coverage. However, liquidity and leverage ratios are more variable for the stocks paying lower dividends while earning, assets turnover and interest coverage is more variable for the stock paying higher dividends.

**Yogendra Timilsina (2001)**, “Capital Market Development and Stock Price Behavior in Nepal”, had concluded that, there is highly positive correlation coefficient between EPS and MPS. Similarly, high degree of positive correlation was found between DPS and EPS. EPS is more relevant than DPS in evaluating the fair MPS. Investors are more sensitive towards the actual cash dividend.

**Kamal Das Manandhar (2004)** “Dividend policy and value of the firm in small stock market” in the context of Nepal has conducted by Kamal Das Manandhar in 2004 in managerial dynamics. The basic objective of this study is to find out the financial variables that are related to market equity. "The study is aimed at identifying some of the significant variables that are significant to the value of firm. The analysis, to some extent, helped to understand the dividend policy of the sample companies and their effects on market value of the firm as represented by market capitalization and this understanding helps to know the relevancy and irrelevancy of dividend policy on market capitalization in the stock market in Nepal. At the time of research, he has found the following problems in stock market and dividends practices.

1. Most companies are underrating the expectation of investors and thereby resulting how marketability of share and trading floor of stock exchanges.
2. Majority of the companies are declaring dividends less than risk free rate and market risk premium.

3. The relationship between the earning, dividends pay out and growth of the expansion program of the companies does not match with financial needs of companies.
4. Companies do not follow on sound dividend policy. These are the main causes that are related to the low price of stock and low volume in stock market.

To find the above objective, this study has included the financial data that are related to secondary market of top ten companies of the year 2003/04 on the basis of traded amount. According to this study, the model development to test the hypothesis between dependent and independent variables. So the independent variables are dividend per share, earnings per share, return on equity, dividend by closing market price and market equity is dependent on variables. At last, this study found out that the financial variable taken under study to understand the dividend policy followed are DPS, EPS, P/E, ROE, based on analysis it is found that DPS, ROE and D/P ratio have significant impact whereas ROE and P/E have found no significant impact on market value.

### **2.3.3 Review of Unpublished Master Degree Dissertation**

Among other master degree thesis, written by previous researchers, some are found to be relevant for studies which are presented below:

**Kharel (2002)**, “Stock Market Efficiency and Share Price Behavior in Nepal”, has conducted the study to find whether the future price of the stock is the result of past days performance or not. He used serial correlation test and runs test as statistical tools, further he used technical trading rule named filter rule for analyzing the data.

He found that standard deviations of each and every individual stock’s price changes are higher than the mean. Thus, the general shape of empirical frequency distribution is flatter than normal distribution’s shape. Most of the results obtained from the serial correlation test from 30 stocks are absolutely large and significantly isolated from zero. The results obtained from the runs test are also consistent with the results of the serial correlation tests. When the runs test analyzed by lengths, it was found that actual number of runs are not normally changes series of Nepalese stock market. Similarly, the results obtained from the filter test showed that sophisticated

mechanical trading rule can beat the average market return. As most of the filter's trading returned higher than buy-and-hold strategy, it supports the results of serial correlation and runs test. Thus, he concluded that today's price changes are not an unbiased outcome of yesterday's price changes.

**Shrestha (2004)** studied on "Share Prices Behavior in Nepal" was conducted with the following objectives:

1. To examine the efficiency of stock market of Nepal.
2. To determine whether the sequence of price changes are consistent with changes of the series of random number expected under the independent process.
3. To determine the efficiency of the stock market through the theoretical model of "efficient market hypothesis" in the stock market.

He examined daily closing prices of 30 stocks during the period from 13 Jan, 1994 to mid July 1998 by means of serial correlation and runs tests found that the successive prices changes are dependent.

The main finding of the study is:

1. The prices changes of the past and present can be very helpful to forecast future price changes. Therefore there exists the sufficient amount of opportunities for the sophisticated investors.
2. When days increase the mean value of serial correlation of coefficient is lower, that indicates that the past price changes may have low power to predict the future price changes in the long run.
3. The price changes in the present and future stock market may not be independent of the price changes in the past and present respectively.
4. There exist no profitable trading rules to make greater profit than they would make under the naïve buy and hold strategy in their speculation through the information of past price changes.
5. Nepal stock exchange is not efficient in pricing shares.



**Gopal Prasad Bhatta (2005)** entitled Assessment of the performance of listed companies in Nepal. Bhatta's study in performance of listed companies is based on 10 listed company's data from 1999 to 2004. One of the major objectives that concern with this research topic is 'to analyze the performance of listed companies in terms of risk and return i.e. expected rate of return and company specific risk, required rate of return and internal rate of return, systematic risk and diversification of risk through portfolio context.

Bhatta addressed the following findings in risk return behavior form the analysis of different stocks. "A highly significant positive correlation has been addressed between risk and return character of the company. Investors expect higher returns for those stocks that associate higher risk. Nepalese capital market is not efficient one. So the stock price does contain all the information relating to market and company itself. Neither investors analyze the overall relevant information of the stocks nor does the member of stock exchange try to disseminate the information. So the market return and risk both may not represent reality. However, the analysis based in the available information shows high priced stocks such as BBC, NIV, NIC, has higher beta risk than others, these companies this requires higher returns to satisfy the investors for their risk premium.

Investors in Nepal have not yet practiced to invest in portfolio of securities. An analysis of the two securities portfolio shows that the risk can be totally minimizes if the correlation is perfectly negative. In this situation, the risk can totally be diversified, but when there is perfectly positive correlation between the returns of the two securities, the risk is undiversifiable. The analysis shows some has negative correlation and some has positive one. Negative correlation between securities returns is preferred for diversification of risk.

On the basis of findings Bhatta concluded: "An analysis of risk and return shows that many companies have higher unsystematic or specific risk. There is a need of expert institution that will provide constancy services to the investors to maximize their wealth through rational investment decision. Lastly, Bhatta recommended the following points to improve the market efficiency:

1. Developed institutions to consult investors for risk minimization.
2. Establish an information channel in Nepal stock exchange and
3. Market proper amendment on trading rules.

To some extent Bhatta focused in the analysis of risk and return in common stock investment. But due to so many other aspects of analysis investor cannot easily assess the results. Indeed, study did not focus the view point of investors rather it concentrates the companies and stock market. However, this study also explores some dimensions for further research in this subject.

**Aruna (2008)**, “A Study on Stock Price Behaviour of Selected Companies Listed in Nepal”, she tries her best effort on examining the movement of stock market price and sector wise behaviour or NEPSE index. Study of stock market behaviour is useful for proper analysis and development of stock market. She has used various statistical tools to meet her objectives. The conclusion of her study is the share market performance is poor because of small size market and low liquidity. The growth and performance of Nepalese capital market is not satisfactory though it is improving gradually.

Thus many studies have been conducted in the field of share price behaviour in Nepalese context. Most of the research works done on the topic of share and stock price behaviour have not applied the every aspect of their price behaviour. Studies are based on secondary sources of information only. But research will try to show the findings through statistical tools and techniques like runs test, serial correlation etc. in connection with share price behaviour. This study is attempted to update and validate the latest change in stock market in Nepal. This study is fruitful to government, Nepal stock Exchange Ltd, scholars, forthcoming researchers academically as well as policy prospective.

## **2.4 Research Gap**

The review of above relevant literature has contributed to enhance the fundamental understanding and knowledge, which is required to make this study meaningful and purposeful. There is various researchers conduct on related topic like primary and secondary market behaviour, stock price behaviour in Nepal, Price formation and brokering services in NEPSE,

share price behaviour of listed companies, Role of NEPSE in the secondary market, dividend policy & its impact on stock market etc but very few studies have been conducted in the field of valuation of stock price and P/E ratio of Nepalese security market. So, this study tries to analysis valuation of stock price in Nepalese security market by applying various facts using secondary data. It can be very useful or important in this area. Thus, present study will be fruitful to those interested person, scholars, professor, students, businessmen and government for academically as well as policy perspective. Hope this study will help to concern individuals or organisation in future in the related field.

Some researcher has done well research based on primary and secondary data using various financial tools as well as statistical tools. Here secondary data are used for making this research. This study tries to define P/E ratio and its' analysing trend of Nepalese Stock market and stock price movement in NEPSE. Probably this will be the appropriate research in the area of evaluation or analysis of Nepalese stock market.

The government policy to reform capital market under the extended structural program and modern system of open cry out had significantly positive impact on stock market development. After the restoration of democracy the government has launched linearization policy, which builds the expectation of the establishment of multinational companies but unfortunately lack of proper implementation, it seems useless in stock market development. So such studies have needed for promoting the stock market time to time since share price is the crucial phenomenon in the stock market and there is an increasing trend in the common investment.

## **Chapter III**

### **3. Research Methodology**

Research methodology is a vital part of research work. It is a processing step to solve the research problems. In this part, various methodologies will be used for collecting and analyzing information and data. This part deals the overall research methodologies to see the relevant theoretical aspects. It consists of research design, population and sample, sources of data, data processing procedure and technique of analysis of data. The choices of methodology and sources are presented in brief. The chapter ends with a detailed presentation of the variables used.

#### **3.1 Research design**

The purpose of this empirical study is to explain the explanatory factors and forces of the value of the firm and the P/E ratio on the Nepalese stock market. It will be tried to extend the current research in order to show the concept, both macro factors and the industry specific forces. It is also interesting to illustrate and examine the relationship between the variables and the ratio, in terms of correlation and sensitivities. Based upon the problem, the most suitable method to use for this study will be identified. To verify, a multiple time-series regression will be used. A quantitative approach has been chosen when conducting this study since it fits this study the best. The quantitative approach makes it possible to study more observations, thus making it more consistent when drawing conclusions, and making generalizations (Bryman 1995).

#### **3.2 Measures**

There are several measures to determine the valuation of a security. Most often, the measures are determined by comparing the security's price to different fundamentals, such as earnings and dividends. One of the most respected stock valuation measures is the P/E ratio, which compares the price of the security to the company's earnings.

### **3.3 Population and sample**

To get started with the data collecting, I searched in the literature and earlier studies of the P/E ratio to find out if there were a pattern but there are no any such researches which were focused to P/E ratio to analyse the Nepalese Stock market.

All the companies listed in the NEPSE were considered as the total population shown in annex 3.1. It is grouped as the Banking sector (Banks & Development banks), F & I companies, Hotels, manufacturing and processing, Trading and other companies (with Hydropower). The listed companies in the secondary market already reached to 169 in the year end 2008/09. However, the study will be made upon data from the Nepalese stock exchange over a period from 2003/04 to 2008/2009. Due to time constrain, only selected companies are taken as the sample companies for the study and two sectors; banking sector and F & I sector are selected for the study. The selected companies are seven from the banking sector, four from F & I companies. The name lists of selected companies are shown in annex 3.2.

In the fiscal year 2008/09, with the listing of 17 new companies, the total number of listed companies remained to be 159 while it was 142 in the fiscal year 2007/08. The detail of listed companies in the fiscal year 2008/09 is presented in table 3.3

The data materials which are addressed above have been collected from NEPSE and SEBON. To be able to study the P/E ratio and the value of the firm, a regression analysis and correlation coefficients had computed. The data have been handled with my outmost care to avoid any possible mistakes. In this study of the value of the firm and P/E ratio, there will be several variables which will be tested in the regression. These variables will be addressed and motivated in greater detail later on in this chapter. The variables will be of altered character, some will be of macro characters which are outside the corporate control and others will be sector-specific ones.

### **3.4 Nature and Sources of Data**

The secondary data for this study are basically used. As basic source of data, published annual reports of the concerned companies are taken. Similarly, related books magazines, journals, articles, report, data from Nepal Stock Exchange, Security Board of Nepal, central library of TU,

library of Shankardev Campus, Directive and Financial Statistic, related website etc. as well as other supplementary data and various economic surveys are also used. Previous related studies to the subject are also counted as source of information. The source of secondary data and information are shown in annex 3.4.

### **3.5 Tools of data analysis**

There are many tools to examine the data collected from different sectors. Data have a no meaningful, appropriate and workfull if they are not verify through various tools and techniques moreover, data and information so gathered are to be checked, edited and tabulated in such a way that provides convenience for computation and interpretation. So, the relevant data have been inserted in meaningful tables from in the understandable way and unnecessary data have been excluded. To achieve the predetermined objectives of the study, certain tools such as: financial and statistical tools, which are given in following:

#### **3.5.1 Financial tools**

The following financial tools are used for the analysis of this study:

##### **3.5.1.1 P/E Ratio and determinants**

In this model, some variables are taken into consideration when the variation in the P/E ratio and the value of the firm for the entire market and the different sectors will be tried to explain. As mentioned and discussed above, they are payout ratio which are measured as dividend yield, risk etc in the market. It will be tried to define why such variables are taken and how they are related to the value of the firm and P/E ratio.

To be able to do this, the Gordon (1962) discounted dividend growth model is taken for the study, which is well known and commonly used for all investors. As Gordon explains and proves that under all circumstances the only reliable and meaningful income stream that investors can use for valuing a company's shares is, the dividend expectation.

This model says that the current share price  $P_0$  is the present value of a long series of future expected dividends, where  $D_1$  is the next period dividend. The dividend is expected in this model to grow at a constant rate of  $g$ . All investors have a required return on their stock

investment and that is  $k$ , which has to be greater than  $g$  in this case. This makes the equity valuation model look like this:

$$P_0 = \frac{D_1}{(k - g)}$$

The model shows that the current stock price is a function of dividends which is discounted back until today with the required return minus expected growth of the dividend. To derive the P/E ratio from this model is quite obvious. By dividing both sides of the equation with the expected earnings per share, which is  $E_1$ , this gives us the following equation:

$$\frac{P_0}{E_1} = \frac{D_1}{E_1} \times \frac{1}{(k - g)}$$

From this equation, It can be identified what variable that drives and affect the value of the firm and P/E ratio. So if It can be rewritten the second equation, It can be seen that the P/E ratio follows from a function as:

$$P_0 = f(\text{expected dividend payout, EPS, equity required return, etc})$$

Since the required return of the stock,  $k$ , is a function itself of the risk of the stock, it is proper to have some risk variable to take into consideration. As Amoako and Smith (2002) states in their study any market risk can be used as a proxy for the equity required return. Hence in this paper, there is used the volatility for the entire stock market as a measure for risk. Some advocate that beta should be used, but here this is not possible, because it can be seen at the entire market and as every one knows the beta for the market is always one. The deduce from using beta as the risk measure is because the required return on equity,  $k$ , derives from CAPM. The required return in this formula is a function of the risk of the stock (beta) times the market risk premium (the return on the stock market minus the risk free interest rate) plus the risk free interest rate. When calculating beta there are three variables that affect the beta and these are firm and market volatility and the covariance between them. Since one of these variables, market volatility, are

used in the determination of beta and describes how risky and how much the market fluctuates. It can be believed that this variable is indeed the best measure to determine the risk of the market. The higher the volatility the more and the bigger fluctuations can be seen to the price changes and therefore more risk is related to the stock. One important implication for any stock valuation model is that (every thing else equal) riskier stocks will have a lower P/E ratio than a less risky stock. This can be derived from a constant growth model by examine the formula for the P/E ratio:

$$\frac{P}{E} = \frac{(1 - b)}{(k - g)}$$

Where b is the plowback ratio and the rest is the same as above. Riskier firms will have a higher required return, higher k. Therefore, this gives the P/E multiple lower values (Bodie, Kane, Marcus, 2007).

### **3.5.1.2 The explanatory variables**

The variables which can be chosen to study are mainly due to the study by Amoako-Adu and Smith (2002), where they studied the P/E on the Canadian market. The reason for using these variables is due to the high possibility of having a relationship to the P/E ratio. Some variables are added to extend the study in order to examine which variables that have any affect to the value of the firm and P/E ratio.

#### **3.5.1.2.1 Dividend yield (D/Y)**

Another variable for the analysis is the dividend yield for the market. Dividend yield is derived by calculating the total dividend amount for a sector and expressing it as a percentage of the total market value for the constituents of that sector. This provides an average of the individual yields of the constituents weighted by market value. Mainly large dividends are associated with companies that expect high and stable future earnings. A company's management won't raise dividends unless they are certain that they can uphold that level in the future. The P/E ratio should thus be positively related to the dividend yield.



Dividend yield is the ratio of common stock, it is measured as dividend per share by market price per share. It tells us how much a common stock holder received per share it has been calculated as:

$$\text{Dividend Yield (D/Y)} = \frac{\text{Dividend Per Share}}{\text{Market Price Per Share}}$$

### **3.5.1.2.2 Market to book (M to B) ratio**

The market value of equity divided with the book value of equity has been investigated by many. Some analysts consider a firm with low market to book value to be a “safer” investment, seeing the book value as a floor for the value of the firm and therefore supporting the market price. They view the book value as the level below which market price will not fall because the company always has an option to sell its asset for the book value. But of course in some cases a firm has been sold for less than the book value. Nevertheless, a low market to book value can be seen as some kind of margin of safety. It should be mentioned that the book value does not necessarily represent the liquidation value of the firm which makes the margin of safety notion unreliable. The theory of a high market to book value indicates that investors think that the firm has opportunities of earning a rate of return that is greater than the market capitalization rate,  $k$ . (Bodie, Kane, Marcus, 2007)

This ratio measures that the market situation per share in the competitive open market with respect to book value per share of companies. This ratio indicates the price that the market is paying for the share that is reported from the net worth of companies.

This is important to compare the market share prices of different stocks on the basis of the book value per share. It shows the market share price of a stock as a percentage of book value per share and the effect of later on the former. The higher ratios represent to conclude that the better performance of companies in terms of market price per share to book value per share. This ratio can be derived by dividing market price per share by book value per share. Thus,

$$\text{MPS to BVPS (M to B) Ratio} = \frac{\text{Market price per share}}{\text{Book value per share}}$$

The M-to-B is a ratio which indicates, most often positive, if companies in general are expected to produce future earnings, which in present value, will out run the book value of the asset used to generate them, that's way firms are expected to be efficient in creating value for their shareholders (Ogden, Jen and O'Connor, 2003). Therefore it is interesting to look at the part in the P/E ratio that represents future expectation, in other words the variable market to book. To include market to book is also interesting, because it is commonly used as a multiple for valuation, just as the P/E ratio is. Therefore, it is fascinating to see if they have a high correlation and how strong the M-to-B influences the P/E ratio, there should a priori be a positive relationship between them. The market to book value is the ratio of current stock market price to its book value. It gives indication of how investors regard the company it helps to analyze the company past performance a future prospects.

#### **3.5.1.2.3 Return to equity (RoE) ratio**

Return is the income received on an investment ROE is the ratio of net income to common equity. It measures the rate of return on common stock holder's investment it is calculated as net profit after tax by net worth.

$$\text{RoE} = \frac{\text{Net profit after tax}}{\text{Net Worth}}$$

#### **3.5.1.2.4 Risk**

In the analysis of the P/E ratio and the value of the firm, there should be a representation of some kind of risk variable. At first, it is tried to express with the risk premium, which is the spread between the corporate bond yield and the government bond yield. The relationship between the risk premium and the P/E ratio is intuitively negative, thus the higher the risk premium is the lower the price earnings ratio. This seemed to be the best solution, though the existence of corporate bonds on the Nepalese market is not that wide spread as it is in many other countries for example, in the US. Therefore it is tried to calculate the volatility every month from the general index. This was done by first calculating the daily changes and then the standard deviation for every month. The relationship should then imply the same as for the risk premium, thus it should be negative. This is one way of seeing it; another is that if the risk increases the

value of the stock value, because the stock can be seen as a call option on the firm's assets, and the option value increases with higher volatility (Ogden, Jen and O'Connor, 2003). This implies that there could be a positive relationship. Due to the time constrain, only standard deviation and coefficient of variance are used for the study.

#### **3.5.1.2.5 Size, Market value**

To investigate the forces driving the P/E ratio and the value of the firm between different sectors, it would be of no interest if not size would be included. The size of the company should be a driving factor to a P/E ratio. It will be good practice to show size as the market value and therefore calculate the average of the different sectors market value at every point of time in my sample. Intuitively there is a positive relationship between size and the price earnings ratio. Larger companies often get more positive expectations upon future cash flows and related to less risk, therefore have higher P/E.

#### **3.5.2 Statistical tools**

It is the major instruments to analysis the collected data from various sources. There are various statistical tools used which are as given followings:

##### **3.5.2.1 Standard Deviation**

Standard deviation is usually denoted by small sigma ( $\sigma$ ). It is defined as positive square root of the arithmetic mean of the square of the deviation from their arithmetic mean. It is measured an absolute term of dispersion depending upon unit of measurements.

$$\sigma = \sqrt{\frac{1}{n} \sum (R - \bar{R})^2}$$

### 3.5.2.2 Coefficient of Variation

To compare more than two assets, coefficient of frequency variation is used. It is relative measurement of dispersion based on standard deviation. Coefficient of variation is given by following formula.

$$C.V. = \frac{\dagger}{\bar{R}}$$

Where,

R	Return
	Standard deviation
$\bar{R}$	Average of return

It is percentage of variation mean, standard deviation, being considered as the total variation in the mean. Smaller C.V. represents more homogenous or uniform and less variable as compared to greater C.V. To compare different companies risk standard deviation and coefficient of variation has been employed for this study.

### 3.5.2.3 Correlation

Correlation analysis establishes the closeness of relationship between the two and more variables. It measures the degree of relationship or association between variables.

### 3.5.2.4 Regression analysis

A regression analysis is a way of trying to clarify and estimate the relationship between different variables. In other words, it is an attempt to explain movements in a dependant variable by reference to movements in one or more variables. In the regression the dependant variable is in most cases represented with  $y$  and the explanatory variables with  $x$ . The  $y$  variable is assumed to be random and therefore have a probability distribution. Au contraire to the  $y$  variable the  $x$  variable is assumed to have fixed values in repeated samples, i.e. nonstochastic (Brooks, 2004).

When conducting a regression analysis, there are two values which are interesting. One of those two coefficients is the Goodness of fit statistics, which is denoted  $R^2$ . This coefficient answers the question of how well the model containing the explanatory variables actually explain the

variations in our dependant variable. In other words how well the regression fits the data, therefore a measure of how adequate the model is. The other value of interest is the standard deviation, which measures whether the residuals in the model are normally distributed.

### **Multiple regression analysis**

The common purpose of a multiple regression is to analyse and evaluate the relationship between several explanatory variables and a dependent variable. The general formula representing this multiple regression is the subsequent:

$$Y_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots$$

Where:

$t = 1, 2, 3, \dots, n$

$Y_t$  = Dependant variable

$X_t$  = Independent explanatory variable

$\beta_0$  = Intercept, i.e. the value of  $Y_t$  when all  $X_t$  equals zero

$\beta_t$  = Is the power of a change of an independent variables on the dependent variable (keeping all the other variables fixed)

#### **3.5.2.5 Testing of the hypothesis for the study**

Testing of hypothesis is one of the most important for decision-making. When estimated the coefficients for the variables, it should be in order to test these as well, to evaluate if these coefficients are significantly different from zero, i.e. if the explanatory variable affect the dependent variable at a significantly permanent level. To test whether this is the case, we use the hypothesis and a t-test.

The hypothesis has set to achieve the objective of the study. t-test of single mean, different mean, and multiple regressions can be employed to achieve the result for this objective if necessary.

To test the hypothesis between market return and return of each sector, t-statistic between different mean are used.

$$t = \text{statistic under } H_0 \text{ is } = \frac{\bar{R}_B - \bar{R}_m}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}} \approx t_{n_1 + n_2 - 2}$$

Where,

$R_m$  Overall Market Return

$R_B/R_{FI}$  Average rate of return of Banking sector or F & I Sector

While testing of hypotheses, market capitalization and P/E ratio are assumed as dependent variable on the basis of its analysis and other financial variables are independent variables. But individual hypothesis would not be tested for this purpose.

### **3.6 Reliability and Validity**

From the conditions given in this study, the quantitative approach is the most reasonable since statistical methods are used when dealing with the data. When doing a quantitative study there are two things that are important to take into consideration, reliability and validity (Holme and Solvang, 1997).

To obtain a high level of reliability, it is important that the study is performed in a correct manner. To consider this study to obtain such level, a method has been used which reduces stochastic and systematic errors to an acceptable minimum. When observing the results, it is unable to identify any problems with the reliability in the choice of approach.

As Holme and Solvang (1997) points out, with regards to the validity, the most important component is the choice of phenomena to study. The study's validity can according to Bryman (2002) be divided into different parts. When performing a quantitative study, it is important to really measure the relevant variables to the problem at hand, i.e. reach a high level of theoretical validity. Another element of the validity according to Bryman (2002) is the internal validity, which is to be certain that there are a set of variables explaining another one, and that there isn't a different reason that produces a misleading relationship. In this case, it is chosen for the study a market multiple it should be easier said than done to isolate all the external factors and display the complete explanatory forces to the P/E ratio and valuation of the stock. Another important part of the validity which to obtain is the external validity, which the study can prove if the result

can be generalized outside its own specified context (Forsgårdh and Herten, 1975). To extend this discussion to this study, it would be the case if the result of the study can be applicable to other markets and similar conclusions can be drawn. This is really hard to say because the different markets differ a lot even if it doesn't seem to be the case. To say anything about different markets other studies of the same kind on those markets would be necessary. This is one of the reasons why it is chosen to be as elementary as possible in the explanation of the approach so the study is possible to replicate in the future and then be comparable.

## **Chapter – IV**

### **4. Data presentation and analysis**

This chapter deals with the main body of the study i.e. analysis and findings of the collected data. It includes analysis of NEPSE index and annual turnover, trading performance and quantitative analysis of Nepalese market on P/E ratio and its valuation. And finally, the major findings of the analysis have been highlighted.

#### **4.1 Introduction**

Collection data and information are presented in this chapter in a tabular format with its analysis. Primary and secondary data are presented in systematic manner using different tools and techniques. It presents relationship of the variables in graphical figure and price movement of securities market. The main goal of this chapter is analyzed the valuation of the stock market and the market P/E ratio and its position of stock market and future prospectus probability. This study and its findings will play vital role to the investors for awareness in investing to stock market and help finance student as well as researchers to understand the condition of the Nepalese stock market. To fulfill the objective, mainly many kinds of information have been acquired. Firstly, financial position and market index of listed companies, secondly signaling effects covering the view and attitudes of outstanding shareholders, potential shareholders, financial manager of companies, market makers and regulators, and others are various situation of market analysis.

#### **4.2 Significant trend of stock in Nepalese securities market**

##### **4.2.1 Trend of Primary market**

Before the establishment of the Securities Exchange Centre (SEC), there was no any institutional arrangement to undertake new issue and manage the sale of the shares and debentures of the corporate bodies. A public limited company could make public offering according to the provision of the company Act 1964 when SEC came into existence, it started managing new issues of shares and debentures according to the guidelines for new issues and sales management 2043 (1986). It used to charge commission for its service to the issuing company varying from minimum 1.35 percent to maximum of 2.0 percent depending on the amount of new issue. A

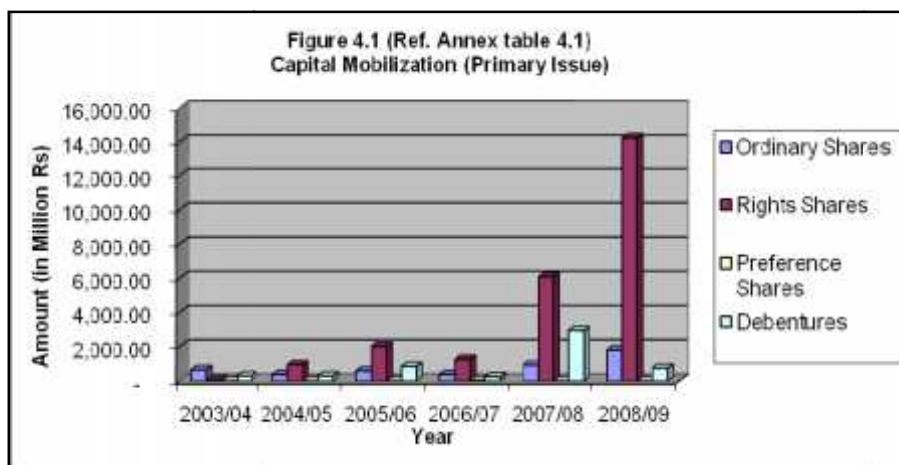


lower amount of transaction would attract a higher rate of commission and vice-versa. Therefore, the issuing company had to pay a commission of 2.0 percent for the management of new issue and sales services to SEC for an amount up to Rs.2.5 million. The rate of commission for a new issue of Rs.10 million and above was 1.35 percent.

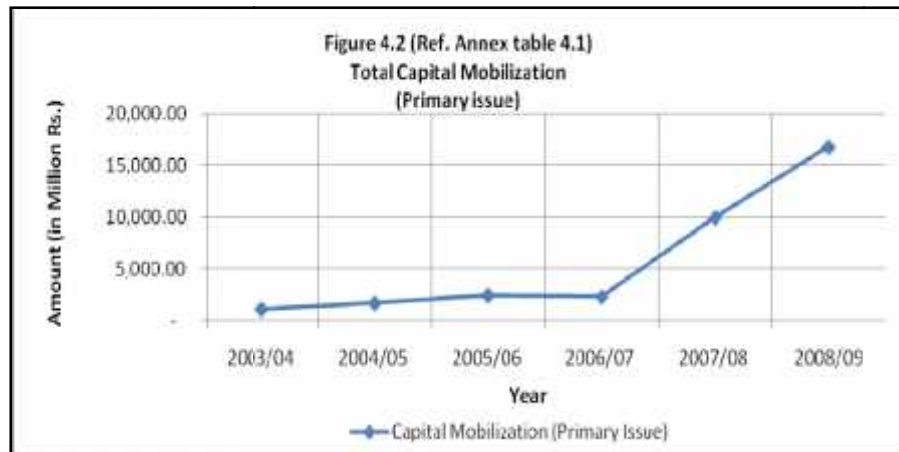
At present Nepal government introduced new regulations from November 2007 in place to govern the Capital Market. Same time, the Government of Nepal has issued three new Regulations, namely, Securities Businessperson (Stock Broker, Dealer and Market Maker) Regulation-2007, Securities Board Regulation-2007 and Stock Exchange Licensing Regulation-2007. These Regulations which came into effect from 4 November 2007, among other things, paved the way for opening a new stock exchange, increase the number of stock brokers and reduce the brokerage commission. The new regulations will contribute to the development of the capital market and the welfare of small investors. The table 4.1 shows the rates of commissions on common stock.

S.N.	Amount (Rs. in thousand)	Commission rate
1	Upto 50	1.00 %
2	50-500	0.90 %
3	500-1000	0.80 %
4	More than 1,000	0.70 %
Source: NEPSE Newsletter (Issue 1 15 Jan.- 13 March 2008)		

There were increasing numbers of capital mobilizing companies in each year in the primary market of Nepal. The right shares issue was the main source of mobilizing capital in primary market and ordinary share issue was in second position (Figure 4.1). Preference shares and debentures were playing least role in Nepalese stock market although the debenture issue in market in 2007/08 had comparatively high then other fiscal year.



The total capital mobilization trend in primary market was increasing in each year (Figure 4.2). In the FY 2008/09, 64 corporate entities have been authorized to mobilize capital from the primary stock market for a total amount of Rs. 16,828.50 million by issuing stock of ordinary and right shares and debentures. Such authorized amount is higher by 68.82 percent compared to the FY 2007/08.



#### 4.2.2 Trend of Secondary market

Trading on the floor of the NEPSE is restricted to listed corporate securities and government bonds. Companies established under company act 1964 must be listed in stock exchange Ltd. Number of listed companies was 62 in the initial month of floor trading on NEPSE, then this number increased by listing of additional companies. The number of listing companies is increasing trend. The trends of group wise listed companies are increasing. The number of listed

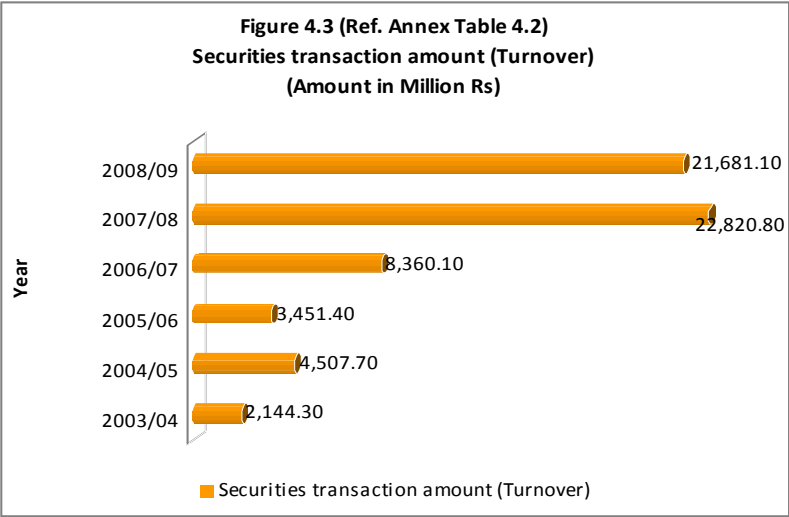
companies in finance group has increased at higher rate, than that of other sectors. The higher number of listed companies in finance groups implies the well management; facilities provided top investors, effective securities to the investors.

Securities Exchange Act 1983 made it obligatory to trade the securities through the recognized Exchange Centre or through their licensed brokers. Therefore the securities Exchange centre opened its floor for secondary trading of corporate shares in November 1984. Before this, the SEC was restricted to trading of Government Bonds.

At present "as per the Securities Businessperson Regulation, the stock broker's commissions on common stock, government bonds and the rest of the stock have been reduced to the 1.0-0.7, 0.20-0.05 and 0.75-0.40 percent ranges respectively. Earlier brokers used to charge 1.5 percent to 1.0 percent on common stock and 0.15 to 0.75 percent on government bonds depending on the amount of transactions done. The new regulations will contribute to the development of the capital market and the welfare of small investors".

In mid July 1986, there had been a total of 16 listed companies with paid up share capital of Rs. 341 million. The market capitalization of listed shares on that date and annual turnover for the FY 1985/86 amounted to Rs 548 million and Rs 10.1 million respectively. However, the security market started growing continuously thereafter and in 1990 the number of listed companies rose to 41, the paid up value of listed shares increased to Rs. 789 million and the market capitalization at mid July reached to Rs 1775 million, which is larger by more than three times to that of 1986. The total turnover of FY 1989/90 was Rs 25.3 million. At the earlier stages of growth the secondary market of securities in Nepal was very weak. Along with the formation of security exchange Board; Nepal Government converted the securities Exchange Center Ltd. into Nepal Stock Exchange Ltd. (NEPSE) in 1994 with a view to reform the capital market. It is a non-profit making organization operating under securities Exchange Act 1983. Brokers and market makers operate on the trading floor as per the security Exchange Act rules and bylaws of NEPSE. Nepal stock Exchange started its operation on 13 January 1994 through its licensed members.

The security Board was constituted on 1993 under section 1 of the securities Exchanges Act 1983. Its main objective is to provide essential policy direction for the systematic and regular exchange of securities and develop competitive stock exchange is a trading institution, whereas a security Board is the regulatory board. Before the Board came into existence, the Securities Exchange Centre carried on both the functions. Though any corporate body is desired to carry out the transaction of securities can submit application to the Board for obtaining the license. Till now Nepal Stock Exchange Ltd, alone is representing the securities market in the country.



In the FY 2008/09 cash transactions in the Stock Exchange decreased by 5 percent totaling Rs. 21,681.10 million with 30,547.17 thousand shares changing hands in comparison to 28,599.77 thousand shares worth Rs. 22,820.80 million during the period of FY 2007/08. But number of transactions is increased by 38.65 percent in the FY 2008/09 to total 209,091 as compared to 150,800 transactions in the corresponding period of the previous fiscal year. The number of corporate entities listed in the stock exchange has totaled 159 in the FY 2008/09 which was 12 percent increase than the FY 2007/08.

**4.2.3 Monetary policy, Fiscal policy and its psychology impact on Security Market**

The monetary implication has measure influence in Nepalese Security market. The influence of recent directives from NRB can be taken as evidence of our claim. The directive is encouraging as its plan to strengthen commercial bank in the long run. Its objective is to save other commercial banks from becoming Nepal Bank limited and Rastriya Banijya Bank Limited. The

directive has three - year plan and steps have to be implemented from fiscal year 2058/59 onwards. It has made alteration in the requirements of core capital and supplementary capital but important change from stock markets point of view is loan loss provision instead of six categories previously there are four categories now for loan loss provision. For any loan overdue for more than three month, 25 percent of loan amount should be provisioned and this should be 100 percent for loan over one year in arrears. This means, some of the banks may have negative operating profit in first quarter of the fiscal year 2058/59. This anticipation has led to the decreasing share price of banking institution.

The announcement of fiscal policy has rendered the major influence on stock market. The introduction of tax dividend at the rate of 5% in 2000 A.D. and capital gain tax at the rate 10% in fiscal year 2001 hindered the bullish tendency in the stock market. Previously both of them were tax-free. However the commission has to be paid to the broker. If the current market confidence is taken as indicator of the effect of levying capital gain tax (CGT) certain indication are not encouraging. The upward movement in stock price till July 16, 2001, followed by continued fall shows the game plan of investors and brokers the tax liability. During the period dummy transfer were made and stock prices pushed up.

The government decision to levy CGT may not be bad, especially in the light of its intention to include all income generating activities under the tax net. And because stock trading is profitable venture this too needs to be taxed. But what about the mechanism and other related aspect. Don't they need proper addressing? This is key question. And this is exactly the case of discontentment of the stock market.

Despite the rationale of charging the CGT from the government's perspective perhaps it was not right at its juncture since only secondary market of the country is on a downturn. In addition when one compares the primary market and secondary market rates, the decision may not have been right. Say, prevailing primary market rates stand at 5% and investors makes Rs.500 over his Rs10000 investment in stock. In this case the government would charge CGT on Rs.500. But considering the fact that Rs.500 can be obtained from even the banks, can this be called the true capital gain? Furthermore, if bank rates were 10% then surely investors would have incurred

opportunity capital loss of Rs.500 instead. This is the main reason, which may come as discouraging signal to small investors in stock market.

In the short history of Nepalese capital market, it has seen two big crashes. The first crash was in the second half of 1994 and the second crash was in the last six month of 2001. However, it was in bullish trend in initial month of 1994 public sentiments towards the especially shares of banks and financial companies went up without financial support. When joint venture banks started to declare attractive rates of dividends, investors exhibited grave concern over shares of all companies irrespective of financial strength of companies. The NEPSE index tremendously went up to 265. But this period onwards, the bearish tendency in the market started. Most of the investors were not aware of the security price movement, risk associated with corporate investment. They made a pre-concept of security investment is beneficial that to deposit in banks. The deregulation of interest rate reduced the deposit interest rate in Nepalese market. This flooded the investor to security market. When some of the companies like Gorakhali Rubber Udhyog, Joti Spinning Mills, Agro Nepal Ltd. Ace Laboratories started showing poor performance, the investors started to loose their confidence in stock market and rush to sell their shares which result the downturn of the market.

The cause of downturn of stock market in 2001 is little different. The unawareness of investors to corporate investment and the risk associated with it is a common reason. At initial month of years, NEPSE index was showing bullish tendency. It was 548.82 in 23, Nov, 2000, this had been crashed down to 375.17 on March 2001.

The Down turn of stock market started when the NRB directed all the commercial banks to maintain loan loss provision. For any loan overdue for more than three months, 25% of loan amount should be provisioned and this should be 100% for loan over one year in arrears. This means one banks have negative operating profit in first quarter of fiscal year 2058/59. Those who were about to issue bonus share and cash dividend withdrew their decision. This anticipation has lead to the decreasing share price of banking institution. However the uncertain political atmosphere has also major influence in stock price crash.

The frequent market collapse has emphasized the need to correct several deficiencies in our financial system. Financial system comprised of the banks and other depository as well as non-depository financial institution, money markets and capital market. It allows an efficient transfer of resources from the surplus units to deficit unit i.e. from savers to investors. By mobilizing saving to high return investment most effectively an economy can achieve higher return of growth. The development of capital market is closely related to the modernization, specific classified, investable and development of financial system. The stock market had lost momentum reflecting concern that ore fundamental measure were need to put economy and financial system on path to recovery. The government initiated the policy of economic liberalization in 1985 and first phase measure to reform financial sector was adopted. Joint investment in banking sector was invited, interest rate was deregulated and various provision as to maintenance of capital adequacy ratio, open market operation, exchange market intervention loan loss provision and credit ceiling were made. Now, financial restructuring is broadly on track and the policy for corporate restructuring is largely in place. A strong financial development is underway. All these along with privatization policy of government have promoted further development of capital market in Nepal.

#### **4.2.4 Factor affecting the Nepalese Stock market**

The most of the individual investors revealed to be isolated and incapable of analyzing the performance of the company in which they have invested. Meanwhile, most of the investor makes buy or sell decision without having risk-return analysis and proper evaluation of the company's performance. In view of this, this, research work has been focused to reveal such qualitative factors, which affects the Nepalese Stock Market that could be summarized as below.

##### **a) Vulnerable market structure**

This turnover of the stocks in the market is still very thin due to its nascent stage. As such it has not been yet possible to create a continuous market. However, there could be a host of reason. The majority of the investors in Nepal Stock Exchange are individual investors. The volatile and rudimentary nature of Nepalese stock market indicates highly dissatisfaction from the investors. It may be mainly due to the lack of awareness amongst the investor's low habit of investing in the stock and holding strategy of investors. However, most of the individual investors are revealed to be isolated and incapable of analyzing the performance of the company in which they

have invested. Thus, only the efficient effective way for the majority of stockholders is to follow institutional investors. Therefore, it is convenient for the institutional investors to manipulate the stock price and control the market at the cost of scattered and small investors. Due to such structural lacunas in the Nepalese stock market, it is very difficult to predict the real market trend. However it has also been revealed that in some of the cases, the market response regarding the stock's price found to be quit different from the capital market theory.

#### **b) Structure of the ownership**

In Nepal very few promoters are found to be interested to run a company through huge share participation rather than partnership or sole proprietorship. Though, the company act has some provision for issuance of share capital. To general public, most of the companies are raised to be delaying in the issue of shares. Nevertheless, the company issues shares to the general public, the quantum of the issue will proportionately lesser than promoters stake and out of which the relatives of the promoters' stake and out of which the relative of the promoters and the other corporate investors will take large proportion of public issue, most of them would have holding strategy, i.e. They would treat stock purchase as a long term investment and wait for huge dividend & bonus. Thus, this is impact of lower level transaction.

#### **c) Economic factors**

The poor state of economy such as: low economic growth, decreasing trade activities, low saving mobilization and widening saving investment gap has resulted in lower activities in the Nepalese stock market. The ever-increasing, saving-increasing gap has negative impact in the development of the capital market.



#### **d) Legal framework**

The government policies are always determinant factor to influence the Nepalese Stock Market. Some of the reason for the low level of activity in the stock market may have to do with tax regulations to mitigate the problems of insider trading and manipulation of market. Thus due to lack of effective law prohibiting such abuses and to inactive enforcement of existing laws the stock market is lacking fair game. As an example of the problem, the penalty in current law for insiders who unfairly exploit their position is merely the forfeiture of the shares. However, this is not sufficient deterrent.

#### **e) Lack of transparent information**

The main factor affecting the stock market is the lack of timely and transparent financial reporting and non - performance of due diligence requirement prior to issuance of new listings. Though, NEPSE is publishing annual report, Trading Report and financial information of listed companies, it has not been so transparent and most of the times those have been found incomplete for public purpose. Thus, the lack of stock market statistics has also influence in squeezing the turnover level as well as slow growth of Nepalese stock market.

#### **f) Market fundamentals**

Many of non-financial listed companies have low profitability and a poor record of distributing dividends. However, most of them were found financially sick. This has also negative impact in the stock market, as the investors want to invest only in the profitable companies. However the banks and financial companies are most attractive amongst investors and also actively traded issues.

#### **g) Lack of strong monitoring system**

Some of the major problems experienced by the stock market are the poor regulatory controls and supervision by securities board and Nepal stock exchange. There are reports that in the case of infractions, when discovered go unpublished. Meanwhile, the problem of insider trading and manipulation of market are also due to lack of strong and effective monitoring system.

One of the influencing factors in lower level of activity is mainly of the exchange. The trading activities are carryout on 'open-out-cry system'. The broker system is yet to be developed, however, the investors themselves of their representative go directly to the exchange to transact

their deals. Moreover, the Nepalese capital market is not yet integrated regionally and globally. Henceforth, all these factors have greater influence in Nepalese stock market. Another serious deficiency in capital market is the complete absence of any provision of law regulating corporate commercial paper and bonds and therefore these financing instruments are not available.

#### **h) Leakage of secret information**

The Nepalese stock market has also been suffered several leakage of corporate decision before it has been made public. It is revealed that some of market maker and broker have organizations and get secret information due to their closed intimacy with executives. As a result, the price of stock is manipulated before the secret decision made public. This trend has hindered the Nepalese stock market very deeply. This are the also evidence from the several price changes (or manipulation) in the last five years.

### **4.3 Risk and Return of Stock Market**

Risk is related to future and future is uncertain. But risk is manageable rather than uncertain. Company-specific risk (earning variability) and company's ability to service its debt burden are intimately related to the particular characteristic of the business or businesses in which the company operates. Moreover, they are affected by economic conditions- apart from management's ability to generate satisfactory operating performance.

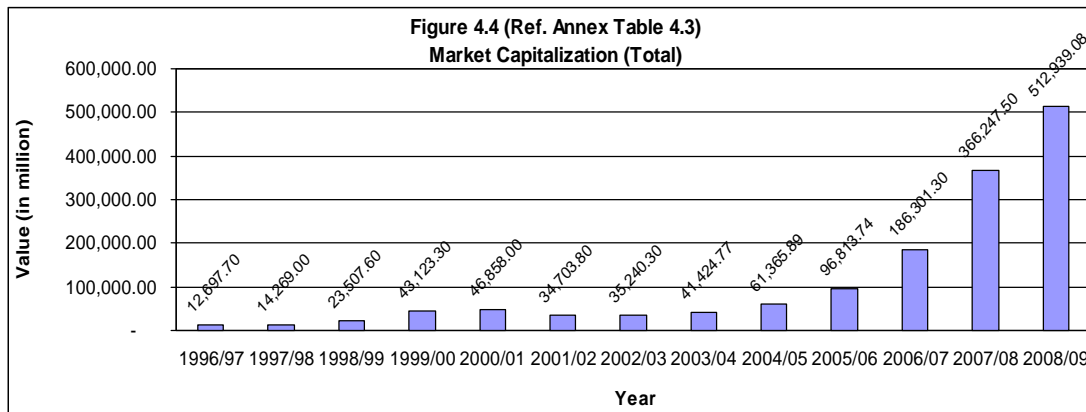
There are different types of securities as treasury bills, long-term government bonds, long-term corporate bonds, common stocks etc. among these securities this study concern with common stocks. “Common stock represents a commitment on the part of a corporation to pay periodically whatever its board of directors deems appropriate as a cash dividend”.

The return is income received on an investment, which is expressed as dividend, plus any change in market price of the share (MPS) and usually expressed in percent. Both dividend and market price of the share are uncertain figures. So, the actual return on investment in common stock may differ substantially form the expected return. “The variability of returns from those that are expected is defined as risk. The greater the variability, the riskier the security is said to be. The market price of the share of a company is driven both by fundamental business values and stock

market sentiment. For a given business, it is always worth attempting to identify which of these is driving its share price.

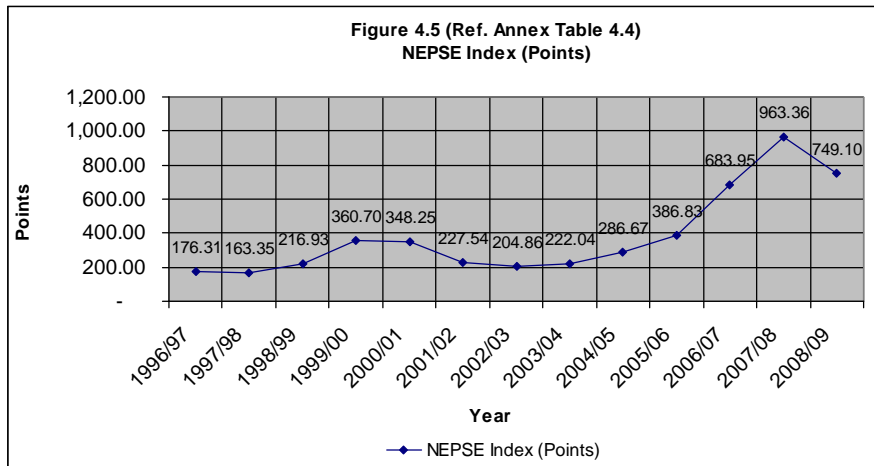
### 4.3.1 Market capitalization and NEPSE Index

To the analysis of the overall market return, it is essential to identify market capitalization and index of overall market of each year. Market capitalization is the position of market price of share. Market capitalization is the multiple of market price of share and listed number of share of each company of stock exchange.



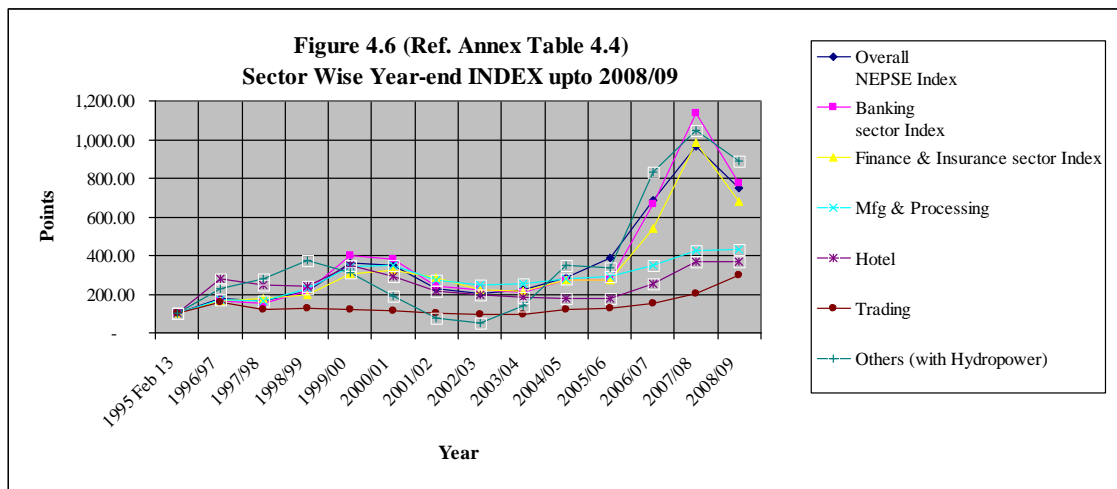
The figure 4.4 shows the market capitalization of each sector up-to fiscal year 2008/09. At the beginning, market capitalizations of all the sectors were higher. Since fiscal year 1996/97, market capitalization was in increasing stage up to the fiscal year 2000/01. Then again it was decreasing up to fiscal year 2002/03. After fiscal year 2002/03, it is again in increasing stage. In comparison to the sectoral return, Market Capitalization of Banking, Insurance and Finance companies are higher than other sectors. So, it can be seen whole market is dominated by Banking, Insurance and Finance sectors.

Similarly, the figure 4.5 shows, represents year-end index of each year up to 2008/2009 after establishment of NEPSE. Overall index was decreasing up to After the fiscal 1998/99, the situation was improving up to year 2000/01.



market  
1998.  
year  
fiscal

Overall market index was again decreasing up to fiscal year 2004/05. After then, it was increasing upto 2008 but this figure shows that the trend of the stock market was decreasing from 2009. It is remained unsatisfactory due to the poor economic condition still existing in the country as well as insecure of political system and unstable of government of Nepal.



In Sector wise NEPSE index, hotel sector was in decreasing stage. According to transaction, banking sectors leads in the secondary market. Likewise, Insurance and Finance sector also play vital role in stock market. That is way overall index is dominated by banking sectors and Insurance & Finance sector rather than other sectors.

Market return implies that overall return on stock market shown in annex table 4.4. It may be based on index of stock Market.

According to formula:

$$R_m = \left[ \frac{MI_t - MI_{t-1}}{MI_{t-1}} \right] \times 100$$

$$\bar{R}_m = \frac{\sum R_m}{N} = 0.2214$$

$$\sigma^2 = \frac{\sum (R_m - \bar{R}_m)^2}{N} = 0.1374$$

$$\sigma = \sqrt{\sigma^2} = 0.3707$$

$$C.V = \frac{\sigma}{\bar{R}_m} = 1.6743$$

Where,

$R_m$  = Average rate of return;

$t$  = MI Index of Period “t”

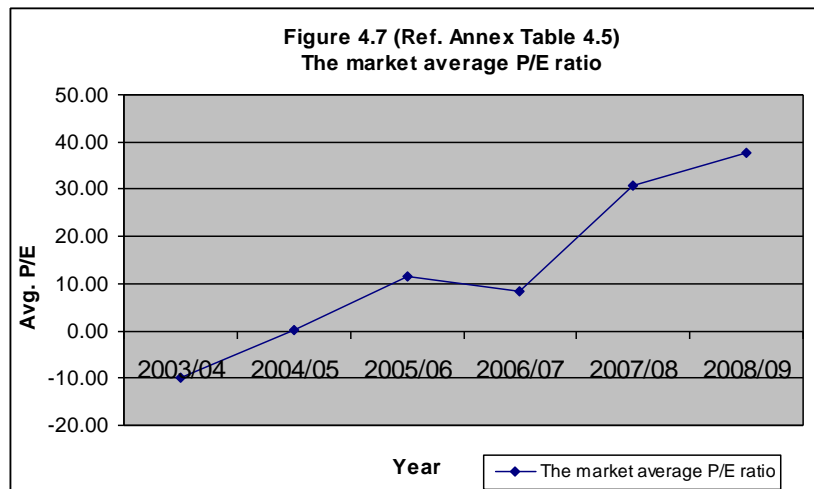
$t-1$  = MI Index of period “t-1”

### 4.3.2 The average P/E ratio overall stock market

In addition, the information was gathered for the empirical findings and the analysis is worked out to give an easier overview of the results. This is due to the fact that this study examines some

variables of different characteristic, thus simplifies it to understand.

The figure 4.7 shows how the P/E ratio evolved during the period. It can be

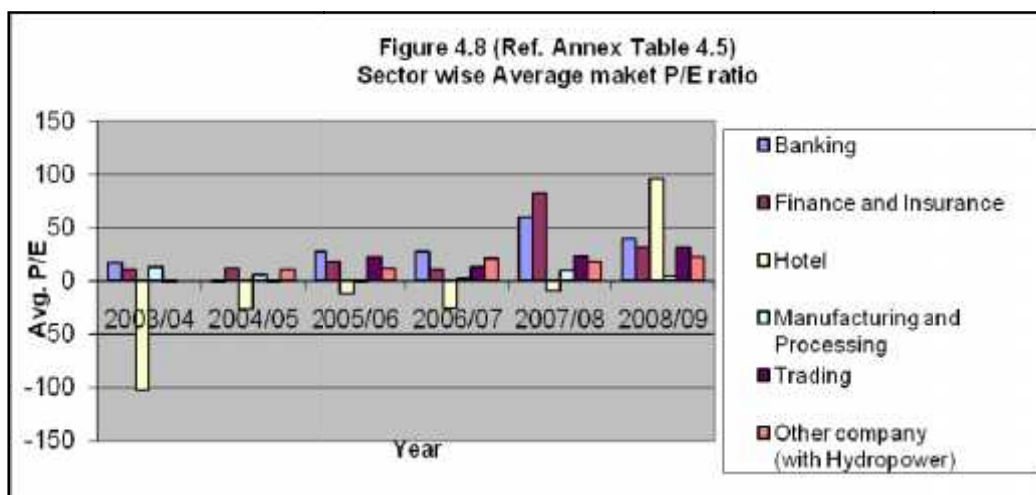


it

shows  
has  
time  
clearly

seen that the P/E ratio are more fluctuate each year but from fiscal year 2006 it starts “the crash” the ratio decreased back to less than normal levels, around mid of 2007 it again starts to increase up to 25.31 at fiscal year 2009.

The figure 4.8 shows the average P/E ratio for six different sectors during 2004-2009. Hotel sector is showed in the figure that has had the negative P/E ratio up to 2008 due to political crises and among the highest we find the Banking sector. As displayed in the figure the P/E ratios are highest during 2008 of banking sector. All sectors are improved its P/E ratio during 2009 although other company (with Hydropower) and Manufacturing & processing company have low P/E. Such fluctuation in P/E ratios of Nepali stock market is occurred due to internal environment as well as external environment such as political crisis and unstable government in the country.



#### 4.4 Selection of sectors for analysis

Dependent on the time constraint, it is difficult to analyze the data of all sectors. Only two sectors i.e. Banking sector and Finance & Insurance (F & I) sector are selected for the study. In recent years the studies have become focused on the P/E as an explanatory variable instead of its anomaly effect because now a days investor are looking new and reliable analysis to forecast the future trend of the Nepalese stock market. Based on this, this study will, off course, give them one light to invertors to thing about the P/E for analysis the stock market. Some sample companies were picked out for detail analysis from the banking sector and F&I sector which are as follows:

##### 1. Sample companies of Banking sector

- a) Nabil Bank Limited
- b) Standard Chartered Bank (Nepal) Limited

- c) Himalayan Bank Limited
- d) Nepal SBI Bank Limited
- e) Everest Bank Limited
- f) Nepal Bangladesh Bank Limited
- g) Bank of Kathmandu Limited

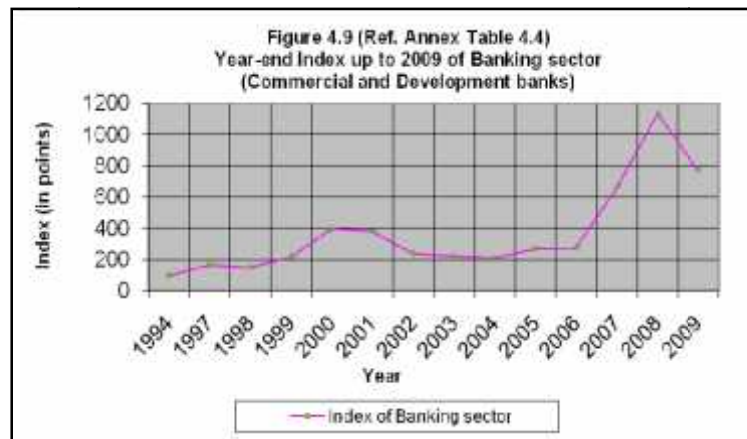
2. Sample companies of Finance and Insurance

- a) Annapurna Finance Company Limited
- b) Kathmandu Finance Limited
- c) Premier Insurance Company (Nepal) Limited
- d) United Insurance Company (Nepal) Limited

**4.4.1 Risk and Return of Banking Sectors**

(Commercial and development banks)

Most of the commercial Banks are established under the company Act 1964 with an objective of the bank is to provide modern banking facilities like tele banking to the business, industrialists and other professionals provide loans on agriculture, commerce industrial sectors. Most Banking companies are established and listed in exchange limited. These companies are largely secondary market rather than other companies. These sectors represent 69.86% of total transaction of fiscal year 2008/09 in stock market.



and to  
and  
of the  
stock  
traded in

The figure shows the index for the banking sectors during 1994-2009. No surprises are showed in the figure from fiscal year 1997 to 2006. But “the crash” was observed on 2002, after then there are not any drastically changes up to 2006. It is clearly seen that the banking sector picked up its transaction from starting of 2007 because many commercial and development banks are

established and investor feel that the secured sector for investment is banking sector. There is no any option for investment due political instability and Maoist conflict in the country.

Market return of banking sector is shown in annex table 4.4. Market return of Banking Sector (26.27 %) has around to overall Market return i.e. 22.14%. Similarly, variance and coefficient of variation of banking sector are 27.20% and 198.56% respectively. From fiscal year 2001/02, return of banking sector was in decreasing stage due to the worse economic condition of the country but year after 2004/05 it was going up.

According to formula:

$$R_B = \left[ \frac{BI_t - BI_{t-1}}{BI_{t-1}} \right] \times 100$$

$$\bar{R}_B = \frac{\sum R_B}{N} = 0.2627$$

$$\sigma^2 = \frac{\sum (R_B - \bar{R}_B)^2}{N} = 0.2720$$

$$\sigma = \sqrt{\sigma^2} = 0.5215$$

$$C.V = \frac{\sigma}{\bar{R}_B} = 1.9856$$

Where,

$R_B$  = Average rate of return

$t$  = BI Index of Period “t”

$t-1$  = BI Index of period “t-1”

The hypothesis would be tested to find whether the returns from banking companies are equal or not, by using the different mean of t-statistic.

The hypothesis would be

$H_0$  : There is no significance difference between overall market return and return of banking sectors. i.e. return of banking sector is equal to overall market return.

$H_1$  : There is a significant difference between overall market return and return of banking sector i.e. return of banking sector is not equal to overall market return.



$$\begin{aligned} \text{i.e. } t = \text{statistic under } H_0 \text{ is} &= \frac{\bar{R}_B - \bar{R}_m}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}} \approx t_{n_1 + n_2 - 2} \\ &= \frac{0.2627 - 0.2214}{\sqrt{0.2047 \left( \frac{1}{13} + \frac{1}{13} \right)}} = \frac{0.0413}{0.1775} = 0.2327 \end{aligned}$$

Degree of freedom (df) =  $n_1 + n_2 - 2 = 13 + 13 - 2 = 24$

In 24 degree of freedom, the tabulated values in different level of alpha ( $\alpha$ ) are:-

$$t_{0.01} = 2.492$$

$$t_{0.05} = 2.064$$

$$t_{0.10} = 1.711$$

(Since almost business research has based on 5% level of significance)

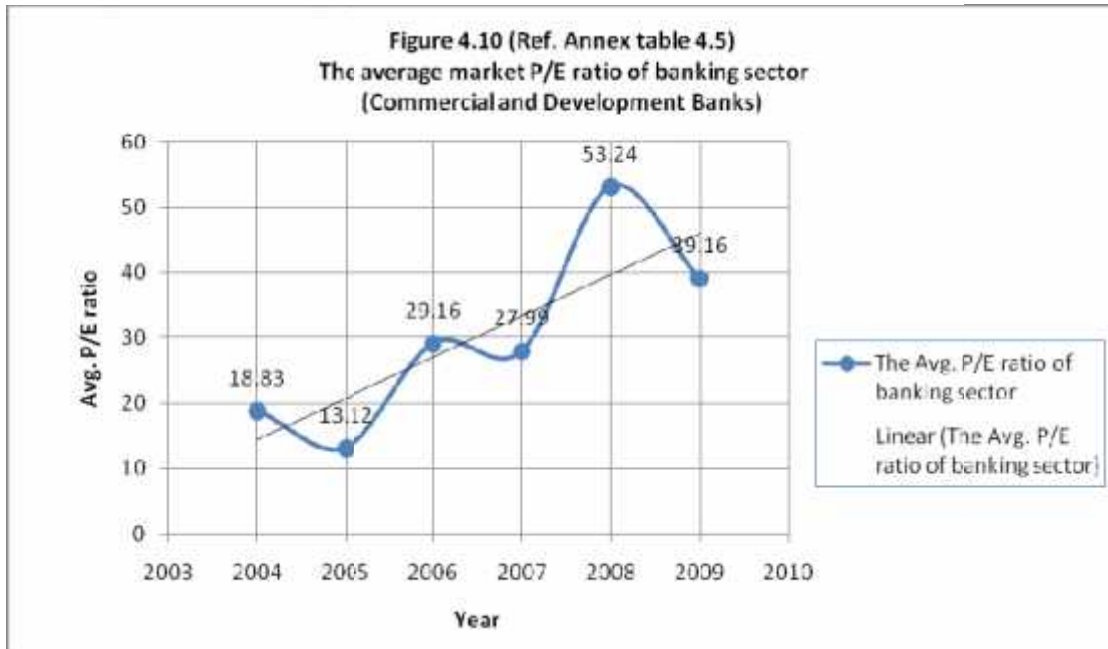
The tabulated value of “t” at 5% level of significance for right tailed test and for 24 degree of freedom is 2.064.

Since the calculated value of "t" is less than the tabulated value of "t", it is not significant, so null hypothesis may be accepted in 5% level of significant and we conclude that there is no significant difference between return of Banking sector and market return. The hypothesis also proved that securing return of banking sector as compared to market return has equally benefited people.

#### **4.4.2 The average P/E ratio of Banking Sectors**

(Commercial and development banks)

Investors and stock analysts have long used price-earnings ratios to help determine if individual stocks are reasonably priced. More recently, some economists have argued that the average P/E ratio for a stock market index help predict long-term changes in that index. According this view, a low P/E ratio tends to be followed by rapid growth in stock prices in the subsequent year and a high P/E ratio by slow growth in stock price.



The figure shows how the P/E ratio at banking sector has evolved during the time period. It can be clearly seen that the P/E ratio are more fluctuate each year. If earnings are expected to grow persistently faster than previously, it is only natural that investors be willing to pay more for stocks and thus raise the P/E ratio. Banking sector stocks are perceived to be less risky today than in the past as well as other sectors; demand for stocks will be higher, resulting in higher stock prices and higher P/E ratios.

#### 4.4.3 Risk and Return of F & I sectors

After liberalization policy was introduced, most of the Finance and Insurance companies were established and listed in stock exchange limited. After banking sectors, finance and insurance companies play strong role in secondary market rather than other sectors. The main objectives of the insurance companies are to providing non-life insurance services in the field of fire, marine, vehicle and miscellaneous insurance in the country and abroad as well as life insurance also. These companies have obtained permission to commence insurance business from insurance board under insurance Act 1992. Similarly, most of the finance companies were established under the company Act 1964 with an objective of the Company is to collect deposits, to provide short-term and long-term loans and other financial services under Finance Company Act, 1985. Recently, 69 insurance and finance companies have been listed and frequently traded in stock exchange representing 10.44% of the total transaction in fiscal year 2008/09 in stock market.

Market returns of Insurance and Finance sector have around to overall market return i.e. 21.73 %. Similarly standard deviation and Coefficient of Variation are 40.55 % and 186.59 % respectively calculation shown in annex table 4.4. In previous year, return of insurance and finance sector was in decreasing stage. Now existing situation was improving and condition of insurance of finance sector was improving through after fiscal year 2004/05.

According to formula:

$$R_{IF} = \left[ \frac{IFI_t - IFI_{t-1}}{IFI_{t-1}} \right] \times 100$$

$$\bar{R}_{IF} = \frac{\sum R_{IF}}{N} = 0.2173$$

$$\sigma^2 = \frac{\sum (R_{IF} - \bar{R}_{IF})^2}{N} = 0.1644$$

$$\sigma = \sqrt{\sigma^2} = 0.4055$$

$$C.V = \frac{\sigma}{\bar{R}_{IF}} = 1.8659$$

Where,

$R_{IF}$  = Average rate of return of Finance & Insurance sector (IF);

t = IF Index of Period "t" ;

t-1 = IF Index of period "t-1"

The hypothesis would be tested to find whether the return from finance and insurance companies are equal or not, by using the different mean of t-statistic.

The hypothesis would be:

Ho : There is no significance difference between overall market return and return of finance and insurance companies i.e. return of finance and insurance companies is equal to overall market return.

$H_1$  : There is a significant difference between overall market return and return of finance and insurance companies i.e. return of finance and insurance companies is not equal to overall market return.

$$\begin{aligned}
 \text{t-statistic under } H_0 \text{ is} &= \frac{\bar{R}_{IF} - \bar{R}_m}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}} \approx t_{n_1 + n_2 - 2} \\
 &= \frac{0.2173 - 0.2214}{\sqrt{0.15091 \left( \frac{1}{13} + \frac{1}{13} \right)}} \\
 &= \frac{-0.0041}{0.1524} \\
 &= -0.0269
 \end{aligned}$$

Degree of freedom =  $n_1 + n_2 - 2 = 13 + 13 - 2 = 24$

In 26 degree of freedom, the tabulated values in different level of alpha ( $\alpha$ ) are:-

$$t_{0.01} = 2.492$$

$$t_{0.05} = 2.064$$

$$t_{0.10} = 1.711$$

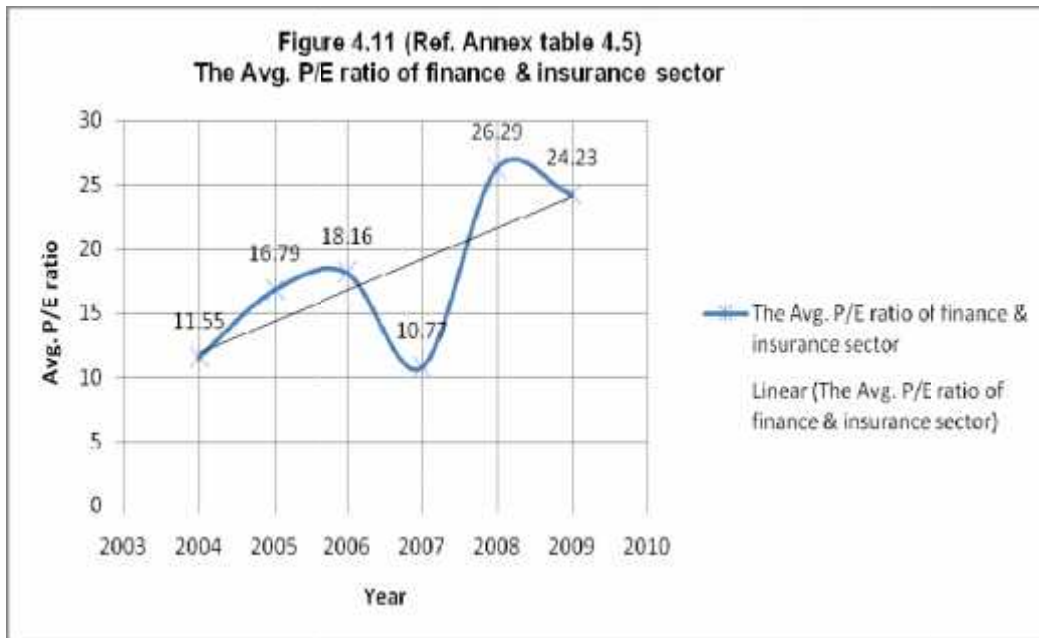
(Since almost business research has based on 5% level of significance)

The tabulated value of "t" at 5% level of significance for two tailed test and for 24 degree of freedom is 2.064 and the calculated "t" is -0.0269 i.e.  $|t| = 0.0269$

Since the calculated value of "t" is less than the tabulated value of "t", so null hypothesis is accepted in 5% level of significant and we conclude that there is no significant difference between sample return and market return. The hypothesis also proved that securing return of finance and insurance sector as compared to market return has equally benefited people.

#### 4.4.4 The average P/E ratio of F & I Sectors

Stocks have always been perceived as risky investment, relative to money market funds, or government securities. Consequently, the expected returns on stocks have had to exceed the returns on these safer assets to attract investors. Investors are always attracted to less risky sectors for their safe investment. So, investors still do not trust the finance and insurance sector. Thus we can see the index as well as average P/E ratios are more fluctuate than overall market index and average P/E ratios of finance and insurance sector.



The diagram shows how the P/E ratio at finance and insurance sector has evolved during the time period. It can be clearly seen that the P/E ratios are more fluctuate each year than banking sector. It is more fluctuated during fiscal year 2006 to 2008 due to increase the numbers of the finance companies as well as insurance companies. On other hand, such fluctuation was occurred causing earnings not to be stable. The reduction in transaction costs can lead to an increase in P/E ratios because the net return to investors will increase even if the gross return remains the same. This increase the demand for stocks and boosts stock prices and P/E ratios.

#### 4.5 Data analysis of sample companies of Banking sector and F & I sector

Generally, Market capitalization is equals to the number of share outstanding multiplied by shares prices. Simply, market capitalization means the value of firm. If other things are

constraints, large market capitalization means smaller stock return, higher liquidity and marketability whereas smaller stock provides higher stock return and less utility than longer market capitalization. Market capitalization may have the function of Dividend per share, earning per share, return on equity, price earning etc. as constraint with risk and return, it also functions of liquidity leverage, earning and coverage.

In the following figure shows market capitalization of sample companies of Banking sector (Figure 4.12) and Finance & Insurance sector (Figure 4.13) from 1996/97 to 2008/09. At the beginning, both have increasing trend up to the fiscal year 2000/01. Then it was decreasing up to fiscal year 2002/03. After fiscal year 2002/03, it is again in increasing stage. In comparison, both have similar trend in market.

Figure 4.12 (Ref. Annex table 4.6)

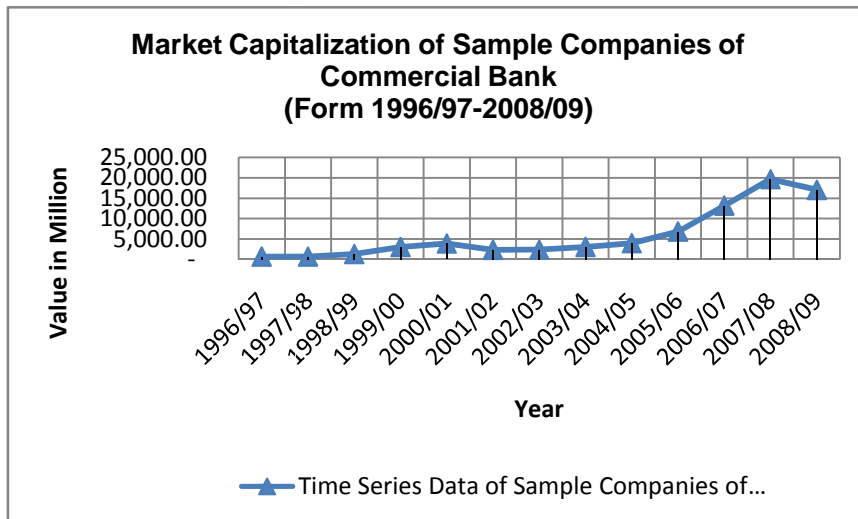
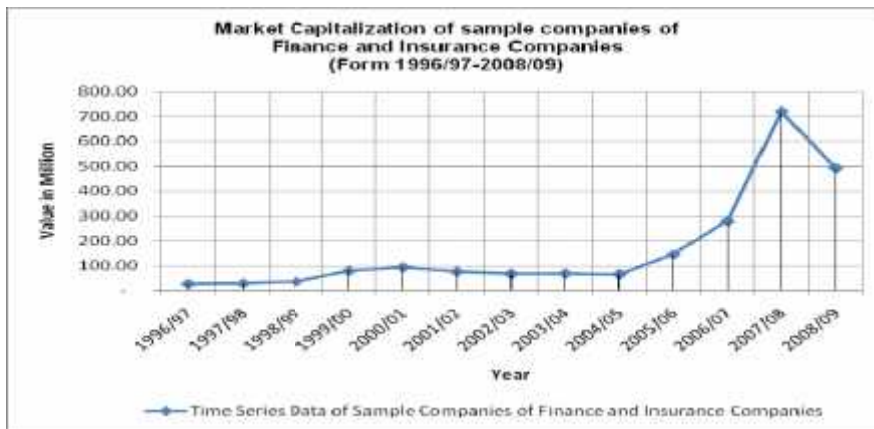
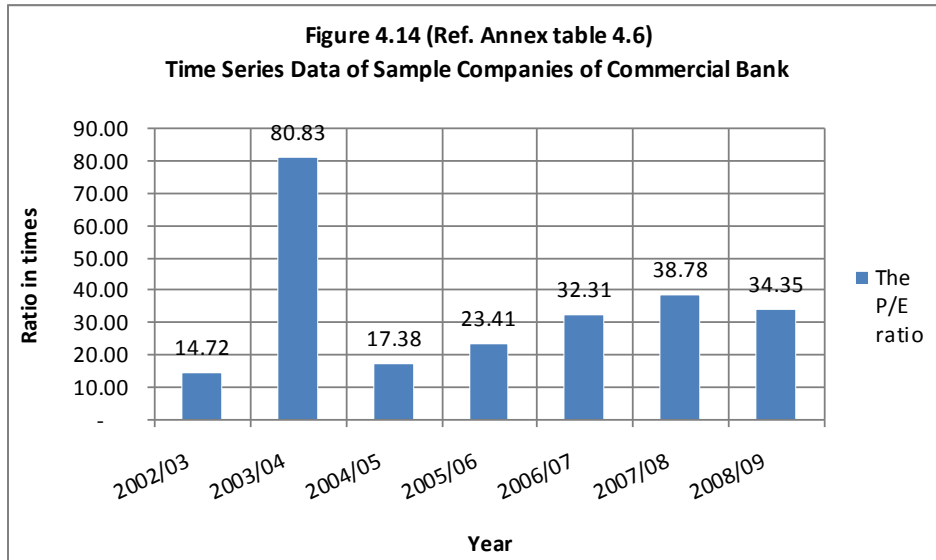


Figure 4.13 (Ref. Annex table 4.6)



Banking, Finance and Insurance sectors are selected to analyze the value of the firm on which seven banking companies and four finance & insurance companies are taken as sample. The sample is based on market capitalizations, which are frequently traded in stock market. Data of related companies are included for analytical purpose from 1999/97 to 2008/09. The name lists of sample companies are shown in annex 3.2.



In reality, not only one independent variable affects the dependent variable but many independent variables do affect. Thus, the model of multiple regressions consists of the measurement of the relationship between the dependent and two or more independent variables. This model also helps to analyze critically the cause and effects of dependent and independent variables. The model of multiple regression equation could be expressed by:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6)$$

Where,

Y1 = Market value of firm i.e. market capitalization.

X2 = Earning per share i.e. earning after tax divided by number or share Outstanding.

X3 = Dividend per share i.e. equity dividend divided by number or share outstanding

X4 = Price earning ratio i.e. closing market price of stock divided by earning per share.

X5 = Earning yield i.e. earning per share divided by closing market price.

X6 = Dividend yield i.e. dividend per share divided by closing price of share.

X7 = Return on equity i.e. earning per share divided by paid up price multiplied by 100

## Assumptions

Since the market capitalization represents the market value of the firm. The market capitalization (in million) data are assumed as dependent variable for the study. Market capitalization is basically dependent on DPS, EPS, EY and ROE data are assumed as independent variable of the sample companies. According to the relationship between dependent and independent factors, EPS, EY and ROE have a positive impact in Market capitalization. The higher dividend reduced retain earning as well as market value of firm due to low capital formation in companies. Thus, DPS and DY have negative impact in Market capitalization.

### 4.5.1 Time Series Data of Sample Companies of Banking sector

The market capitalization represents the market value of the firm and is assumed as dependent variable for the study and others are assumed as independent variable. The relationship is used to estimate the value of the firm for the given values of independent variables. This series data of each year may be constructed by averaging the total sum of each company of specific time period. The table 4.2 shows the time series data of each period of sample companies.

Year	Y1	X2	X3	X4	X5	X6	X7
	(MC)	(EPS)	(DPS)	(P/E)	(D/Y)	(E/Y)	(ROE)
1996/97	74.70	55.88	33.50	4.20	5.23	10.11	55.88
1997/98	75.27	57.10	37.16	4.44	6.55	11.05	57.10
1998/99	137.30	55.83	32.57	16.06	4.23	7.91	55.83
1999/00	309.37	74.04	36.11	19.01	2.55	5.66	74.04
2000/01	393.94	61.62	24.65	42.60	1.37	4.54	61.62
2001/02	241.57	45.65	23.29	26.10	2.16	5.29	45.65
2002/03	246.43	30.51	32.39	14.72	3.96	7.44	30.51
2003/04	310.52	32.81	34.17	80.83	4.78	6.31	32.81
2004/05	401.98	53.69	43.32	17.38	3.63	5.58	53.69
2005/06	688.36	67.43	48.83	23.41	2.45	4.54	67.43
2006/07	1,321.48	51.10	39.60	32.31	1.52	1.96	51.10
2007/08	1,966.57	74.67	31.19	38.78	0.86	3.05	75.10
2008/09	1,705.14	83.64	22.75	34.35	0.84	3.07	83.64

Earnings per share, dividend per share, dividend yield were more fluctuated in corresponding fiscal years. Price earnings ratio is in increasing stage up to fiscal year 2005/06. Then it was also decreasing stage although it is not come to the standard point of P/E ratio. Earning yield and



return on equity were also not in linear trend line. Market capitalization was in decreasing stage. In the fiscal year 2000/2001, market capitalization was higher than late and early year but from fiscal year 2003/04, it was increasing trend up to 2008/09.

#### 4.5.1.1 Analysis of value of market (dependent variable: MC)

##### a) Multiple Correlation Analysis

The multiple correlation of the table 4.3 has been done to analyze the relationship of these depended and independent variables. According to their relationship the higher co-related factors (i.e. positive or negative) are selected for multiple regression analysis. The multiple correlation of the time series data's are:

		MC (Y1)	EPS (X2)	DPS (X3)	P/E (X4)	D/Y (X5)	E/Y (X6)	RoE (X7)
Column 1	MC	1						
Column 2	EPS	0.55811	1					
Column 3	DPS	-0.13409	-0.07218	1				
Column 4	P/E	0.30394	-0.16764	-0.21674	1			
Column 5	D/Y	-0.74509	-0.51400	0.306502	-0.31124	1		
Column 6	E/Y	-0.77065	-0.35121	0.090484	-0.48994	0.927714	1	
Column 7	RoE	0.561558	0.999974	-0.07278	-0.16589	-0.51551	-0.35272	1

According to the table 4.3 Market Capitalization has higher negative correlation with Dividend yield and earning yield as well as Dividend per share also. Earning per share has a positive relationship Return on equity. Dividend per share has also a positive relationship with dividend yield and earning yield. Similarly, Dividend yield has a positive relationship with earning yield.

Summary output is found in the multiple regression analysis of 13-years time series data are:

Multiple R	0.9460
R Square	0.8949
Adjusted R Square	0.7897
Standard Error	292.5738

Observations	13
df	12

Multiple R is equal to 94.60 %. Adjusted R square of 13 observations is equal to 78.97 %. It states that market capitalization is caused to change 78.97 % by those independent variables. Rests of the other variables have less impact on market capitalization i.e. 21.03 %. R-square implies the percentage of relationship between these variables in 13 observations. R square is found out to be 89.49%. Similarly Standard error indicates the size of the error in sampling that has been made and also has accuracy of sample that has been estimated to use sample statistic to estimate the larger standard error. The population of the standard error of above 13 observations is equal to 292.5738.

<b>Table 4.5</b>				
<b>Coefficient and P-value of Seven Variables</b>				
<i>Predictors</i>	<i>Coefficients</i>	<i>Standard Error</i>	<i>t- Stat</i>	<i>P-value</i>
Intercept	2253.276	1016.914	2.216	0.069
Variable X 2	-2387.077	798.967	-2.988	0.024
Variable X 3	-36.862	19.618	-1.879	0.109
Variable X 4	-10.493	7.222	-1.453	0.196
Variable X 5	582.158	268.770	2.166	0.073
Variable X 6	-504.474	175.091	-2.881	0.028
Variable X 7	2404.140	797.833	3.013	0.024

Where,

Dependent variable:  $Y_1 = MC$ ,

Independent variables:  $X_2 = EPS$ ,  $X_3 = DPS$ ,  $X_4 = P/E$ ,  $X_5 = D/Y$ ,  $X_6 = E/Y$  and  $X_7 = RoE$

The regression equation of seven variables is as follows:

$$Y_1 = 2253.276 - 2387.077 X_2 - 36.862 X_3 - 10.493 X_4 + 582.158 X_5 - 504.474 X_6 + 2404.140 X_7$$

### **b) Test of Hypothesis**

The table 4.5 shows that the calculated t-value of Earning per share is -2.988 i.e  $t = -2.988$  and tabulated t-value is 2.179. Since the calculated t-value is greater than the tabulated value at 5% level of significance for two tail test at 12 degree of freedom. The null hypothesis of Market capitalization is dependent of EPS is rejected. It states that there is significant negative

relationship between market capitalization and EPS. The co-efficient value -2387.077 of X<sup>2</sup> indicated that EPS has significant negative impact in Market capitalization.

The analysis shows that the DPS also found to be negatively related to market capitalization. The negative co-efficient value of DPS and the calculated t-value are respectively -36.862 and -1.879 i.e.  $|t|=1.879$ . And the tabulated t-value is 2.179. Since calculated t-value is less than the tabulated value at 5% level of significance for two tail test at 12 degree of freedom. Null hypothesis of Market capitalization is dependent to DPS is accepted. It also stated that there is a significant positive relationship between market capitalization and DPS of Commercial Banks of Nepal

The Dividend yield and Market Capitalization came to be significant positive relationship. The calculated t-value is 2.166 and the coefficient value is 582.158. And tabulated t-value is 2.179. Since calculated t-value is less than the tabulated value at 5% level of significance for two tail test at 12 degree of freedom.

Similarly, the P/E ratio and E/Y have negative co-efficient and calculated t-value which shows that there is significant negative relationship of the value of firm with P/E and earning yield. The calculated t-value of the P/E and E/Y are -1.453 i.e.  $|t| = 1.453$  and -2.881 i.e.  $|t| = 2.881$  and tabulated t-value is 2.179. Hence, the null hypothesis of market capitalization is independent of E/Y is rejected in 5% level of significant for two tail test at 12 degree of freedom. It states that the percentage decrease in each variable is caused to increase the given amount of Market Capitalization. But the null hypothesis of market capitalization is independent of P/E is accepted in 5% level of significant for two tail test at 12 degree of freedom.

Likewise, t-static and co-efficient value of ROE are positive that 3.013 & 2404.140 respectively. The null hypothesis of Market Capitalization is accepted. It implies that ROE has positive significant impact in Market Capitalization.

The analysis shows that EPS, DPS, P/E, D/Y, E/Y and ROE are significant determinants of Market Capitalization. The Multiple co-efficient of correlation states that the relationship between Market capitalization as dependent variable and all independent variable are highly

significant and 94.60% of the variation in Market Capitalization is explained by the independent variables i.e. EPS, DPS, P/E, D/Y, E/Y & ROE.

#### 4.5.1.2 Analysis of P/E ratio (Dependent variable: P/E)

To give an understanding of the Nepalese stock market, 7 sample companies of banking sector are selected for a general discussion of the P/E ratio and how it has develop over the chosen time period (2002/03-2008/09).

Year	Y1	X2	X3	X4	X5
	P/E	MC	D/Y	ROE	M to B
2002/03	14.72	246.43	3.96	30.51	2.95
2003/04	80.83	310.52	4.78	32.81	3.29
2004/05	17.38	401.98	3.63	53.69	3.85
2005/06	23.41	688.36	2.45	67.43	7.35
2006/07	32.31	1,321.48	1.52	51.10	12.98
2007/08	38.78	1,966.57	0.86	75.10	16.69
2008/09	34.35	1,705.14	0.84	83.64	11.41
Mean	34.54	948.64	2.58	56.33	8.36
S.D.	22.27	708.80	1.58	20.31	5.42
Variance	496.07	502,392.54	2.50	412.56	29.39
C.V.	0.64	0.75	0.61	0.36	0.65

In the table 4.6 shows RoE, MC and M to B of sample companies of Banking sector are increasing stage from 2002/03 to 2008/09. But D/Y is decreasing stage in each year. After fiscal year 2003/04, it is trying to give up stable ratios of the sample companies of the banking sectors.

#### a) Multiple Correlation Analysis

The multiple correlation of the table 4.7 has been done to analyze the relationship of these dependent i.e P/E multiple and independent variables i.e. MC, D/Y, RoE and M to B. According to their relationship the higher co-related factors (i.e. positive or negative) are selected for multiple regression analysis. The multiple correlation of the time series data's are:

<b>Table 4.7</b> <b>Multiple Correlations of sample companies of Banking sector</b> <b>from 2002/03 to 2008/09</b>						
		P/E	MC	D/Y	ROE	M to B
Column 1	P/E	1				
Column 2	MC	0.0000001	1			
Column 3	D/Y	0.25251	-0.94897	1		
Column 4	RoE	-0.20959	0.80467	-0.86142	1	
Column 5	M to B	-0.01984	0.96593	-0.92930	0.71904	1

According to the table 4.7 P/E has negative correlation with RoE and M to B. It has a positive relationship with MC and D/Y. But MC and D/Y have negative correlation. MC has also a positive relationship with RoE and M to B. Similarly, RoE has a positive relationship with M to B. The table shows that D/Y has highly negative correlation with RoE and M to B.

Summary output is found in the multiple regression analysis of 7-years time series data are:

<b>Table 4.8</b> <b>Regression Statistics</b>	
Multiple R	0.81148
R Square	0.65849
Adjusted R Square	-0.02451
Standard Error	22.5439
Observations	7
Degree of freedom	6

Multiple R is equal to 81.14 %. Adjusted R square of 7 observations is equal to -2.45 %. It states that P/E is caused to change -2.45 % by those independent variables. It means rests of the other variables have great impact on P/E i.e. 102.45 %. R-square implies the percentage of relationship between these variables in 7 observations. R square is found out to be 65.85%. Similarly Standard error indicates the size of the error in sampling that has been made and also has accuracy of sample that has been estimated to use sample statistic to estimate the larger standard error. The population of the standard error of above 7 observations is equal to 22.5439.

<b>Table 4.9</b> <b>Coefficient and P-value of four variables</b> <b>from 2002/03 to 2008/09</b>				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t-Stat</i>	<i>P-value</i>

<i>Intercept</i>	<i>-165.7641</i>	<i>143.9164</i>	<i>-1.1518</i>	<i>0.3685</i>
<i>Variable X 2</i>	<i>0.0636</i>	<i>0.0641</i>	<i>0.9910</i>	<i>0.4261</i>
<i>Variable X 3</i>	<i>40.7088</i>	<i>24.2248</i>	<i>1.6805</i>	<i>0.2349</i>
<i>Variable X 4</i>	<i>0.3173</i>	<i>1.0683</i>	<i>0.2970</i>	<i>0.7944</i>
<i>Variable X 5</i>	<i>2.0584</i>	<i>7.9250</i>	<i>0.2597</i>	<i>0.8194</i>

Where,

Dependent variable: Y1= P/E,

Independent variables: X2=MC, X3= D/Y, X4= RoE, X5=M to B

The regression equation of seven variables is as follows:

$$Y1 = -165.7641 + 0.0636X2 + 40.7088X3 + 0.3173X4 + 2.0584X5$$

(0.368)    (0.426)    (0.235)    (0.794)    (0.819)

#### **b) Test of Hypothesis**

The table 4.9 shows that the calculated t-value of MC is *0.9910* and tabulated t-value is 2.447. Since the calculated t-value is less than the tabulated value at 5% level of significance for two tail test at 6 degree of freedom. The null hypothesis of P/E is dependent of MC is accepted. It states that there is significant positive relationship between P/E and market capitalization. The co-efficient value 0.0636 of X2 indicated that MC has significant positive impact in P/E.

Similarly, the Dividend yield, RoE and M to B came to be significant positive relationship. The calculated t-value are 1.6805, 0.2970, 0.2597 and the coefficient value are 40.7088, 0.3173 and 2.0584. And tabulated t-value is 2.447. Since calculated t-value is less than the tabulated value at 5% level of significance for two tail test at 6 degree of freedom. It states that the percent increase in each variable is caused to increase the given ratio in P/E.

The analysis shows that MC, DY, RoE and M to B are significant determinants of P/E. The Multiple co-efficient of correlation states that the relationship between P/E as dependent variable and all independent variable are highly significant and 81.15 % of the variation in P/E is explained by the independent variables i.e. MC, DY, RoE and M to B.

#### **4.5.2 Time Series Data of sample companies of F & I sector**

Prosperity of Finance and Insurance (F & I) Companies is the indication of overall economic development. The role of Finance and Insurance Companies cannot be minimized as a main part of economic activities. The higher market capitalization is profound idea to measure the success of companies. It is the cause of increasing market index and stock return.

A quantitative analysis of market index, stock return and P/E ratio is powerful predictor for the stock market. That is why; the study is not enough without analyzing quantitative variables, which have significant impact in market capitalization i.e. market value of firm. If we consider the risk and return, market capitalization may be function of DPS, EPS, P/E, ROE, DY and EY etc. As constrain with risk and return it is also function of liquidity, leverage Earnings, Coverage etc. To analyze the value of firm of Finance and Insurance Companies form risk and return site, the time series data of 13 years are employed for this purpose. The table 4.10 shows the time series data of each period of 4 sample companies.

**Table 4.10**  
**Time Series data of sample companies of Finance and Insurance sector**

Year	Y1	X2	X3	X4	X5	X6	X7
	(MC)	(EPS)	(DPS)	(P/E)	(D/Y)	(E/Y)	(ROE)
1996/97	2.79	23.08	6.04	7.95	6.63	18.39	23.08
1997/98	2.97	36.70	8.00	4.69	7.71	29.46	36.70
1998/99	3.68	30.86	11.50	5.14	9.44	21.91	30.86
1999/00	7.96	39.87	12.50	9.91	4.27	11.56	39.87
2000/01	9.38	37.80	14.00	9.85	4.67	10.79	37.80
2001/02	7.70	37.87	11.00	8.03	2.05	10.56	37.87
2002/03	6.79	31.72	12.00	13.83	5.03	11.22	31.72
2003/04	6.93	36.56	2.63	22.24	0.56	12.08	36.56
2004/05	6.67	32.37	2.89	7.59	0.79	14.87	32.37
2005/06	14.53	30.73	6.33	7.94	3.67	14.74	30.73
2006/07	27.91	17.61	4.02	17.32	1.43	6.46	17.61
2007/08	71.91	19.07	5.89	30.92	1.58	4.75	19.07
2008/09	49.27	14.77	6.50	52.38	2.31	4.26	14.77

In table 4.10 shows that market capitalization was in decreasing stage in the late fiscal years. In the Fiscal year 2000/2001, market capitalization was in higher than late and early years. But it is increasing stage from fiscal year 2005/06. In the Fiscal year 2000/01, DPS was in higher than late

and early years. Likewise, Earning per share and P/E ratio were in increasing stage up to 2003/04. After than both are decreasing stages and table 4.13 shows that price earning multiple was in satisfactory level. Earning yield and Dividend yield were in decreasing stage in all years.

**4.5.2.1 Analysis of value of market (Dependent variable: MC)**

**a) Multiple Correlation Analysis**

To test the higher relationship of dependent and independent variables, the multiple correlation has been exercised. According to their relationship the higher correlation factors (positive and negative) are selected for multiple regression analysis. The multiple correlation of sample companies of Finance and Insurance sector are as follows:

<b>Table 4.11</b>							
<b>Multiple Correlation of sample companies of Finance and Insurance sector</b>							
		<i>MC</i>	<i>EPS</i>	<i>DPS</i>	<i>P/E</i>	<i>D/Y</i>	<i>E/Y</i>
Column 1	MC	1					
Column 2	EPS	-0.72924	1				
Column 3	DPS	-0.27926	0.47023	1			
Column 4	P/E	0.78659	-0.67187	-0.30321	1		
Column 5	D/Y	-0.44011	0.20743	0.54914	-0.46500	1	
Column 6	E/Y	-0.66531	0.46213	0.11009	-0.67582	0.73953	1

According to the table 4.11 Market Capitalization has higher negative correlation with EPS, DPS, D/Y and E/Y but positive correlation with P/E ratio. Similarly EPS has positive correlation with DPS, D/Y and E/Y but has negatively correlated with price earning multiple. Likewise, dividend per share has positive correlation with dividend yield and earning yield. And price earning multiple has negatively correlated with E/Y and D/Y.

According to the error in calculation, employing elimination process chooses only five variables omitting return on equity. That is why, earning per share, dividend per share, dividend yield, earning yield and price earning multiple are selected for multiple regression analysis.

In summary output is found by employing 5 variables in the multiple regression analysis of 13-year time series data are.



Multiple R	0.8646
R Square	0.7475
Adjusted R Square	0.5671
Standard Error	13.8212
Observations	13
Degree of freedom	12

Multiple R is 86.46%. Adjusted R Square of 13 observations is equal to 56.71%. It states that market capitalization is caused to change 56.71% by those independent variables. Rests of the other variables have less impact on market capitalization i.e. 43.29%. R-square implies the percentage of relationship between these variables in 13 observations. R square is found out to be 74.75%. Similarly standard error indicates the sizes of the errors in sampling that have been made and also have accuracy of sample that has been estimated to use sample statistic to estimate the larger standard error. The population of the standard error of above 13 observations is equal to 13.8212.

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t-Stat</i>	<i>P-value</i>
Intercept	45.19956	27.91821	1.619	0.14948
Variable X2	-1.85394	1.34074	-1.382	0.20924
Variable X3	2.82766	3.49764	0.808	0.44543
Variable X4	0.59977	0.48335	1.241	0.25463
Variable X5	-5.07312	6.44083	-0.787	0.45674
Variable X6	1.14384	2.46543	0.464	0.65677

Dependent variable                      Y1= MC,

Independent variables:                  X2 = EPS; X3=DPS; X4=P/E; X5=DY; X6=EY

The regression equation of Five Variables is found to be:

$$Y1 = 45.19956 - 1.85394 X2 + 2.82766 X3 + 0.59977 X4 - 5.07312 X5 + 1.14384 X6$$

(.149)                  (.209)    (.445)                  (.254)    (0.456)    (.656)

## **b) Test of Hypothesis**

The calculated t-value of Earning per share is -1.8539 i.e  $t = -1.8539$  shown in table 4.13 and the tabulated value is 2.179. Since the calculated t-value is less than the tabulated value at 5% level of significance for two tail test at 12 degree of freedom. The null hypothesis of Market capitalization is dependent of EPS is accepted. It states that there is significant positive relationship between market capitalization and EPS. The co-efficient value of X2 indicated that EPS has significant negative impact in Market capitalization. The coefficient of EPS states that if EPS is increased by 1% market capitalization is decreased by -1.8539 %. The Dividend Yield and Market Capitalization came to be significant negative relationship. The calculated t-value is -0.787 and the coefficient value is -5.07312. This shows that the null hypothesis is accepted. So, the coefficient value states that the percent decrease in each variable is caused to decrease the given amount in market capitalization.

The DPS found to be positively related to market capitalization. The positive co-efficient value of DPS and the t-value are respectively 2.82766 and 0.808 and tabulated value is 2.179. Since calculated t-value is less than the tabulated value at 5% level of significance for two tail test at 12 degree of freedom. Null hypothesis of Market capitalization is dependent to DPS is accepted. It also stated that it is significant positive relationship between market capitalization and DPS of Finance and Insurance companies of Nepal.

Similarly, the positive co-efficient by 0.59977 and calculated t-values 1.241 states that there is significant positive relationship between the value of firm and P/E multiple. Likewise, t-static and co-efficient values of E/Y are positive that are 0.464 & 1.14384 respectively. The null hypothesis of Market Capitalization is dependent to E/Y is accepted due to having less value than tabulated value (ie. 2.179) . It implies that E/Y has significant impact in Market Capitalization. The percentage increase in E/Y has positive impact in market capitalization.

The analysis shows that EPS, DPS, P/E, DY and EY are significant determinants of Market Capitalization. The Multiple co-efficient of correlation states that the relationship between Market capitalization as dependent variable and all independent variable are highly significant

and 86.46 % of the variation in Market Capitalization is explained by the independent variables i.e. EPS, DPS, P/E, DY, & EY.

#### 4.5.2.2 Analysis of P/E ratio (Dependent variable: P/E)

To give an understanding of the Nepalese stock market, 4 sample companies of Finance and Insurance sector are selected for a general discussion of the P/E ratio and how it has developed over the chosen time period (2002/03-2008/09).

Year	Y1	X2	X3	X4	X5
	(P/E)	(MC)	(D/Y)	(ROE)	(M to B)
2002/03	13.83	67.85	5.03	31.72	1.13
2003/04	22.24	69.25	0.56	36.56	1.10
2004/05	7.59	66.65	0.79	32.37	0.97
2005/06	7.94	145.30	3.67	30.73	1.14
2006/07	17.32	279.10	1.43	17.61	1.38
2007/08	30.92	719.05	1.58	19.07	3.73
2008/09	52.38	492.65	2.31	14.77	3.12
Mean	21.75	262.84	2.20	26.12	1.80
S.D.	15.79	254.63	1.63	8.68	1.13
Variance	249.35	64,834.82	2.64	75.27	1.28
C.V.	0.73	0.97	0.74	0.33	0.63

In the table 4.14 shows MC of sample companies of F & I sector is increasing stage from 2002/03 to 2008/09. But D/Y and M to B have no surprise change in each year. After fiscal year 2005/06, P/E is rising up of the sample companies of the F & I sectors.

#### a) Multiple Correlation Analysis

The multiple correlation of the table 4.18 has been done to analyze the relationship of these dependent i.e P/E multiple and independent variables i.e. MC, D/Y, RoE and M to B. According to their relationship the higher co-related factors (i.e. positive or negative) are selected for multiple regression analysis. The multiple correlation of the time series data's are:

		P/E	MC	D/Y	ROE	M to B
Column 1	P/E	1				
Column 2	MC	0.0000001	1			
Column 3	D/Y	0.25251	-0.94897	1		
Column 4	RoE	-0.20959	0.80467	-0.86142	1	
Column 5	M to B	-0.01984	0.96593	-0.92930	0.71904	1

According to the table 4.15 P/E has negative correlation with RoE and M to B. It has a positive relationship with MC and D/Y. But MC and D/Y have negative correlation each other. MC has also a positive relationship with RoE and M to B. Similarly, RoE has a positive relationship with M to B. The table shows that D/Y has highly negative correlation with RoE and M to B.

Summary output is found in the multiple regression analysis of 9-years time series data are:

<b>Table 4.16</b> <b>Regression Statistics</b>	
Multiple R	0.9558
R Square	0.9135
Adjusted R Square	0.7407
Standard Error	8.04118
Observations	7
Degree of freedom	6

Multiple R is equal to 95.58 %. Adjusted R square of 7 observations is equal to 74.07 %. It states that P/E is caused to change 74.07 % by those independent variables. It means rests of the other variables have great impact on P/E i.e. 25.93 %. R-square implies the percentage of relationship between these variables in 7 observations. R square is found out to be 91.35%. Similarly Standard error indicates the size of the error in sampling that has been made and also has accuracy of sample that has been estimated to use sample statistic to estimate the larger standard error. The population of the standard error of above 7 observations is equal to 8.04118.

<b>Table 4.17</b> <b>Coefficient and P-value of four variables from 2002/03 to 2008/09</b>				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t-Stat</i>	<i>P-value</i>
Intercept	34.928	23.637	1.478	0.278
Variable X 2	-0.169	0.070	-2.423	0.136
Variable X 3	-1.927	2.112	-0.913	0.458
Variable X 4	-1.379	0.708	-1.948	0.191

Variable X 5	39.806	13.491	2.951	0.098
--------------	--------	--------	-------	-------

Where,

Dependent variable: Y1= P/E,

Independent variables: X2=MC, X3= D/Y, X4= RoE, X5=M to B

The regression equation of seven variables is as follows:

$$Y1 = 34.928 - 0.169X2 - 1.927X3 - 1.379X4 + 39.806X5$$

(0.278) (0.136) (0.458) (0.191) (0.098)

### b) Test of Hypothesis

The table 4.17 shows that the calculated t-value of Earning per share is -2.423 i.e /t/=2.423 and tabulated t-value is 2.447. Since the calculated t-value is less than the tabulated value at 5% level of significance for two tail test at 6 degree of freedom. The null hypothesis of P/E is dependent of MC is accepted. The co-efficient value -0.169 of X2 indicated that MC has significant negative impact in P/E multiple.

The analysis shows that the D/Y and RoE also found to be negatively related to P/E. The negative co-efficient value of D/Y and RoE are -1.927 and -1.379 respectively. Likewise the calculated t-value are respectively -0.913 i.e /t/= 0.913 and -1.948 i.e /t/=1.948. And the tabulated t-value is 2.447. Since calculated t-value are less than the tabulated value at 5% level of significance for two tail test at 6 degree of freedom. Null hypothesis of P/E multiple is dependent to D/Y and RoE is accepted. Due to having negative coefficient value, there is a significant negative relationship among P/E, D/Y and RoE of F & I companies of Nepal

The P/E and M to B came to be significant positive relationship. The calculated t-value is 2.951 and the coefficient value is 39.806. And tabulated t-value is 2.447. Since calculated t-value is greater than the tabulated value at 5% level of significance for two tail test at 6 degree of freedom. The alternative hypothesis of P/E is dependent of M to B is accepted. It states that the percentage decrease in each variable is caused to increase the given ratio of P/E multiple.

The analysis shows that MC, DY, ROE and M to B are significant determinants of P/E multiple. The Multiple co-efficient of correlation states that the relationship between P/E as dependent variable and all independent variable are highly significant and 95.58 % of the variation in P/E is explained by the independent variables i.e. MC, DY, ROE & M to B.

#### **4.6 Major Findings of the Study**

Analyzing the results, following findings have been made:

##### **4.6.1 Findings based on overall market**

- a) The stock market and its' institutional development are not found in satisfactory level in Nepal. The impact on the stock market activities can be seen positive if the development of economy has well grown in the country. But due to slow growth in national economy, stock market has direct effects. Hence, main stock market development indicators followed the economic development indicators. It implies that both are in developing stage.
- b) Most of the Nepalese firm from the very past have not profit planning and investment strategy, which has imbalanced the whole position of the firms. It means there is not consistency even in the earnings.
- c) There was a bearish tendency in stock market since 2000/01. Share Price of most of the companies had gone down up to 2002/03. The NEPSE Index since 1996/97 to 1999/00 raised and since 2001/02 onwards it is in declining position but it can be seen bullish market tendency from 2002/03 onward up to 2007/08. Comparatively the NEPSE index 2008/09 of share market was gone down than the NEPSE index 2007/08. As compared to the preceding year market capitalization went up to Rs 512,939.08 million at end of 2008/09 whereas paid up capital had gone to Rs 61,140.00 million. The paid up capital and market capitalization of the previous year were Rs 29,462.00 million and Rs 367,247.5 million respectively. The NEPSE Index moved down from 963.36 in 2007/08 to 749.10 at end of 2008/09. The figure of the NEPSE index shows that the trend of the Nepalese stock market is unstable and uncertain.
- d) The data for the F/Y 2008/09 reveals that Commercial banks occupy the topmost position in terms of annual turnover, market capitalization and other companies in terms of NEPSE Index. Finance and Insurance sector occupy second rank in terms of

Market capitalization, Annual turnover and NEPSE Index. Manufacturing and processing Companies occupies third rank in terms of Annual turnover but in terms of Market capitalization other companies occupied third rank.

- e) Change in NEPSE index is an indicator of market risk and return, thus, risk and return are important concept to investment analysis. Ignoring this concept, investors do not analyze investment opportunity appropriately. But we can see the alternative method to analysis the market of stock which is P/E analysis. Market return from 1996/97 to 2008/09 was 22.14%. Market variance and coefficient of variance were 13.74% and 167.43% respectively. Regarding with average return, C.V. has tremendously increased, it implies that stock market has increasing risk.
- f) It can be seen that the P/E ratio of overall market are more fluctuate each year but from fiscal year 2006 it starts “the crash” the ratio decreased back to less than normal levels, around mid of 2007 it again starts to increase up to 25.31 at fiscal year 2009.
- g) The lack of financial knowledge and the market inefficiency has affected the market price of the share in all the firms.

#### **4.6.2 Findings of Banking sector (commercial bank and development banks)**

i) Finding based on valuation of stock:

- a) Banking Sector dominates the whole transaction of Nepal stock Exchange. 69.86% of the Annual turnover is covered by banking sector only on FY 2008/09, which indicate that, the investor confidence is basically on banking sector only. Similar is the case with market capitalization and paid up value (64.21 and 48.84 respectively). Therefore the fate of stock market depends on the performance of banking sector i.e. the whole index of NEPSE is driven by the single sector of Banks.
- b) In FY 2003/04, the return was -34.66% due to cause of decreasing index and return was highly decreased in F/Y 2003/04 too (i.e. – 9.96%). The overall average return was 22.14% in FY 2008/09 but same time, the return of the banking sector was 26.27 %. It shows that the return of stock market is lower than Banking sectors. Due to higher return in minimum risk, the participation of people is also encouraging in stock market (Especially in banking sector)

- c) The average return of banking sector is 26.27 % and Coefficient of variation (CV) is 198.56 %. The return of banking sectors has not found significant difference than overall return. So, null hypothesis is accepted due to low calculated t-value than tabulated value. All companies of banking sector have positive return.
- d) By analyzing dependent and independent variables of market capitalization of sample companies of Banking Sectors, Multiple R is equal to 94.60 %. Adjusted R square of 13 observations is equal to 78.97 %. It states that market capitalization is caused to change 78.97 % by those independent variables. Rests of the other variables have less impact on market capitalization i.e. 21.03 %. R-square implies the percentage of relationship between these variables in 13 observations. R square is found out to be 89.49%. Similarly Standard error indicates the size of the error in sampling that has been made and also has accuracy of sample that has been estimated to use sample statistic to estimate the larger standard error. The population of the standard error of above 13 observations is equal to 292.5738.
- e) The analysis of sample companies of banking sector shows that EPS, DPS, P/E, D/Y, E/Y and ROE are significant determinants of Market Capitalization. The Multiple co-efficient of correlation states that the relationship between Market capitalization as dependent variable and all independent variable are highly significant and 94.60% of the variation in Market Capitalization is explained by the independent variables i.e. EPS, DPS, P/E, D/Y, E/Y & ROE.
- ii) Finding based on P/E multiple:
- a) The analysis shows how the P/E ratio at banking sector has evolved during the time period. It can be clearly seen that the P/E ratio are more fluctuate each year. If earnings are expected to grow persistently faster than previously, it is only natural that investors be willing to pay more for stocks and thus raise the P/E ratio. Banking sector stocks are perceived to be less risky today than in the past as well as other sectors; demand for stocks will be higher, resulting in higher stock prices having stable P/E ratios with its standard ratio.
- b) Multiple R is equal to 81.14 %. Adjusted R square of 7 observations is equal to -2.45 %. It states that P/E is caused to change -2.45 % by those independent variables. It means



rests of the other variables have great impact on P/E i.e. 102.45 %. R-square implies the percentage of relationship between these variables in 7 observations. R square is found out to be 65.85%. Similarly Standard error indicates the size of the error in sampling that has been made and also has accuracy of sample that has been estimated to use sample statistic to estimate the larger standard error. The population of the standard error of above 7 observations is equal to 22.5439.

- c) The analysis shows that MC, DY, RoE and M to B are significant determinants of P/E. The Multiple co-efficient of correlation states that the relationship between P/E as dependent variable and all independent variable are highly significant and 81.15 % of the variation in P/E is explained by the independent variables i.e. MC, DY, RoE and M to B.

#### **4.6.3 Findings of Finance and Insurance sector**

i) Finding based on valuation of stock:

- a) Finance and Insurance Sector plays 3rd position of the whole transaction of Nepal stock Exchange 13.06% of the Annual turnover is covered by F & I sector only, which indicate that, the investor confidence is basically weak on F & I sector. Similar is the case with market capitalization and paid up value (10.44 and 14.88 respectively). Therefore the performance of F & I sector in the whole index of NEPSE is weak driven.
- b) The average return of banking sector is 21.73 % and Coefficient of variation (CV) is 186.59 %. The return of F & I sectors has not found significant difference than overall return. And the null hypothesis is also accepted in 5% level of significant and we conclude that there is no significant difference between sample return and market return. The hypothesis also proved that securing return of finance and insurance sector as compared to market return has equally benefited people.
- c) By analyzing dependent and independent variables of market capitalization of sample companies of F & I Sectors, Multiple R is 86.46%. Adjusted R Square of 13 observations is equal to 56.71%. It states that market capitalization is caused to change 56.71% by those independent variables. Rests of the other variables have less impact on market capitalization i.e. 43.29%. R-square implies the percentage of relationship between these variables in 13 observations. R square is found out to be 74.75%. Similarly standard error indicates the sizes of the errors in sampling that have been made and also have accuracy

of sample that has been estimated to use sample statistic to estimate the larger standard error. The population of the standard error of above 13 observations is equal to 13.8212.

d) The analysis of sample companies of F & I sector shows that EPS, DPS, P/E, DY and EY are significant determinants of Market Capitalization. The Multiple co-efficient of correlation states that the relationship between Market capitalization as dependent variable and all independent variable are highly significant and 86.46 % of the variation in Market Capitalization is explained by the independent variables i.e. EPS, DPS, P/E, DY, & EY.

ii) Finding based on P/E multiple:

a) The analysis shows how the P/E ratio at finance and insurance sector has evolved during the time period. It can be clearly seen that the P/E ratio are more fluctuate each year than banking sector. It is more fluctuated during fiscal year 2006 to 2008 due to increase the numbers of the finance companies as well as insurance companies. On other hand, such fluctuation was occurred causing earnings not to be stable. The reduction in transaction costs can lead to an increase in P/E ratios because the net return to investors will increase even if the gross return remains the same. This increase the demand for stocks and boosts stock prices and P/E ratios. The study shows that the P/E ratios of F & I sector is far from its standard value. It means investors who want to invest on it, are not secure.

b) Multiple R is equal to 95.58 %. Adjusted R square of 7 observations is equal to 74.07 %. It states that P/E is caused to change 74.07 % by those independent variables. It means rests of the other variables have great impact on P/E i.e. 25.93 %. R-square implies the percentage of relationship between these variables in 7 observations. R square is found out to be 91.35%. Similarly Standard error indicates the size of the error in sampling that has been made and also has accuracy of sample that has been estimated to use sample statistic to estimate the larger standard error. The population of the standard error of above 7 observations is equal to 8.04118.

c) The analysis shows that MC, DY, ROE and M to B are significant determinants of P/E multiple. The Multiple co-efficient of correlation states that the relationship between P/E as dependent variable and all independent variable are highly significant and 95.58 % of

the variation in P/E is explained by the independent variables i.e. MC, DY, ROE & M to B.

## **Chapter – V**

### **5. Summary, Conclusions and Recommendations**

#### **5.1 Summary**

The securities market plays an important role in mobilizing savings, and channeling them into productive investment for the development of commerce and industry of the country. In mid eighties, Nepal adopted the economies liberalization in order to channelize the scarce resources from local and foreign investment. Keeping in view the importance of capital market in economic development, policy maker started to give considerable attention to the development of capital market's regulation, change and improvement. It basically assists the capital formation and economic growth of the country. In many developing countries like Nepal, the undeveloped capital market is still prevailing in the economy. The Nepalese securities market still could not take its height. Even though the concept of capital market was started in 1936 with formation of industrial council, the market got momentum only after the restoration of democracy in 1990. The adoption of open economy by the Government in 1992 encouraged the foreign and local investment. To regularize and systemize the capital market security Board and Nepal stock exchange was established in 1994. The further improvement of this market is very crucial. It helps in accumulating even small savings for development activities of the economy otherwise, which would have spent in unproductive areas. But it is true that there is no presence even of organized money market in rural areas, which covers almost 90 percent of the total area of the country. Thus, the securities market is only confined to the very limited urban areas of Nepal. Despite these truths, an attempt has been made to analyze the growth trends and performance of Nepalese securities market.

In mid July 1986, there had been a total of 16 listed companies with paid up share capital of Rs. 341 million. The market capitalization of listed shares on that date and annual turnover for the FY 1985/86 amounted to Rs 548 million and Rs 10.1 million respectively. However, the security market started growing continuously thereafter and in 1990 the number of listed companies rose

to 41, the paid up value of listed shares increased to Rs. 789 million and the market capitalization at mid July reached to Rs 1775 million, which is larger by more than three times to that of 1986. The total turnover of FY 1989/90 was Rs 25.3 million. At the earlier stages of growth the secondary market of securities in Nepal was very weak. Along with the formation of security exchange Board; Nepal Government converted the securities Exchange Center Ltd. into Nepal Stock Exchange Ltd. (NEPSE) in 1994 with a view to reform the capital market. It is a non-profit making organization operating under securities Exchange Act 1983. Brokers and market makers operate on the trading floor as per the security Exchange Act rules and bylaws of NEPSE. Nepal stock Exchange started its operation on 13 January 1994 through its licensed members.

Comparing the return of each sector, return of Hotels sectors in these periods has low percentage due to decrease in NEPSE index and injuriously affected tourism in Nepal since Maoist revolution started in the country. Likewise, return of trading sector is very low and return of Manufacturing and processing companies is not satisfactory. Similarly, return of Banking and Finance and insurance are comparatively high than other sectors. The study shows that there is low opportunity for the individual as well as institutional investors for secondary trading. The stocks of Banking and F & I companies have able to generate up to overall market return.

In short, it is remained unsatisfactory due to the poor economic condition still existing in the country as well as insecure of political system and unstable of government of Nepal. Change in NEPSE index is an indicator of market risk and return, thus, risk and return are important concept to investment analysis. Ignoring this concept, investors do not analyze investment opportunity appropriately. But this study tried to give analysis tools to understand the appropriate investment opportunity of Nepalese Stock market. So, we can see in this study the better method to analysis the market of stock which is P/E analysis.

## **5.2 Conclusion**

Securities market plays a pivotal role in mobilizing savings and channeling them in productive purposes and many more like providing liquidity on securities so that one can minimize the risk and maximize the returns. Nepalese capital market is least developed than in developed countries.

Stock market development indicator shows that liquidity and turnover are at minimum level than industrial developed countries.

The overall development of economy has positive impact on stock market activities. Due to slow growth in national economy, stock markets have also direct effects. Main stock market development indicators followed the economic development indicators. It implies that both are in developing stage. The stock market fluctuations do help to predict the future economy. The effects of changes in economy are reflected in stock market with a lag of three to four years and vice versa. Relative to the overall economy, the size of securities market is very small and the liquidity of securities also is poor. These facts suggest that the Nepalese capital market now is passing through a bearish situation. The growth and performance of Nepalese securities market, even after the introduction of new mechanism in 1993/94, are not satisfactory though it is improving gradually.

The study shows that there was bearish tendency in stock market since 1999. Share price of Most of the companies had gone down up to 2003. The NEPSE index since 1998 to 2001 raised and since 2001 onwards it is in declining position except F/Y 2006/07. As compared to the preceding year market capitalization went up to Rs 96813.74 billion at mid July 2007 whereas paid capital had gone to Rs 20008.55 million. The NEPSE Index moved up from 227.54 in 2007 to 386.83 at mid July 2007. In the FY 2008/09 cash transactions in the Stock Exchange decreased by 5 percent totaling Rs. 21,681.10 million with 30,547.17 thousand shares changing hands in comparison to 28,599.77 thousand shares worth Rs. 22,820.80 million during the period of FY 2007/08. But number of transactions is increased by 38.65 percent in the FY 2008/09 to total 209,091 as compared to 150,800 transactions in the corresponding period of the previous fiscal year. The number of corporate entities listed in the stock exchange has totaled 159 in the FY 2008/09 which was 12 percent increase than the FY 2007/08.

Overall market index was decreasing up to 1998. After the fiscal year 1998/99, the situation was improving up to fiscal year 2000/01. Overall market index was again decreasing up to fiscal year 2004/05. After then, it was increasing upto 2008 but the trend of the stock market was decreasing from 2009. It is remained unsatisfactory due to the poor economic condition still existing in the

country as well as insecure of political system and unstable of government of Nepal. Change in NEPSE index is an indicator of market risk and return, thus, Risk and return are important concept to investment analysis. Ignoring this concept, investors do not analyze investment opportunity appropriately. But we can see the alternative method to analysis the market of stock which is P/E analysis. Market return from 1996/97 to 2008/09 was 22.14%. Market variance and coefficient of variance were 13.74% and 167.43% respectively. Regarding with average return, C.V. has tremendously increased, it implies that stock market has increasing risk.

Hence, the study of P/E ratio of Nepalese stock market shows that very high P/E ratio have usually been followed by poor stock market performance. When P/E ratios have been high, stock price have usually grown slowly in the following years. So, some analysts view the current high price earnings ratio of the stock market as sign that the stock market may be headed for down turn. This view receives some support to understand the Nepalese stock market.

The average returns of sample companies are associated with positive return. All of the companies of Banking, Finance and Insurance have generated profit to stockholders. As our study shows that the Banking sectors are distributing more dividends (Cash dividend as well as stock dividend) than Finance and insurance companies.

In case of banking sector in FY 2003/04, the return was -34.66% due to cause of decreasing index and return was highly decreased in F/Y 2003/04 too (i.e. - 9.96%). The overall average return was 22.14% in FY 2008/09 but same time, the return of the banking sector was 26.27 %. It shows that the return of stock market is lower than Banking sectors. Due to higher return in minimum risk, the participation of people is also encouraging in stock market (Especially in banking sector). Likewise, in case of F & I sector, the average return of banking sector is 21.73 % and Coefficient of variation (CV) is 186.59 %. The return of F & I sectors has not found significant difference than overall return. And the null hypothesis is also accepted in 5% level of significant and we conclude that there is no significant difference between sample return and market return. The hypothesis also proved that securing return of finance and insurance sector as compared to market return has equally benefited people.

The hypothesis was also tested to compare sectoral return to overall market return. Out of them sectoral return of Banking, Finance and Insurance companies have not found significant difference to overall market return. These sectors are able to pay stockholders around overall market return. Similarly, return of individual companies of Banking, finance and insurance are not found any significant difference to overall market.

EPS, DPS, P/E, D/Y, E/Y and ROE of banking sector are significant determinants of Market Capitalization. The Multiple co-efficient of correlation states that the relationship between Market capitalization as dependent variable and all independent variable are highly significant and 94.60% of the variation in Market Capitalization is explained by the independent variables i.e. EPS, DPS, P/E, D/Y, E/Y & ROE. Similarly, MC, DY, RoE and M to B are significant determinants of P/E. The Multiple co-efficient of correlation states that the relationship between P/E as dependent variable and all independent variable are highly significant and 81.15 % of the variation in P/E is explained by the independent variables i.e. MC, DY, RoE and M to B.

In case of F & I sectors, EPS, DPS, P/E, DY and EY are significant determinants of Market Capitalization. The Multiple co-efficient of correlation states that the relationship between Market capitalization as dependent variable and all independent variable are highly significant and 86.46 % of the variation in Market Capitalization is explained by the independent variables i.e. EPS, DPS, P/E, DY, & EY. Similarly, MC, DY, ROE and M to B are significant determinants of P/E multiple. The Multiple co-efficient of correlation states that the relationship between P/E as dependent variable and all independent variable are highly significant and 95.58 % of the variation in P/E is explained by the independent variables i.e. MC, DY, ROE & M to B.

### **5.3 Recommendations**

The recommendation of this study is the important information for those who are very much concerned directly with the valuation of stock. Thus, following recommendation and suggestion can be outlined.

- i) Nepal government has initiated financial sector reform program having recognized the importance of financial system for economic growth and has increased the efforts towards

improving the financial systems of the country to accelerate the economic growth. It is clearly seen that the main focus is on banking system but policy makers should equally encourage stock market development. Many obstructions i.e tax, legal, and regulatory barriers to stock markets should be removed. One of the reasons Nepal has a small stock market is low saving rate. To promote stock market development, there should be encouraged savings and investment by appropriate policies. Therefore, equal importance must be given to all sectors, not only financial sector and market-based stock market of the economy which may support to increase the living standard of the people through economic growth.

- ii) The coefficient of variation of banking sector is higher than Finance and insurance sector under this study period. Stability in service, earning and profits are major indicators to minimize the fluctuation of market return. Specially, banking sectors should concern to maintain the stability in services, earning and profits.
- iii) Under the study period of 1998 to 2009, the risk associated with banking sector is higher than insurance and finance sectors. Thus it is recommended to make stable dividend policy that can minimize risk. And also it is recommended to construct portfolio between the Banking, Finance and Insurance sectors to diversify risk and maximization of return.
- iii) Earning per share and Dividend per share of Banking sector and Earning per share, Dividend per share of Finance and Insurance sector have found positive impact in market capitalization. Thus, this sort of parameter should be maintained regularly to reduce negative impact in market value of firm.
- iv) Market Capitalization has higher negative correlation with Dividend yield and earning yield as well as Dividend per share also of banking sector. Earning per share has a positive relationship Return on equity. Dividend per share has also a positive relationship with dividend yield and earning yield. Similarly, Dividend yield has a positive relationship with earning yield. Likewise, Market Capitalization has higher negative correlation with EPS, DPS, D/Y and E/Y but positive correlation with P/E ratio of F & I Sectors. Similarly EPS has



positive correlation with DPS, D/Y and E/Y but has negatively correlated with price earning multiple. Likewise, dividend per share has positive correlation with dividend yield and earning yield. And price earning multiple has negatively correlated with E/Y and D/Y. These parameters show that the affect the market capitalization of the firm should be considered in order to increase the market capitalization.

- v) Most of the individual invertors are revealed to be isolated and incapable to analyzing the performance of the company in which they have invested. Therefore for the effective and efficient investment decision on securities, professional advisory institution should create the appropriate atmosphere to the willing investors by awaiting capital market investment and information.

## Bibliography

### Articles:

Amoako-Adu, Ben & Smith, Brian (2002), Analysis of P/E Ratios and Interest Rates, *Managerial Finance*, vol 28, pp 48-59

Anderson, Keith & Brooks, Chris (2005), Decomposing the Price-Earnings Ratio, *Journal of Asset Management*, vol 6, pp 456-469

Basu, S. (1977), The Investment Performance of Common Stocks in Relationship to Their Price-Earnings Ratios, *Journal of Finance*, vol 32, no 3, pp 663-682

Basu, S. (1975), The Information Content of Price-Earnings Ratios, *Financial Management*, vol 4, no 2, pp 53-64

Fama, Eugene F. & French, Kenneth R.(1992), The Cross-Section of Expected Stock Returns, *Journal of Finance*, vol 47, pp 427-465

Fama, Eugene F. French, Kenneth R. (1992), The Cross Section of Expected Stock Returns, *Journal of Finance*, vol 47, pp 427-465

Modigliani, Franco & Millers, Merton H. (1958), The Cost of Capital, Corporate Finance and the Theory of Investment, *The American Economic Review*, vol 48, pp 261-297

Nicholson, S.F (1960), Price-Earnings Ratios, *Financial Analysts Journal*, vol 16, no 4, pp 43-45

### Books:

Brook, Chris (2004), *Introductory econometrics for finance*, Cambridge

Fama, Eugene F. (1996). *The Foundation of Finance*. New York: Basic Books.

Francis, Jack C. (1991). *Investment Analysis and Management*. New York: McGraw

Gordon, Myron J. (1962), *The Investment, Financing and Valuation of the Corporation*, Homewood, IL: Richard D. Irwin

Pradhan, L. (1998). *Financial Management*. London: Holt Saunders International Edition.

Manandhar, K.D. and Shrestha, K.N. (1998). *Statistics and Quantitative Techniques for Management*. Kathmandu: Valley Publishers.

Mahatm R.S. (1991). *Capital Market Financial Flow and Industrial in Nepal*. Kathmandu : Sajha Prakashan

Weston J.F. and Copland, T.E. (1995). Managerial Finance. London: Holt Saunders International Edition.

**Journals, Reports & Publications:**

Annapurna Finance Company Limited, Annual Reports upto 2008/09

Bank of Kathmandu Limited, Annual Reports upto 2008/09

Everest Bank Limited, Annual Reports upto 2008/09

Himalayan Bank Limited, Annual Reports upto 2008/09

Kamal Das Manandhar (2004) "Dividend policy and value of the firm in small stock market"

Kathmandu Finance Limited, Annual Reports upto 2008/09

Ministry of Finance, Government of Nepal (2007). Economic Survey. Kathmandu: Ministry of Finance, Government of Nepal.

Nabil Bank Limited, Annual Reports upto 2008/09

Nepal Bangladesh Bank Limited, Annual Reports upto 2008/09

Nepal SBI Bank Limited, Annual Reports upto 2008/09

Nepal Stock Exchange Limited (upto 2008/09) Annual Reports. Kathmandu.

Pradhan, R.S. (1993). "Stock Market Behavior of small capital market, in case of Nepal." The Nepalese Management Review. Vol. IX: 216, Kathmandu, Central Department of Management.

Premier Insurance Company (Nepal) Limited, Annual Reports upto 2008/09

Prof. Dr. Radhe Shyam Pradhan (1994), "Financial Management Practice in Nepal"

Securities Board of Nepal (upto 2008/09), Annual Reports. Kathmandu.

Standard Chartered Bank (Nepal) Limited, Annual Reports upto 2008/09

United Insurance Company (Nepal) Limited, Annual Reports upto 2008/09

Yogendra Timilsina (2001), "Capital Market Development and Stock Price Behavior in Nepal"

**Master Degree Dissertation:**

Aruna (2008), "A Study on Stock Price Behaviour of Selected Companies Listed in Nepal"

M.B.S. Thesis, Shanker Dev Campus, T.U.

Gopal Prasad Bhatta (2005) entitled Assessment of the performance of listed companies in Nepal

M.B.S. Thesis, Shanker Dev Campus, T.U.

Kharel (2002), "Stock Market Efficiency and Share Price Behavior in Nepal" M.B.S. Thesis, Shanker Dev Campus, T.U.

Kharel, Sanjya Lal (2002). A Study on Stock Market Efficiency and Share Price Behaviour in Nepal. An Unpublished M.B.A. Thesis, Shanker Dev Campus, T.U.

Shrestha (2004) studied on "Share Prices Behavior in Nepal" M.B.S. Thesis, Shanker Dev Campus, T.U.

**Websites:**

<http://www.nabilbank.com>

<http://www.standardchartered.com/np>

<http://www.himalayanbank.com>

<http://www.nepalsbi.com.np>

<http://www.everestbankltd.com>

<http://www.nbbl.com.np>

<http://www.bokltd.com>

<http://www.kathmandufinance.com>

<http://www.unitedinsurance.com.np>

<http://www.nepalstock.com>

<http://www.nrb.org.com>

<http://www.sebonp.com>

<http://www.nepalstock.com>

<http://www.sebonp.com>

<http://www.nrb.org.np>

# **ANNEX**