

# Chapter – I

## Introduction

### 1.1 General Background

Development of any country cannot be imagined without the development of economy. As the world's economy is slowly shifted its dependency from traditional agriculture upon industrial development, Nepal is also in move make industrial development in the country. Due to this, different industries are coming in the Nepalese market. Funds are required for the operation of the business. So concept of the capital market is developing in Nepal.

Funds can be collected through the several ways like issue of debentures, shares and ploughing back of profits, but the equity capital i.e. share capital is the foremost taken as the primary source of the funds for the organization. Financial sectors play crucial role in the development of the country. They collect the immobilized funds from the market and invest them into productive sectors. Nowadays, people are more attracted in investing their funds in shares rather than in any other investments. For the organized trading of the shares, securities market plays a crucial role for gathering the unused small savings from the public and investing them to the productive sectors.

It has been fully established that economic development of any country can be active only through a balanced growth in the fields of industry, trade, commerce and agriculture. It has equally self-evident that development in these fields cannot be made possible without the existence of a sound and effective capital market in the country. Capital market investment in this present context plays the major role in the economic development of the any country. For the development of economy, adequate amount of capital must be invested and mobilized into the productive sectors like trade and industries. In order to boost up the economy of any country, it is extremely essential to have a mechanism through which small amounts of savings can be collected and transferred into efficient uses. Hence the securities market plays such roles and thus contributes to the nation's economic development.

The smooth continuity of development activities widely depends on the adequate supply of medium as well as long-term capital funds in productive investment projects, which is concerned with finance. The finance is directly concerned with conversion or accumulation of capital funds to meet the financial needs of various institutions. For the efficient mobilization of financial resources, the financial market has an intermediary role to bridge funds from surplus units to deficit units. "Financial markets provide a forum in which suppliers and demanders of funds can transact business funds directly. Financial market constitutes money market and capital market. The money market is created by a financial relationship between suppliers and demanders of short-term funds, which have maturity of one year or less. Most of the money market transactions are made in marketable securities, which are short-term debt instruments, such as Treasury bills, commercial papers and negotiable certificates of deposits issued by government, business and financial institutions. The money market exists because certain individuals, businesses, governments and financial institutions have temporary idle funds that they wish to place in some type of liquid assets or short-term interest bearing instrument. At the same time, other individuals, businesses, government and financial institutions find themselves in need of seasonal or temporary financing. The money market thus brings together the suppliers and demanders of short-term liquid funds."(Gitman, 1988:30-31)

As the Nepalese economy is in developing phase, so in order to speed up this pace of development, financial sectors have crucial roles, as they can pool scattered savings for capital formation. The public investors are interested to invest their savings in the common stock of the financial institutions. As a result, such institution's shares are being traded among the investors in the secondary market in larger volume everyday. In Nepal, Nepal Stock Exchange (NEPSE) is the only one secondary market for trading of shares of the companies. As a recent days in NEPSE the trading of shares is increasing day by day and the prices are also fixed in the floor each and everyday. The prices of shares of the listed companies have been affected on everyday as major or minor. The basis of change in price of shares could be the financial position of the company and other signaling effect due to the major events occurred in the country.

## **1.2 Capital Market**

Nepal aspires for a rapid economic growth that needs additional capital formation and investment. An efficient capital market is an essential pre-requisite of economic development and the development of capital market in an economy is dependent upon the availability of savings, proper organization of intermediary institutions to bring the investors and business ability together for mutual interest, regulation of investment, etc.

Capital market plays a vital role in the national economy. It mobilizes savings from surplus units and organized the funds for the productive investment. It renders very valuable services to the community by increasing the productive capacity of the country and thereby accelerating the pace of economic development. In short, the growth of economy is tied with the growth of capital market in the country. The capital market facilitates the allocation of funds between savers and borrowers. This allocation will be optimum if the capital market has efficient pricing mechanism. If the capital market is efficient, the current share 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 or over valuation of shares is possible only in an efficient market.

The capital market is the market, which deals in medium term and long-term funds. It refers to all the institutions, facilities, practices and arrangements for borrowing and lending medium-term and long-term capital. In the broad sense, Capital market which includes primary markets, secondary markets, term lending institutions, banks, investors and just about anybody and everybody who is engaged in providing long-term capital (whether equity capital or debt capital) to the industrial sector" (Raghunathan, 1994:8)

"Capital markets are the exchange systems designed to transfer ownership of long-term (over one year) debt and equity securities, corporate bonds, treasury bonds and common stock."(Edmister, 1990:4)

The capital market in Nepal has been passing through a transitory phase over past few decades. Only after the inception of democracy in the country, a network of

financial institutions was created through legislative measure to induce the growth of capital market.

Securities Board (SEBO) and Nepal Stock Exchange (NEPSE) are the main bodies to make the stock market as competent and efficient as possible. Actual efforts have been made to develop the Nepalese stock market with the promulgation of Securities Transaction Act in 1983, which was subjected to frequent amendments.

Securities Board, Nepal was established in May 26, 1993 A. D. under the provision of Securities Exchange Act 1983 A. D. (first amendment). Since its establishment, SEBO/N has been concentrating its effort to improve the legal and statutory framework, which one the bans for the healthy development of capital market. As a part of its continuous effort to build a sound system, the Securities Exchange Act 1983 was amended for the second time on January 30 1997 A. D. This amendment paved the way for establishing SEBON as an apex regulatory body as it livened the horizon of SEBON by bringing market intermediaries directly under its jurisdiction and also made it a mandatory for the corporate bodies to report to SEBON annually and semiannually. Although the second amendment in the Act established to make direct relationship of SEBON with market intermediaries and the listed companies, supremacy in its jurisdiction is yet to be established and clearly recognized.

NEPSE is a nonprofit organization, is operated under securities exchange act, 1983. The basic objectives of NEPSE is to impart free marketability and liquidity to the Government bonds and corporate securities by facilitating transactions in its trading floor through financial intermediaries such as broker, market maker etc. NEPSE appointed eleven issue managers and twenty-seven brokers to avail the daily transaction of buying and selling of securities under its restructure program in 1993 (2050 BS). NEPSE opened its trading floor on 13<sup>th</sup> January 1994 for its newly appointed brokers and market makers. NEPSE has adopted an "Open Cut-Cry" system. It means transactions of securities are conducted on the open auction principle on the trading floor. The buying broker with the highest bid will post the price and his code number on the buying column, while the selling broker with the lowest offer will post the price and code number on the selling column on the quotation board. The market makers quote their bid and offer price on their own board before the floor

starts. Once the bid and offer price match, contacts between the buying and selling brokers of between the brokers and market makers are concluded on the floor.

NEPSE is the stock exchange in the country owned by the government (58.67%), Nepal Rastra Bank (34.60%), Nepal Industrial Development Corporation (6.13%) and Security Businesspersons (0.60%). [Annual Report SEBO, 2001 (2058/59): p 4] The securities businesspersons such as stockbrokers, market makers and securities dealers registered with SEBO have to get membership of the stock exchange for conducting security business. Similarly, the managers who are engaged in the primary issuing activities also have to get membership of the stock exchange to conduct business. According to The Securities Bylaws, 1996 and the membership of The Stock Exchange and Transactions Bylaws, 1998, it is mandatory for the issuing companies to have their securities listed in the stock exchange within three months of the closure of offering. The stock exchange provides its' floor for the trading of shares of the listed companies. Hence, it creates liquidity on shares of the listed companies.

After the restoration of democracy in 1991, the government has adopted liberalization and open-market policy. As a result, there have been continued financial reforms and frequent amendments of bylaws related to the financial market to create a conducive environment for the development of competitive and efficient stock market. Accordingly, the Nepalese stock market is taking its pace for the development. However, here a question arises whether the Nepalese stock market is efficient enough to maintain the MPS according to financial position of a company. The highly fluctuating stock market prices at NEPSE may not be the symptom of the efficient market. In the recent stock market turmoil, most of the investors complain that they are suffering from unexpected fluctuations of share prices at NEPSE. Therefore, this study attempts to relate the share piece with major financial indicators and the risk and return analysis for providing suitable bases for investment in common stocks of the sampled companies.

### **1.3 Statement of the Problem**

Capital market investment in this present context plays the major role in the economic development of the country. The public limited companies are increasing

tremendously in response to the economic liberalization and globalization policies adopted by the Nepalese government. Such institutions provide banking, insurance and financing services as well as participating in developmental works, manufacturing and processing and other various areas. After the emergence of NEPSE in 1997, the concept of capital market has been developed and growing rapidly within a short span of time.

Due to lack of investment opportunities due to the country's prevailing situation, public are attracted towards the shares purchasing. People are unknowingly purchasing their shares to utilize their unused funds i. e. especially of commercial banks, which seems to be the blue chips to the potential investors. Market price of shares fluctuates with different factors. The market rumors play a significant role in the fluctuation of share price of the companies. So we can say that the Nepalese stock market is the weak form of the market. The policy makers are unable to make the appropriate policy for the development of the stock market. There is poor contribution of government efforts for the development of the stock market in Nepal. Due to the lack of proper implementation of the policy adopted by government under the extended structural adjustment program (ESSP), the stock market has not achieved sustainable development.

Most of the investors are not aware of the financial position of the companies in terms of their financial indicators, in which they are investing their funds through secondary market- NEPSE. The market price of common stock (share) does not seem to be in accordance with the financial indicators- Earning per share (EPS), Dividend per share (DPS) and Net worth per share (NWPS). Instead, in determination of the market price of share, there has been major influence of rumors rather than strength of the companies.

Generally, the trend is that the MPS of public quoted companies is above their book value. The market value is determined by the supply and demand functions. However, in an efficient market MPS fully reflects all the historical information publicly available.

Here arises the question of efficiency of the Nepalese stock market. The high movement of share prices may be the outcome of the efficient behavior. Our stock market is not efficient enough since all the listed companies do not make past information available to shareholders. Many listed companies do not produce timely financial statements or annual reports. The Security Exchange Act strictly prohibits the misuse of inside information but the regulating authorities can make no advance notice of how there is the use of inside information. It denotes that every investor should be well aware of the degree of risks in which they are investing or going to invest their saving funds. There are very few practices of analyzing this aspect in the Nepalese context. Most of the investors are investing their funds haphazardly without considering risk involved in their investment. That's why the major issues might be whether the MPS of listed companies, especially for selected companies, are really representing the financial indicators, i.e. EPS, DPS and NWPS.

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

The study of share price behavior has become a keen area of interest coming the recent years. Daily we go through news regarding the fluctuation of price of share of the companies based on which we confer to the fact. Whether the business is having weak days or enjoys great days. General public is accustomed to read the news over these in the newspaper everyday and that takes the matters as a part of news and nothing else. General people are not so much aware about the fact of this news that by which the prices of shares are being changed every day. What are the major reasons behind the fluctuation of price of the shares of the companies, which they hold?

In general, the behavior of series of share price has been always a subject matter of debate to the extreme extent among the academics of financial and economic circles. The main concern in the problem is to understand the behavior of prices of shares in the organized market places where the trading actually takes places. Moreover, to understand the causes of the change in market places to make successful anticipation concerning the future turns of the share prices.

In the Nepalese context there lacks investment opportunities due to the different reasons like e.g. due to, Geographic location, small market and lower per capita

income etc. so, there is huge amount of savings with the public for investment which provide the good rate of return. Since there is failure of different industries so people are investing their funds in the shares especially of joint venture banks and financial institutions. But most of the people purchase shares because they want some return from their savings instead of keeping their fund idle. They unknowingly invest their funds in the securities without having the knowledge and without the analysis of past and present performance of the securities in which they are investing.

Market price of the share moves daily in the Nepalese securities market. What factors affects the market price of the share? The cause of price change may be signaling or informational effect, low return, high risk, lack of knowledge, low income of the investors and high price of the stock. Since the market price of the share is the function of information, this research will be focused on how well the share prices absorb information in the Nepalese capital market. In the other words, this study is focused on to know how Nepalese investors react to the information disseminated to capital market.

### **1.5 Objective of the Study**

The primary objective of the study is to analyze the performance of stock market and the behavior of share price of listed commercial banks. However, the specific objectives of the study are as follows:

1. To provide a glimpse of the present to Nepalese stock market.
2. To analyze the share price behavior of the commercial banks listed in NEPSE
3. To examine the risk involved in the common stock investment of the sampled commercial banks.
4. To evaluate return and risk proportion of investments on stock of sampled commercial banks.

### **1.6 Limitation of the Study**

Due to various reasons this research work is not able to study the whole Nepalese capital market in detail. For the sake of ease this tries to study its subject matter by concentrating on some important variables and ignoring others. That is why this



research is also not free from limitations. The major limitation of the study is presented below:

1. The core of this study is based on the secondary sources of information. Hence any incorrectness in the key information like NEPSE index gathered from the secondary sources might affect the accuracy of the outcome of the study.
2. The study has been designed (to concentrate on some of the banking sector, which is a part of total capital market). So the conclusion cannot be generalized on the total capital market.
3. For the purpose of study only common stocks or ordinary stocks are taken.
4. There might be various techniques and method to perform the study on stock price movement, but the study is focused only on the run test, risk and return analysis and some ratios analysis.
5. The study is done for the particular fulfillment for MBS degree in management, so it is not a comprehensive study.

## **1.7 Organization of Study**

### Chapter I: Introduction

The first chapter deals with the introduction. This includes background, statement of the problem, objectives of the study, limitation of the study and organization of the study.

### Chapter II: Review of Literature

This chapter consists of review of books, articles, journals, reports and other relevant materials.

### Chapter III: Research Methodology

It covers on research design, population and sample, sources of data, data gathering procedure, analytical tools etc.

### Chapter IV: Data Presentation and Analysis

This chapter deals attempts to analyze and evaluate data with the help of analytical tools and interpret the results obtained.

## Chapter V: Summary, Conclusion and Recommendation

It sums up the results obtained through analysis and recommends some suggestions.

## **Chapter-II**

### **Review of Literature**

The basic concern of the study is to focus on the pricing of the stocks of the companies listed in Nepalese Stock Exchange. So, in this chapter, an attempt is made to review some of the literature concerning the stock market in Nepal and abroad as well as the market price behavior. The price behavior of the stock and its trading activity has got the tremendous concentration in security investment. So, a better understanding of these determinants may increase investors' confidence in the stock market and thereby enhance the effectiveness of corporate resource allocation. Hence more and more concerns over pricing behavior are arising and most of the concerned books bear some paragraph on this issue.

#### **2.1 Introduction**

A book about capital market by Dr. R. S. Mahat entitled "Capital Markets Financial Flows and Industrial Finance in Nepal" was written in the early period of the development of capital market and before the establishment of stock exchange. So, Dr. Mahat made first priority to establish stock exchange for the development of stock market. He also writes that Nepalese stock market is still in infancy stage and some drawbacks to the development of stock markets are strong historical and social reasons as well as mass poverty and illiteracy in Nepalese society. He further points out that some conscious and educated people of urban areas are also not investing in the industrial sector instead they are investing on the real estate especially building construction. Although the book is written in the early stage of the development of stock market, the limitations of Nepalese society regarding the investment in stock market is still reality of Nepalese Capital market.

Similarly, the next book by Dr. R. S. Pradhan's is very valuable for the purpose of analyzing the capital market in Nepal. In his book, he writes about the Stock Market behavior in Nepal that "A number of studies have been conducted on the stock market

behavior in developed and big capital markets but their relevance is yet to be seen in the context of smaller and underdeveloped capital markets."(Pradhan, 1994:42-43)

As per the book, the stock market behavior in smaller and underdeveloped capital markets is thus one of the important areas of the study in finance. Information on stock market behavior in such smaller and underdeveloped capital market would help development of realistic theoretical models and formulation of relevant hypotheses for empirical testing in finance. Thus, it is felt necessary to study stock market behavior in the context of smaller and underdeveloped capital markets, and this chapter prepared with reference to Nepal is a small attempt towards that end.

"In Nepal, the listing of shares in Stock Exchange Centre (SEC) and their trading in the stock market is a recent phenomenon. The Nepalese stock market is characterized by low trading volume, absence of professional brokers, early stage of growth, limited movement of share prices and limited information available to investors. A number of researchers are available on government owned public enterprises but researches on enterprises whose stocks are listed in SEC and traded in stock market are yet to come up in Nepal. Viewed in this way, this chapter is expected to provide at least some insights into stock market behavior in Nepal. This chapter can be considered important, as Nepal has already started the process of privatization of public or government owned enterprises."

Among the various empirical contradictions to the Assets Pricing Model of Sharpe (1964), Linter (1965) and Black (1972), the most prominent is the size effect of Banz (1981). He finds that average returns on large stocks are lower while average returns on small stocks are higher. The positive relation between leverage and average returns on US stocks and firm's book value of common equity to its market value is documented by Stattmen (1980) and Rosenberg, Reid and Lanstein (1985). Similarly, Chan Hamao and Lakonishok (1991) find the strong role of book-to market equity explaining the cross-section of average returns on Japanese stocks. Again, Ball (1978) finds that earnings price relation is likely to be higher for stock with higher risks and expected returns. Though there are these findings in the context of developed and big capital markets, their applicability is yet to be seen in the context of smaller under-developed market. This chapter therefore attempts to assess some of

the cross-section behavior of stock market to ones as described above in Nepal, it specifically examines the relationship of market equity, market value to book value, price earning and dividends with liquidity, profitability, leverage, assets turnover and interest coverage.

In the book, "Shareholder's Democracy and AGM feedback" Prof. Manohar Kumar Shrestha has focused various issues related to protection of shareholder's expectation. Success of companies directly depends on the protection of their owners. Nut how can this be accomplished is the main question. Thus it is necessary to develop a possible guidance for enhancing the efficiency for public limited companies to contribute directly in the growth of national economy on one hand and ensuring handsome return to the shareholders on the other hand to make their investment meaningful and worthwhile. At present, the overall shareholders' democracy in terms of protection their interest is basically focused on the payment of satisfactory dividend and maximization of shareholders' wealth by appreciating the value of shares they sold. (Shrestha, 1999:25)

"Investors were enlightened and they stated inquiring about company's financial health and future prospect before buying or selling shares. People turned to price-earning multiples: NEPSE indexes informed trading became sort of a norm when stock market entered 1995. Many who could not cope with the system of intelligent speculation left the ground. As a result, the numbers of buyers gradually came down and so did the prices." (The Kathmandu Post, May 18, 1996:6)

Panta, Rekha analyzed in her, "Current status of share market in Nepal", the trend of Nepalese stock market and present state of primary and secondary market was found satisfactory. According to her study, the development of stock market primarily depends on program and implementation in Nepal. The overall policy environment has not been conducted to the development of stock market. Therefore, it is difficult to develop more efficient secondary market. Treading system for both equity and debt securities.

## **2.2 Conceptual Framework:**

Capital market is concerned with long-term finance; widely consists of series of channels which the saving of the community is made available for industrial and commercial enterprises and authorities. It is concerned with that private saving; individual as well as corporate that is turned into investment through the new capital issue and also new public loan floated by government and semi government bodies.

Capital market means any body or individuals, whether incorporated or not, constituted for the purpose of regulating or controlling the business of buying selling or dealing in securities. (Bhalla, 1995:21)

The history of capital market in Nepal is not so old. The capital market was developed after the establishment of Security Exchange center on 2033 B.S. The number of listed companies and their trading was very negligible until the government of Nepal has made economic reforms along with broad financial policy in the process of economic liberalization. The privatization of public entities have been started various finance and insurance companies in the private sector are being established with local and foreign investments. Those companies have to issue some of their share of the general public. (Vaidya, 2057:70)

Capital market consists of securities market and non-securities market. Securities markets imply mobilization of the funds through issuance of the securities like shares, bonds and debentures by corporate sector and bond, bills and debentures by government. These securities traded in the secondary market are generally negotiable and hence can be traded in the secondary markets. Non-securities market refers to the mobilization of the financial resources by the financial institutions in the form of deposits and loans.

Primary and secondary markets are the two wings of the capital market. Primary market concerns with the issue of new companies stock whereas the secondary market deals with the previously issued shares. The majority of all capital market transactions occur in the secondary market. The proceeds from the sale of securities in this market do not go the original issuer, which means that it does not create new additional capital. In other words, securities are traded among the individual as well as institutional investors.

There are two theories of stock price behavior i.e. classical approach and efficient market theory approach. Classical or conventional approach includes Fundamental Analysis and Technical Analysis Theory. Under efficient market theories, there are three forms of efficient market hypothesis. Classical approach assumes market as inefficient whereas the efficient market theory argues that the market is efficient. Prior to the development of the efficient market theory, investors were generally divided into two groups, fundamentalists and technicians.

### **2.2.1 Classical Approach**

The classical approach includes fundamental analysis and technical analysis theories. One of the major divisions in the ranks of financial analysis is between those using fundamental analysis (known as fundamental analysis or fundamentalists) and those using technical analysis (known as technical analyst or technicians). Fundamental approach forecast stock price on the basis of earnings and dividends of the company whereas technical analysis forecast stock prices on the basis of past price behavior of the company.

#### **2.2.1.1 Fundamental Analysis**

Fundamental analysis theory claims that at any point of time an individual stock has an intrinsic value, which is equal to the present value of the future cash flows from the security discounted at appropriate risk, adjusted discount rate. The value of the common stock is simply the present value of all the future income, which the owner of the share will receive. (J. Clarks, 1991: p 398)

In the simplest form, fundamental analysis begins with the assertion that the true value of any financial asset equals the present value of all cash flows the owner of the assets expects to forecast the timing and the size of these cash flows and then converts the cash flows to their equivalent present value using an appropriate discount rate. (Gordon, 2000: p12)

In the fundamental approach, the security analyst or prospective investor is primarily interested in analyzing factors such as economic influence industry factors and pertinent company information such as product demand, earnings, dividends and

management in order to calculate an intrinsic value for the firm's securities. The fundamentalist reaches an investment decision by comparing this value with the current market price of the security. He tends to look forward and is concerned with such matters like future earnings and dividends. It is sometimes said that the fundamental analysis is designed to answer the question 'what'. (Gordon, 1999:p844)

Fundamental analysis approach is not possible if capital markets are semi strong form efficient, since securities prices will already fully and fairly reflect all publicly available information. (Denzil, 1998: 31)

Fundamental analysis approach involves working to analyze various factors like economic influences, industry factors, firm's financial statement and pertinent company information such as product demand, earnings, dividends and management in order to calculate an intrinsic value for the firm's securities. The theory assumes that knowledge about the future companies is not perfect, some stocks are under priced and others are over priced. The investor's task is to study certain fundamental factors that may enable them to select undervalued stock for purchase and sell overvalued stocks. After extensive analysis, the investor derives an estimate of the 'intrinsic' value of the security, which is then compared to its market price. If the value exceeds the market price, the security should be acquired and vice versa. (Reily, 1986:347)

The objective of the fundamental analysis is to appraise the intrinsic value of the security. The intrinsic value is the true economic work of the financial assets. Therefore, fundamental analysts work to find new information before other investors, so they can get into the position of profit from the price changes they anticipate. Fundamental analyst use different models like Top-Down versus Bottom-up forecasting, probabilistic forecasting, econometric models, financial statements analysis etc. to estimate the value of security in an appropriate manner for making investment decision.



**Some limitations of the fundamental analysis approach are as follows:**

The approach, though sound and based on basic financial figures does not suffer from the drawbacks and to make this approach work effectively, one must be aware of them.

The fundamental approach is based on rational scientific analysis of data, but the market is rarely rational.

**The information and analysis may itself be incorrect.**

Many companies with the help of creative and innovative accounting and accounting cosmetic disguise the real earnings.

The fundamentalist's estimate of intrinsic value may be incorrect. This is not only possible but also probable that he often forecast growth, profit and other factors without grasping all the facts.

The fundamentalists may not fully understand the economy or the industry, as there are several external factors.

Therefore, fundamental analysis is a never ending process because values change overtime. Ideally, revision in analysis should occur whenever new information affecting the future benefits to security holders become available.

**2.2.1.2 Technical Analysis:**

In its simplest form, technical analysis involves the study of stock market prices in an attempt to predict future price movements. Past prices are examined to identify recurring trend or patterns in price movements. Then more recent stock prices are analyzed to identify emerging trends or pattern, the analyst hopes to predict accurately future price movements for a particular stock. (Gordon, 1999:12)

Technical analysis is based on the widely accepted premise that security prices are determined by the supply of and the demand for securities. The tools of technical analysis are therefore designed to measure certain aspects of supply and demand. (J. Francis, 1991: 521-522)

Technical analysis can be defined as the use of published market data for the analysis of both the aggregate stock market and individual stocks. It sometimes called market or internal analysis. (Charles, 1988: 396) technical analysis is based on some assumption that the past information of prices and trading of stock provides some pictures of the future price of stocks.

Technicians seek to forecast security prices rather than security value especially trends in the price changes. Price and volume are the primary tools of the technical analyst. Technicians believe that the forces of supply and demand show up in patterns of price and volume. Volume data are used to gauge the general condition in the market and to help assess its trend. The evidence seems to suggest that rising (falling) stock prices are usually associated with rising (falling) volume. If the stock prices but volume activity does not keep pace, technical analyst would be skeptical about the upward trend. A downside movement forms some pattern or holding point, accomplished by heavy volume, would be taken as a bearish sign. (Charles, 1988:p396)

The technical analyst usually attempts to predict short-term price movements and thus makes recommendations concerning the timing of purchase and sales of either specific stocks or group of stock (such as industries) or stock in general. It is sometimes said that fundamental analysis is designed to answer the question 'what' and technical analyst seems to trying to forecast 'when'. (Gordon, 2000: 844)

The technical analyst tries to forecast short run shifts in supply and demand that will affect the market prices of one or more securities.

Typically, technical analyst records historical, financial data on charts, study these charts in search of patterns that they find meaningful and endeavor to use the patterns to predict future prices. Some charts are used to predict movements of market index and still others are use to predict the action of both individual asset and the market. (Francis, 1991:521-522)

Technical analysis however may be useful in timing a buy or sell order that may be implied by the forecasts of return and risk. For example, the technical analysis may reveal that a drop in price is warranted. Postponement of purchase, then, if the

technical analysis is correct, will raise the forecast holding period yield (HPY). Conversely, a sale order might be postponed because the charts reveal a raise in the price of the security in question. (Fischer, 1995: 510)

**The basic assumptions of technical analysis are as follows:**

Market value is determined by interaction of supply and demands.

Supply and demand is governed by numerous factors, both rational and irrational.

Security prices tend to move in trends that persist for an appreciable length of time, despite minor fluctuations in the market.

Changes in trend are caused by the shifts in supply and demand.

Shifts in supply and demand, no matter why they occur, can be detected sooner or later in charts of market transactions.

Some chart patterns tend to repeat themselves. (Francis, 1958: 86)

Thus the technical analyst believe in the changes in the pattern or trend of security price take place on account of changes in the demand and supply of the securities, and that crucial insights into these patterns can be obtained by keeping track of price chart. The technical analyst can tell whether the price of a share is on upswing or on the downswing in future. Technical analysis involves the examination of past market data, such as prices and the volume of trading, which lead to an estimate of future price trends and therefore, an investments decision. Whereas fundamental analysts use economic data that are usually separate from the stock or bond market, the technical analyst believes that using data from the market itself is a good idea because 'market is its own best predictor'. Technical analysts base trading decisions on examination of prior price and volume data to determine past market trends from which they predict future behavior for the market as a whole and for individual security.

## **Technical Tools:**

### **Dow Theory**

This tool is originated by Charles Dow, the founder of the Dow Jones Company, one of the oldest and famous technical methods of analyzing security prices. The objective of the Dow Theory is to identify long-term trends in stock market prices. "According to this theory, it is believed that the market is always considered as having three movements, all going at the same time. The first is narrow movement from day to day. The second is the short swing, running from two weeks to a month or more; third is the main movement covering at least four years duration." (Francis, 1900: Dec 19)

So we can say that there are three forces simultaneously affecting the stock prices, basically called the primary or major trend, secondary or intermediate trend and finally tertiary or bullish trends. The primary price movements are held to constitute the bearish or bullish trends, whereas the secondary movements are regarded as passing phases. Tertiary price movements are daily price fluctuations, which to Dow attribute to no significance or ignore the role of this trend.

The Dow Theory employs two indicators called Dow Jones Industrial Average (DJIA) and Dow Jones Transportation Average (DJTA). The DJIA is a key indicator of underlying trends while DJTA usually serves as a check to inform or reject that signal. (Bodie, 2002:344)

The Dow Theory is built upon the assertion that stock prices tend to move together. If the DJIA is rising then the DJTA should also be rising. Such a simultaneous price movements suggests a strong bull market. Conversely, a decline in both the averages suggests a strong bear market. However, if the averages are moving in opposite direction, then the stock market is uncertain regarding to direction of future stock prices.

The forecasting of Dow Theory is less accurate. It might work only when a long, wide, upward or downward, movement is registered in the market. It is mostly unsuitable as a market predictor when the market trend frequently reserves itself

in the short or the intermediate term. This theory fails to explain a consistent pattern of the short price movements.

### **Barron's Confidence Index**

In the literal sense, the confidence index is defined as the ratio of high-grade bond yields divided by low-grade bond yields. The ratio is supposed to reveal how willing investors are to take investment risks. Barron's confidence index is constructed by using Barron's index of yields on the high-grade bonds to low grade bonds.

The confidence index is usually, but not always, a leading indication. Like most of other technical indicators, the confidence index may sometimes issue erroneous signals and should therefore not be used without confirming evidence from other indicator. (Francis, 1991:531)

### **Odd Lot Theory**

This theory concerns the purchase and sales of securities by small investors. These investors do transactions of less than 100 shares. Some technicians take the ratio of these odd lot purchases to odd lot sales as an indicator of the direction of the future prices. An increase in the index suggests relatively more buying, a decrease indicates relatively more selling. During most of the market cycle, odd lots are selling the advances and buying the declines.

Odd lotters try to do the right thing most of the time; that is, they tend to buy the stocks as the market retreats and sells stocks as the market advances. However, technicians feel that odd lotters are inclined to do the wrong thing at critical turns in the market. (Fischer, 1995:515)

## **2.2.2 Efficient Market Theory**

In a competitive market, the equilibrium price of any good or service<sup>4</sup> at a particular moment of time is such that the available supply is equated with the aggregate demand. This is the true worth of the goods or services, based on all publicly

available information. The new equilibrium price will hold until another bit of information is available for analysis and interpretation.

An efficient market is one where shares are always correctly priced and where it is not possible to out perform the market consistently except by luck. (Richard, 1995: 41). In an efficient capital market, current market prices fully reflect available information. (Eugene, 1196:133). Therefore, if the market is efficient, it uses all the available information to its setting price.

When security prices at all times rationally reflect all available, relevant information, the market in which they traded is said to be efficient. This implies that any new information coming to light, which bears on a particular firm, will be incorporated into the market price of the security. An efficient capital market is one in which security prices adjust rapidly to the arrival of new information and therefore the current prices of securities reflect all information about the security.

An efficient market is defined as market where there are large numbers of rational profit maximisers actively competing with each other trying to predict the future market values of individual securities, and where important current information is almost freely available to all participants. In an efficient market, competition among the many intelligent participants lead to a situation where at any point in time, actual prices of individual security already reflect the effects of information based on both events that have already occurred and on events which are of row, the market expect to take place in the future. In other words, in an efficient market any point in time the actual price of a security will be a good estimate to its intrinsic values. (Eugene, 1970:384-85)

There are several concepts of market efficiency and there are many degrees of efficiency, depending on the market. Markets in general are efficient when Prices adjust rapidly to new information.

There is a continuous market, in which each successive trade is made at a price close to the previous price (the faster that the price responds to new information and the smaller the difference in price changes, the more efficient the market.

The market absorb large amount of securities without destabilizing the prices. (Stanley,1998:420)

In an efficient market, a security's price would correctly reflect the important variables for that security and would represent an unbiased estimate of its investment value (Mosses, 1992:746). The efficient hypothesis suggests that investors cannot expect to out perform the market consistently on a risk-adjusted basis over an extended period of time. This hypothesis is based on the premise that security prices reflect all available information concerning a firm and that security prices changes rapidly in response to new information. Market efficiency also implies that as new information becomes available, the market quickly analyses it, and any necessary price adjustment occur rapidly.

**The requirements for a securities market to be efficient are as follows:**

A large numbers of rational, profit maximizing investors exist who actively participate in the market by analyzing, valuing and trading stocks.

Information is free of cost and widely available to market participants at approximately at same time.

Information is generated in a random fashion such that announcements are basically independent to one another.

Investors react quickly and accurately to the new information, causing stock prices to adjust accordingly. (Charles,1988:425)

In an efficient market all prices are correctly stated and there are no bargains in the stock market. Efficiency in this context means that ability of the capital markets to function so that prices of securities react rapidly to information. Such efficiency will product prices that are appropriate in terms of current knowledge and investors will be less likely to make unwise investments. A corollary is that investors will also be likely to discover great bargains and thereby earn extraordinary high rates of return.

The degree of market efficiency has important implication for the economy and for investment decision makers. In an economic sense, it is important that security prices provide accurate signals that can be used to allocate capital resources correctly.

Incorrectly priced securities would result in incorrect allocation of capital (Cheney & Mosses, 1992:746). Although efficient market may be vital and pleasing from an economic perspective, it presents complexity to investors in terms of an appropriate investment strategy.

If a market is efficient then there is a very important implication for market participants: all investments in the market are zero NPV investments. The reason is not complicated. If the prices are neither too low nor too high, then the difference between the market value of an investment and its cost is zero; hence the NPV is zero. As a result, in an efficient market, investors get exactly what they pay to when they buy securities and firms receive exactly what their stocks and bonds are worth and sell them. (Ross, 2003:405)

In an efficient market, liquid capital will channel quickly and accurately where it will do the community the most good. Efficient market will provide ready financing for worth while business venture and drain capital away from corporations that are poorly managed or producing obsolete products. One of the main reason that some underdeveloped countries do not advance is that have inefficient capital markets, where prices may be fixed or manipulated rather than determined by supply and demand. An efficient market is assumed perfect market in which there are many small investors, each having the same information and expectations with respect to securities; there are no restrictions on investment, no taxes, and no transaction costs and all investors are rational, view securities and are risk averse, preferring higher returns and lower risks.

In an efficient market, there are neither free lunches nor expensive dinners. It is possible to systematically gain or lose abnormal profits form trading on the basis of available information (Weston & Copeland, 9th edition: 93-94). Not all market participants are believers in the efficient market hypothesis. Some feel that it is worthwhile to search for undervalued or over valued securities and to trade them to gain profit form market inefficiencies. Others argue that it is mere luck that would allow market participants to correctly anticipate new information.

The security prices have been observed to move randomly and unpredictably. This randomness of security prices may be interrupted to imply that the security prices



quickly adjust to such information. Therefore, the capital market efficiency can also be defined as the ability of securities to reflect and incorporate all relevant information of its prices. So there is no question of the share price being under or over valued.

Although it may not literally be true that all relevant information will be covered, it is virtually certain that there are many investigators hot on trail of most leads that seem likely to improve investment performance. Competition among these may be well backed; highly paid, aggressive analysts ensure that, as a general rule, stock prices ought to reflect available information regarding their proper levels. (Zvi, 2002:342)

If new information becomes known about a particular company, how quickly do market participants find out about the information and buy or sell securities of the company on the basis of the information? How quickly do the prices of the securities adjust to reflect the new information? If prices respond to all new information in rapid fashion, can we say the market is relatively efficient? If instead the information disseminates rather slowly throughout the market, and if investors take time in analyzing the information and reacting, and possibly overreacting to prices may deviate from values based on a careful analysis of all available relevant information. Such market could be characterized as being relatively inefficient. (Haugen, 2001:573)

There are three forms of efficient market hypothesis based on type of information used in making market decisions. They are

Weak form efficiency

Semi-strong form efficiency

Strong-form efficiency

The difference between these forms relates to what extent information is reflected in the stock prices. Under the weak form, stock prices are assumed to reflect any information that may be contained in the past history of the stock price itself (Haugen, 2001:575). This hypothesis holds that no investor can earn excess returns by developing trading rules based in historical prices or return information. Weak form

efficiency, suggests that, at a minimum, the current price of a stock reflects the stocks own prices. In other words, studying past prices in an attempt to identify misplaced securities is futile if market is weak form efficient. Although this form of inefficiency might seem rather mild, it implies that searching for patterns in historical prices that will be useful in identifying mispriced stocks will not work. (Ross, 2003:407)

Under semi strong form, all publicly available information is pre assumed to reflect in securities' prices. This includes information in the stock price series as well as information in the firm's accounting reports, the reports of competing firms announced information relating to the state of the economy and any other publicly available information relevant to the valuation of the firm. (Haugen, 2002:575). This form of efficiency is most controversial. The reason this form is controversial is that it implies that a security analysts who try to identify mispriced using, for example, financial statement information is wasting time because that information is already reflected in the current price. (Ross, 2003:407)

The strong form takes the notion of market efficiency to the ultimate extreme. This form includes private of inside information as well as that which is publicly available. Under this form, those who acquire inside information act on it, buying or selling the stock. Their action affect the price of the stock and the price quickly adjusts to reflect the inside information (Haugen, 2001:575). One obvious way to check the validity of the strongly efficient market hypothesis is to examine the profitability of traders in securities made by insiders to see if the insider's access to valuable information allows them to earn statistically significant trading profits (Francis, 1991:5). Thus the strong from of the efficient market correctly prices securities adjusting quickly to new information either public or private.

#### **2.2.2.1 The Random Walk Theory or Theory of Weakly Efficient Market**

The weakly firm of efficient market hypothesis states that current prices fully reflect the information contained in the historical price movements. According to Kean, the market is efficient in weak sense if share prices fully reflect the information implied by all prior price movements. Price movements in effects are totally independent of previous movements, implying the absence of any price patterns with prophetic significance (Francis, 1991:10). So, the past prices have no meaningful information to

predict future course of price fluctuations, which can be used to earn above average return. The movement of future prices is independent form previous prices or the series of price change are random phenomenon. Actually, the weak form of efficient market hypothesis is referred to as random walk theory of share price behavior. Weak form of market hypothesis is popularly known as random walk theory (Fischer, 1995:540). Random work theory implies the future path of the price level of a security is no more predictable than the path of a series of cumulated random numbers. The series of price changes has no memory; i.e., the past cannot be used to predict the future in any meaningful way. It means that current size and direction of price changes is independent and unbiased outcome of previous price changes. The random walk model in pristine form includes two main hypotheses state that Successive price changes are independent and the price changes confirm to some probability distribution. (Eugene,1965:35)

Statistically, independence means probability of distribution for the price change during time periods. More precisely in algebraic term,

$$\Pr(X_t = X / X_{t-1}, X_{t-2}) = \Pr(X_t = X)$$

Where the term on the left side of equation is the conditional probability that the price change during time t will take the value of X, conditional on the knowledge, the previous price changes the values  $X_{t-1}$ ,  $X_{t-2}$  etc. but the term on the right of the equation is unconditional probability that the price change during t will take value X. The expression means the conditional and marginal probability distribution of an independent random variable are identical. (Gupta, 1989:31)

Out of the two hypotheses of the random walk theory, the independence of successive price changes is strong and most important one to make the theory valid. The second one is price changes conform to some probability distribution but its shape or form of distribution need not to be specified i.e. any distribution is consistent with the theory as long as it correctly characterizes the process generating the price changes. (Eugene, 1965:36)

However the parameter of the distribution should be stationary but not so strongly imposed of independence hypotheses is hold true. However, still the form of

distribution of price changes is important from investment decision, academic and research point of view. (Eugene, 1965:41)

Proponents of random walk theory recognize that in general perfect independence assumption does not exist in real world. So they argue that for practical purposes, it cannot be used to forecast future to earn more than average market return. Random walk model is valid as long as knowledge of the past behavior as the series of price change can be used to increase expected gains (Eugene, 1965:35). That is, for practical purposes, independence hypothesis is accepted as long as the degree of dependence considered in the series of price changes is not sufficient to forecast the future from the historical price movements in away that makes higher profit that they would be under the naïve buy-and -hold policy.

Actually market mechanism establishes the existence of random walk theory that the successive price changes to be independent. The stock market poses steady inflow of information that have a whole market-wide impact such as change in monetary and fiscal policy on security prices and another information have an effect on industry-wide impact such as change in government's tax policy on specific industry. There are information such as announcement of earning and dividend that affect price of the particular security. The change in the set of anticipations resulted from either of the above information is unique to each individual and may be caused by psychological or whimsical and other factors, which impinge then to bid on prices of the securities of the market. There are other groups of participants who estimate the intrinsic value of the individual securities from the received information. The existence of intrinsic value for the individual is not consistent with random walk hypothesis. (Eugene, 1965:36)

At any point in time, there exist implicitly an intrinsic value of each share but in the world of uncertainty the intrinsic value are not known exactly. Therefore, there can be disagreement among the participants about the estimated intrinsic value of the shares and actual price differ from its intrinsic values. Over the time, the intrinsic value itself changes as new information appears, that affects the prospects of the company. New information may be about deregulation in the quota system on the efficiency licensing, a change in management, success in research and development and tariff

imposed in the raw material etc. If steady inflows in various types of information (i.e. pessimistic, optimistic and so on) arise independently across time and if participants do not show dependent tendency about intrinsic value, the subsequent price changes in stocks will be independent. However in the real world, these conditions always do not hold true. There may be dependencies in the reaction of participants towards the estimation of new intrinsic value or whimsical tendency. For example certain individual's or institution's action on new anticipation of value may induce many people. This reinforcing behavior lead to deviate the anticipation value for below or above form its true value' which result unhindered dependencies in subsequent price changes. In this situation, we can assume that there exist many sophisticated traders of two types:

Traders having much better capacity to predict the appearance of new information and estimate of its effects on intrinsic values than others, generally named superior intrinsic-value analysts,

Traders having much better skills at doing statistical analysis of price behavior named technical analysts.

The sophisticated traders can recognize the situation where the price of the stock is beginning to run up or down from the intrinsic value because of inappropriately under or over discounting or information and its adjustment in the security prices. This situation provides them incentive for speculation in the market because the price is expected to move eventually to its intrinsic value. Thus, the existences of profit maximization strategy of these sophisticated traders lead to neutralize the dependence in the price changes and the price changes and the price changes follow to independence of successive price changes.

Of course in the certain world, sophisticated traders cannot always estimate intrinsic value exactly and their efforts towards erasing the dependencies may not be sufficient. In this case, sophisticate chartists can reinforce the neutralizing mechanism, because as long as there are important dependencies they can easily discern the 'trends' and 'patterns' and initiate value maximization strategy.

Over the time, the infusion of the new information in the market may move dependently which will tend to create dependence in the successive price changes of security. For example optimistic information tends to be followed more often by optimistic information than pessimistic information and pessimistic news tends to be more often followed by pessimistic news than good news. In this case also, the sophisticated traders eventually learn that it is profitable for them to estimate price changes of current new information and subsequent dependence of the same information. Though their active speculation on the opportunity to erase the subsequent dependence in price series and establish independence assumption in the random walk theory of stock market price behavior.

The random walk theory says nothing more than that successive price changes are independent. This independence implies that prices at any time will on the average reflect the intrinsic value of the security. If a stock's price deviates from its intrinsic value because, among other things, different investors evaluate the available information differently or have different insights into future prospects of the firm, professional investors and smart non professionals will seize upon the short term or random deviations from the intrinsic value, and through their active buying and selling of the stock in question will force the price back to its equilibrium position. (Fischer, 1995:553)

If the random walk hypothesis holds, the weak form of efficient market hypothesis must hold (though not vice versa). Thus, evidence supporting the random walk model is evidence supporting weak form of efficiency (Elton, 1991:404). If the prices follow a random walk, price changes over time are random (independent). The price change for today is unrelated to the price change of previous days. Any new information arrived randomly in the market results in the random changes in the prices. Random walks theory that involves selection of securities is represented as the modern approach to investment decisions.

### **2.3 Stock Exchange**

The stock exchange is an institution where quoted securities are exchanged between buyers and sellers. The stock exchange provides market a wide range of traded

securities, generally of medium to long-term maturities, issued by companies, government and public organization. (Winfield, 1985:22)

Most are the investors are attracted to the equity shares because of its marketability and liquidity. One may like to buy more shares or selling existing shares from time to time when he is in need of money or when he wants to shuffle his portfolio. Since the stock exchange is a place where a large number of buyers and sellers congregate, once can, by and large, easily find his counterpart for sale or purchase of shares. The investor can convert his shares into cash at the prevailing market prices readily. The existence of stock exchange facilitates all these functions without which it is almost impossible to do so.

The key function of securities exchange is to create a continuous market for securities at a price that is not very different from the price at which they were previously sold. The continuity of securities market provides the liquidity necessary to attract investor's funds. Without exchanges, investors might have to hold debt securities to maturity and equity securities indefinitely. It is doubtful that many people would be willing to invest under such conditions. A continuous market also reduces the volatility of securities prices further enhancing liquidity. (Gitman, 1992:458)

The securities exchanges help us to allocate scarce fund to the best uses. That is by disclosing the price behavior of securities and requiring the disclosure of certain corporate financial data; they allow investors to access the securities risk and return and to move their fund into the promising investments. An efficient market is one that allocates fund to the most productive uses. Along with this, there is lot of functions of security exchange such as ready market and continuous market, evaluation of securities, safety of transactions, and canalization of savings and widening the share ownership etc. however, besides these functions, there are three things a security exchange must do:

- ) Determine a fair price for the securities it trades or price discovery function.
- ) Enable transaction to be made at as low cost as possible or minimization of transaction cost.

- J) Enable transaction to be made at this price quickly and easily or provision for liquidity.

## **2.4 Security Market**

Security Market is interchangeably known as the integral part of capital market is in fact basis of the economy of the country. The most effective use of idle and surplus resources can be brought into practice only by means of market mechanism which mobilized the fund of savers to the user and thus this financialization boosts the industrialization and trading activities, which will bring the positive result to the economy as a whole. (Sharma, 2002:16)

There are two important functions of securities market, namely the raising of funds in form of shares and debentures and trading the securities already issued by companies. While the first aspect is obviously much more important from the point of view of economic growth, the second aspects is also considerably important. In fact, if facilities for transferring of existing securities are abundant, the raising of new capital is considered assisted as the buyer of a new issue of security become confident that whenever he wants to get cash he can find buyer of the security without much difficulty. This aspect is called the liquidity of the stock market. Thus the liquidity of the stock market affects the raising of new capital from the market. (Levine, 1992:33)

Security market sets a price for the securities it trades and makes it easy for people to trade them. Securities market facilitates the sale and resale of transferable securities. The security market can be defined as mechanism for bringing together buyer and sellers of financial assets to facilitate trading. Securities market is classified into two: the market in which new securities are sold is called the primary market and the market in which the existing securities are resold is called the secondary market. Securities market is created by brokers, dealers and market makers. Brokers bring buyers and sellers together with themselves actually buying or selling; dealers set price at which they themselves are ready to buy and sell (bid and ask price respectively). Broker and dealer come together organized market or in stock exchange. (Gitman, 1992:457)



### **2.4.1 Securities Market in Nepal**

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

Securities Exchange Centre was established with an objective of facilitating and promoting the growth of capital markets. Before conversion into stock exchange it was the only capital markets institution undertaking the job of brokering, underwriting, managing public issue, market making for government bonds and other financial services.

Nepal government, under a program initiated to reform capital markets converted Securities Exchange Centre into Nepal Stock Exchange in 1993. Nepal Stock Exchange, in short NEPSE, is a non-profit organization, operating under Securities Exchange Act, 1983.

The basic objective of NEPSE is to impart free marketability and liquidity to the government and corporate securities by facilitating transactions in its trading floor through member, market intermediaries, such as broker, market makers etc. NEPSE opened its trading floor on 13th January 1994. Nepal government, Nepal Rastra Bank, Nepal Industrial Development Corporation and members are the shareholders of the NEPSE

### **2.4.2 Trading System**

NEPSE has adopted an “Open out -Cry” system. It means transactions of securities are conducted on the open auction principle on the trading floor. The buying broker with the highest bid will post the price and his code number on the buying column, while the selling broker with the lowest offer will post the price and code number on the selling column on the quotation board. The market makers quote their bid and offer price on their own board before the floor starts. Once the bid and offer price

match, contracts between the buying and selling brokers or between the brokers and market makers are concluded on the floor.

## **2.5 Securities Board of Nepal**

Securities Board, Nepal (SEBO) was established as an apex regulator of the securities markets in Nepal by Government of Nepal on June 7, 1993 under the Securities Exchange Act, 1983 (first amendment). The main objective of SEBO is to regulate and promote the securities market and protect investors' interests. As per the Securities Exchange Act and regulation, following are the major functions of SEBO. Develop and implement policies and programs for the development of securities market and advice Nepal government in this regard. Register securities and grant issue approval. Provide license to corporate bodies to operate stock exchange business. Provide license to operate securities businesses. Supervise and monitor stock exchange and securities businesspersons. Conduct research, study and awareness programs regarding securities market.

The Governing Board of SEBO is composed of seven members including one full time chairman appointed by HMG/N for tenure of four years. Other members of the Board include representatives one each from Ministry of Finance, Ministry of Law, Justice and Parliamentary Affairs, Ministry of Industries, Commerce and Supplies, Nepal Rastra Bank (the central bank), Federation of Nepalese Chambers of Commerce and Industries and Association of Chartered Accountants of Nepal.

There are two departments, six divisions and ten sections in the organization of SEBO. Under the Corporate Finance and Administration Department, there are three divisions namely Corporate Finance and Reports Review Division, Accounts and Administration Division and HRD and Education Division. There are also three divisions under the Securities Market Regulation Department, which are Legal, and Enforcement Division, Market Regulation and Compliance Division and Market Analysis and Planning Development Division.

The major source of financing of SEBO is basically the government grant. Other financing sources include registration of corporate securities, registration and renewal

of stock exchange and market intermediaries and the income from mobilization of its revolving fund.

## **2.6 Review of Relevant Studies**

As stock market is in infancy stage in Nepalese context, there are limited books, journals and research studies concerning stock market and its pricing behavior. So, the available articles, books, previous research works, which are related to stock market are consulted and reviewed.

### **2.6.1 Review of Research Papers and Articles**

**Neeraj Vasistha, The Boss, 2004:112; in his article "Investing in Public Markets" has expressed the following views:**

Companies listed on the stock markets offer another avenue to retail and institutional investors to invest their capital into prospering businesses. This is known as the Secondary market and is open to investment from general public. Usually a host of market participants including brokers, sub-brokers and other intermediaries, general investing public, funds, banks and investing institutions (public and private), fund managers and analysts who typically track listed companies, among others are the key players of this market.

Before these companies can actually list their stock on the stock exchanges, they need to follow the process of listing of listing their company's shares on the stock exchange in their respective countries. For this they must get follow other listing norms, meet government regulations and host of other local laws. In pursuance of this, once the companies meet these norms, they need to prepare a detailed prospectus and undergo a mass distribution process to sell the shares of their company to the investing public at large, which includes retail investors, wealthy individuals and institutional players.

In this pre-listing process, host of players are involved apart from the above, which include institutions like the local stock exchanges (where the stock will eventually be listed) and depositories banks and financial institutions (who provide funds for such

transactions), merchant bankers, underwriters and registrars to the issue, who collectively are responsible for preparing the draft prospectus, conducting road shows for investors awareness and ultimately take care of the back office processing of the public issue application process, including the allotment process as well.

For the retail investor this primary market and the IPO (Initial Public Offering) route offer considerable scope of handsome returns, with relatively low risk, as compared to investing in the secondary market directly. Investor can invest into good companies through this route at attractive prices, in which the allotment usually happens either at a price discovered through the book building process based on investor demand or a fixed price indicated beforehand.

Before one starts to invest into IPO's, read the offer document or the draft prospectus carefully to understand the company better and assess the associated risk factors. A detailed draft prospectus usually contains historic information on the company and its business operations, detailed industry analysis and competitive scenario, financial statements including the balance sheet, profit and loss accounts along with other selected financial data, and information on the promoters, current management team and their track records, government approvals in place, along with highlights of any outstanding litigations, contingent liabilities and material developments etc. the prospectus usually also contains information on the potential market size and the opportunity pricing details of the company products, any key raw material supply issues. If such data is not available in the prospectus, the investor must refer to the company's website, industry sources or contact the underwriters to the issue or the company for more information.

Last but not the least, the IPO or a public issue is done with a particular purpose in the mind for example undertaking a capital expenditure plan for capacity up gradation, increase spending on marketing and sales, opening new offices in new geographies, increase spending on research and development etc. Usually this is highlighted in the prospectus/offer document as part of the object of the issue and the capital structure, and should be read carefully along with the terms of the issue, the issue structure and procedure. Companies usually go to the investors to raise money when the markets are bullish and participants are optimistic about the company and the economy in

general. Although these and other market factors help a company to position its IPO and sell it to the investing public at the highest possible price, the retail investor should be cautious and do their homework on the company, the lead managers, merchant bankers to the issue, before getting sucked into the general frenzied activity during a bullish phase in the markets.

Usually it is seen in a bullish market, all kinds of companies tend to flock to the market to raise money from the unsuspecting public, with relative ease, for all kinds of businesses and fancied plans. Retail investors should be careful and avoid such issues and shady promoters with lousy track records of implementing projects. Just as a large wave tends to lift both big and small boats in the ocean, a bull market also lifts both good and penny stocks to list during a bullish phase in the stock markets. And penny stocks with little or no fundamental value should be avoided.

**Article of Mr. Rabindra Bhattarai, New Business age, 2005: 65; "Define Your Objectives before Buying Stocks."**

People invest in the share market for different purposes. If someone is not clear about his/her purpose, the strategy followed can be wrong and the benefits are not satisfactory, or there she/he may even occur a loss. So, define your objectives first and then start dealing with the market. Some possible objectives would be to maximize dividend income, to maximize capital gain in the short run, to maximize total gain and to minimize the risk. A proper setting of objectives helps to identify the category of shares that help to accomplish the set objectives. If we observe the stock market regularly, we find various patterns of movement in different stocks. Thus setting clearly defined objectives will help to gain from such movements.

People invest in the share market for different purposes. If someone is not clear about his/her purpose, the strategy followed can be wrong and the benefits are not satisfactory, or there she/he may even occur a loss. So, define your objectives first and then start dealing with the market. Some possible objectives would be to maximize dividend income, to maximize capital gain in the short run, to maximize total gain and to minimize the risk. A proper setting of objectives helps to identify the category of shares that help to accomplish the set objectives. If we observe the stock market

regularly, we find various patterns of movement in different stocks. Thus setting clearly defined objectives will help to gain from such movements.

But for those investors, who want to maximize their return by capital gain in the short run, it is better to avoid investing in shares of finance companies and insurance companies because their share price is found to fluctuate less as compared to the banks. In the case of stocks that do not fluctuate much, it will be difficult to cover the transaction costs. Capturing a capital gain in a short run requires a selection of highly fluctuating companies or newly listed companies. The present examples of such companies are BOK, Lumbini Bank Ltd. (LBL), Machhapuchre Bank Ltd. (MBL), Nepal Bangladesh Bank Ltd (NBBL) and Nepal Commerce and Credit Bank Ltd. (NCCBL).

The next fundamental objective of buying shares is for the purposes of borrowing. Investors can borrow money by using shares as collateral. Banks and finance companies provide loans up to 50 percent of the market price of the shares. To borrow in this way, you should have those securities that promise more certain return as well as growth. Such stocks are those of Standard Chartered Bank Nepal Ltd., Nabil Bank Ltd., Bishal Bazaar Company Ltd., Unilever Nepal Ltd. and Nepal Investment Bank Ltd. Therefore, it is better to buy these high priced stocks if you intend to borrow by pledging them. Such borrowings can be used to buy more stocks and the selection of such stock will again depend on the purpose for which you want to buy them.

If the objective is to minimize the risk, investors require selecting stocks that remain less fluctuating in the market. For example, Bishal Bazaar Company Ltd., Bottlers Nepal Ltd., Rastriya Beema Sansthan and Unilever Nepal Ltd. are found to be such stocks.

#### **An Article of Bijay Nath Gautam (2008)"How to Start in Stock Market"**

Nowadays people are interested in buying shares from the secondary market (Nepal Stock Exchange) as they are searching for good investment avenues when the interest rates offered by the commercial banks on the deposits have fallen to record low. Here is some advice to buyers who are new to it, are not investing a huge amount and whose motive is to make some monetary gains out of the shares only (as dividend and

capital gain) rather than holding an influential stake in the company. In this issue the advice is for decisions while buying stock.

Making a decision before buying a share without proper knowledge about the particular company is like plunging head on into an unknown pond. Before diving into a pond, one should have sufficient information about its depth, the contents at the bottom and some other related matter. Similarly, a person wanting to buy shares of any company must have sufficient knowledge about different aspects of that company and among those, the financial aspects is most important. If a decision is made without proper knowledge of various facts affecting the market value and profitability of the stock concerned, it may result in heavy loss.

These advices are especially for those buyers who do not intend to hold the shares for long period or buy shares in huge quantity with motive of influencing future decisions of that company. The main interest of such people is to maximize their profits in a reasonably short period. Such interest may be to take advantage from rising market price, to add the stock of shares on holds incurring minimum extra cost, to gain maximum in terms of dividend and so on. Similarly, minimizing the probable financial loss from the stock purchased should always be given top priority. For this, the financial statements, especially annual report submitted in the annual general meeting of the company, should be studied and analyzed seriously. Apart from this report, the future programs of the management and the history of the company should also be studied. If possible the buyers should develop the habit of studying the quarterly financial reports too and compare such reports of one company with that of another similar company. Finance companies or banks publish their financial reports very three or six months in the national dailies. Such reports can also be obtained from the company's corporate office.

Looking at the trend of our share market, it is recommended that new investors choose shares only from the banking or finance sectors initially because such shares can be more easily sold and involve less risk compared to shares from manufacturing or other sectors. When one has gained some experience in buying and selling such shares and does a lot of homework, he/she can gain sufficient knack for future transactions. If possible, it is advisable to record the homework before deciding to

choose a particular stock, such as why it was chosen, what was the estimated profit from that choice and what was the logic used to estimate that profit. This estimation should be compared with the actual result periodically. If the estimate is nearer to the actual result, congratulate yourself, and if it very far from the actual result, try to find out what may have been the cause behind it. In this way, one will gradually gain experience, and will not be easily fooled in future.

Generally it is safe to purchase shares when the price is going up gradually. But one should be very careful as no one knows when this trend stops. Furthermore, there are always some players who try to mislead the general public and manipulate the price of shares for their personal benefit. One should be careful about such possibilities and try to find out if this is the case with the stock in which the market price is steadily increasing or decreasing.

Choosing a bank or finance company to invest is however a tough job, it demands a lot of homework and an analysis of various facts affecting the profitability and market price of the share concerned.

For this, the interested person should be quite familiar with some frequently used terminology in financial reports and the way to analyze them properly and to interpret what the results indicate and where those reports are found.

### **2.6.2 Review of Unpublished Masters' Degree Dissertations:**

There are many masters Degree theses prepared by various researchers. Among them some thesis are reviewed here for analysis of literature.

**Devkota (2008)** in his Master's Thesis, "Stock Price Determinants in Nepal Stock Exchange", has a major objective of identifying the prime determining factor of share price fluctuation of Nepalese Commercial Banks. The other supporting objectives of his research are:

- ) To examine and evaluate the relationship between MPS with the various financial indicators like EPS, BPS, DPS etc.
- ) To analyze the market trends of MPS with financial indicators.



- ) To conduct the opinion survey of potential investors regarding various aspects of share behaviors in Nepal.

**The major findings of Devkota are as follows:**

DPS of BOK is much volatile in comparison to MPS, BPS and EPS. Bank of Kathmandu has positive correlation with between their Market price per share and DPS, BPS and EPS. This indicates that they directly affect the Share Price of BOK. BPS and EPS are positively correlated in the case of Everest Bank Limited whereas DPS is negatively correlated. This indicates that increase in DPS of this Bank don't contribute on the increase of Share Price rather it decreases it. But increase in BPS and EPS increase the share price and vice versa. DPS is much volatile in comparison with MPS, BPS and EPS. The correlation between MPS and other indicators are found to be insignificant for most of Banks. It shows that they individually influence very less but jointly they influence a lot. There can be other factors which influence the share price of the organization.

Dividend pattern plays a great role on share price movement. Higher the DPS, more will be the Share Price. Most of the investors like to analyses the Dividend pattern of the company before they invest in their shares.

**A study of Mr. Khagendra Prasad Ojha, on "Financial Performance and Common stock pricing" at 2000 were:**

- ) To study and examine the difference of financial performance and stock price.
- ) To examine the relationship of dividend and stock price.
- ) To explore the signaling effect on stock price,

**According to objectives, he got following major findings:**

- ) Nepalese stock market is in infancy stage. In general it is very new and just started to develop.
- ) Dominance of banking sector is prevalent in the market due to other industries including finance companies, insurance and manufacturing is not encouraging.

- ) Due to the lack of the proper investment opportunity most of the investors have directed their savings towards the secondary market.
- ) Corporate firm with long history have a relatively stable profitability parameters than the firm established after the economic liberalization of 1990.
- ) Older firms have been issuing bonus share more times than the new one.
- ) Dividend per share is relatively more stable than dividend pay out ratio. That's why pay out ratio and dividend yield has been highly fluctuating.
- ) There is significant positive correlation between the dividend the dividend paid and stock prices of banking and manufacturing industries. All other industries have not the perfect correlation between the dividends paid and stock prices.

By the study of Mr. Ojha Nepalese stock market is in developing stage. Corporate firms with long history have relatively stable profitable parameters than that of newly established firms. Similarly dividend pay out ratio and dividend yield is more fluctuating and there is positive relationship between dividend and stock price of the firms. However, it may be affected due to the change in time period and other constraints at present.

**Study of Mr. Bachhu Ram Dahal:** A research paper on "Stock Market behavior of listed Joint Venture Company"(2002) in Nepal describe the Nepalese Stock market as follows:

The main objective of his research study is to study, examine and analyze the stock market behavior. The specific objectives are:

- ) To study and analyze the stock price trend and volume of stock traded on the secondary market.
- ) To study and analyze the rate of listing of new companies and maintenance of listed company in Nepal Stock Exchange Ltd.

- ) To study and analyze the investors views regarding the decision on stock investment.
- ) To study and examine the signaling factors' impact on stock price with the help of NEPSE index.
- ) To suggest the abstract to the interested parties related to stock market.

In his conclusion, Mr. Dahal says that Stock Market is the backbone of investment sector of the country. So by promoting the stock market in sizeable economic sector raise the economic development by mobilizing swing into productive sectors y making suitable investment environment different elements like price trend NEPSE index, volume of stock traded, rate of listing. Signaling factors should be analyzed. Stock market was not properly analyzed for smooth operation of secondary market. It shows gap between theory and practice of investment. In Nepalese stock market the study of market behavior is very useful subject matter if properly analyzes for the development of stock market.

Nepal stock exchange limited is analyzing stock market behavior in very little area regarding the stock market. So experts should be recruited and analyzed market behavior in efficient way so that all parties interested with stock market can get benefit from this. The data analysis showed that Nepal Stock Exchange is not providing facilities for investors such as general awareness about investment, investment procedure for general public and movement of stock trend in different periods and their cause are not explained. Most of the investors are complaining that the market makers brokers and NEPSE's staffs are making coalition for fraudulent activities towards investors. So NEPSE should clear this type of charge for the development of stock market.

The role of market players in the market should be made effective in promoting capital market in the country by giving proper training and adopting changes environment with modern tools and technique.

Investment is lifeblood of economic development. It is evident that stock exchange will continue to fulfill their vital functions in the national economy. So long as private enterprises exist, we know that the stock exchange is the place where stock and shares

are bought and sold. The substantial competition in innumerable buyer and seller determines the prices with a measure of precision that cannot be obtained in other unorganized market. So, stock market is the proper market for the development of national economy.

The development of stock market in Nepal is both challenging and difficult. Though the viewpoint of share transition, public interest towards stock market, the trend of the price movement, information system etc. indicates the low performance of the stock market. The problem like lack of strong professional analysis, independent buyer and seller, well trained manpower and management delay in transfer of shares, rational investor exist form the Nepalese stock market. Moreover, there is much other attraction that stock market able to attract the new generation towards it. Stock market will be strong market for the unemployed young generation to build their career in capital market; i.e. it has lots of prospects of development.

From Dahal's study it seems that no comprehensive research has been conducted in relation to the development of stock market in Nepal, major problems facing by Nepalese stock market and expectation of future growth. Thus, the stock market further requires timely research to explore details of the problems and prospects of stock market in Nepal.

**Surya Chandra Shrestha (1999)** has conducted research on "Stock Price Behavior in Nepal". This study aims to examine the efficiency of stock market in Nepal. The objective of the study was:

- ) To examine the serial correlation of successive daily price changes of the individual stocks.
- ) To determine whether the sequence of price changes is consistent with changes of the series of random numbers expected under the independent Bernoulli process.
- ) To determine the efficiency of the stock market through the theoretical model of efficient market hypothesis in Nepalese stock market.

) To provide feedback policy towards institutional development of efficient market.

He used the data considering the daily closing price of 30 listed companies' shares (ordinary) in the NEPSE. His study period was consists of almost hour and half years. He used the as serial correlation test and run test as Test Methodology.

Serial Correlation Test: He applied serial correlation to test the stock price behavior of Nepal Stock Exchange by giving sight in whether the price changes of shares are independent to each other. For this purpose he computed the serial correlation of 1-15 days applying the natural logarithm model for daily price changes.

Run Test: he also, in order to test independence of stock prices, applied runs test. He analyzed runs by total numbers of expected runs and runs signs.

**The major findings and conclusions drawn on this study were:**

After applying the required models and methodologies he found average correlation coefficient of 0.2055, 0.0825, and 0.0704 for 1, 2 and 3 lag days respectively. And for lags 5 to 15 days were less than 0.07 in overall, large number of serial correlation coefficients of the log price changes of the 30 stocks for the sample periods are significantly departed from zero. In addition runs analysis also followed the serial correlation results that mean there has significant difference between actual numbers of runs for series of daily closing prices changes of the market. By the result of his applied models and methodologies he concluded, the successive price changes are not independent random variable for the 30 sample stocks listed in the NEPSE. Therefore, the random walk theory is not suitable description for the stock market behavior in Nepal.

By the study of Shrestha, large number of serial correlation coefficients of the log price changes of the 30 stocks for the sample periods is significantly departed from zero. In addition runs analysis also followed the serial correlation result that means there has significant difference between actual numbers of runs for series of daily closing prices changes of the market. In the study Mr. Shrestha has applied for technical analysis only to get the result of share price behavior and has not used any fundamental tools for analysis.

From the above all studies conducted by various researchers, it seems that Nepalese stock market is still in developing stage and it is facing various challenges. Furthermore it also shows that there are few research works conducted about the market price behavior on the stock market. Most of the above stated studies use technical methods and statistical methods like run test, correlation coefficient, NEPSE trend etc. for the analysis purpose. Only few of the studies use fundamental analysis tools for the research work. More than that of none of the studies uses fundamental analysis tools for the research work. More than that none of the studies are concerned about the financial indicators like EPS, DPS, and NWPS which are the most influencing factors for the MPS. So, this study tries to analyze the relationship of these factors with the pricing behavior of the stock of the selected companies as well as it also tries to show the influence of the important events happened in the country on market price of the stock.

## **2.7 Research Gap**

There have been several researches done before in the topic Stock Market and Stock Market Prices. All of those researchers have muck useful findings and their limitations.

Ar. Devkota (2008) Conducted study on the "Stock Price Determinants in Nepal Stock Exchange" using different financial & statistical tools which cannot give full information about fluctuation share price. This study held updating since share price is the crucial phenomenon in the Stock Market and there is an increasing trend in the common stock investment.

This research are helpful in different area. The finding of previous research are equal important. The main focus of the research is analyze the behaviour of the share price of Commercial Banks. This topic will help to those investors who want to know and invest about share price behaviour of Commercial Banks.

## **Chapter - III**

### **Research Methodology**

Research is essentially a systematic inquiry seeking facts through objectives verifiable methods in order to discover the relationship among them and to deduce from them broad principles or laws. It is really a method of critical redefining problems formulating hypothesis or suggested solution. Collecting, organizing and evaluating data, making deductions and making conclusions to determine whether they fit the formulated hypothesis. Thus the term 'Research' refers to a critical, careful and exhaustive investigation or inquiry of examination or experimentation having as its aim the revision of accepted conclusions, in the light of newly discovered facts.

#### **3.1 Research Design**

A research design is a plan for the collection and analysis of data. In other words, it is an integrated frame that guides the researcher in planning and executing the research works. It present a series of guide posts to enable the researcher to progress in the right direction in order to achieve the goal.

The present study is basically related with the Nepalese stock market and share price behavior of the selected listed companies. The study will explore the collection of data, compilation and tabulation of data, computation of compiled data and financial parameters, findings, conclusions and recommendations.

#### **3.2 Population and Sample**

The large group about which the generalization is made is called the population under study. Because of the large group size, it is fairly difficult to collect detail information from each member of population. Rather than collecting detail information from each number, the small portion is chosen as representation of the population is called the sample. Altogether twenty-one commercial banks operating in Nepal are considered to be the total population of the study. Due to lack of time and resource factor, it is not

possible to study all of them. Hence, the four commercial banks have been taken as sample which are listed and doing shares transaction in NEPSE from population. The sample selections for this study are:

- ) Himalayan Bank Limited
- ) Nabil Bank Limited
- ) Nepal Investment Bank Limited
- ) Standard Chartered Bank Nepal Limited

This study will try to explore the objectives set in the previous section and it is also expected that this study will help in analyzing the stock market scenario. This study is aimed at producing tested affect of historical information on future price movements of the commercial banks' stocks.

Due to low volume of share transaction and insufficient data, other sectors like Mfg. Sector, service sector, insurance sector and other sectors have been omitted while taking the sampling companies from listed companies in NEPSE.

### **3.3 Sources of Data**

The main source for data collection was from the office of Nepal Stock Exchange (NEPSE), Singhadurbar, Securities Board of Nepal (SEBON), Thapathali as well as economic survey published by Ministry of Finance and Nepal Rastra Bank. The main source of data is annual report of the SEBO/N and trading report of NEPSE. Besides annual report, various bulletin available, journals, articles and other publications published by different financial institutions and other useful resources are also taken into consideration. The study is based on the secondary sources of the data. The secondary source of data is the annual report of selected respective companies and Security Board of Nepal, Different books from library, periodicals, newspaper cuttings company's magazines etc. related unpublished master degree thesis has also taken for the purpose of study. Significant and necessary information has also been collected form Internet and various websites.



### **3.4 Data Collection Procedure:**

As the study is based on primary and secondary data, Primary data has been collected through questionnaire distributed to the respondents and the response has been collected from the respondents duly filled and for secondary data, information is collected through the annual reports of selected companies and Securities Board of Nepal (SEBO/N), trading report published by NEPSE, Economic Survey, published by Ministry of Finance and different monthly, quarterly, half yearly and yearly bulletins published by Nepal Rastra Bank.

### **3.5 Data Processing Procedure:**

Data collected from primary and secondary sources were analyzed through various statistical and financial tools as follows.

#### **3.5.1 Financial Tools**

Financial tools are used for the analysis and interpretation of financial data. These tools can be used to get precise knowledge of a business, which are fruitful in exploring the strength and weakness of the financial aspects and strategies. Under the financial tools following ratios have been calculated:

##### **3.5.1.1 Earning Per Share (EPS):**

EPS ratio is used to measure the profitability of a firm from the owner's viewpoint. The market value of shares of a company is dependent on the earnings of the company. EPS also measures the return of each equity shareholder. It can be calculated by dividing the net profit after tax by the total number of the common shares outstanding. It reveals the earning power of each share over the period basically in one year. It is calculated as under:

$$\text{EPS} = \frac{\text{Net Profit after tax}}{\text{Number of common share outstanding}}$$

### **3.5.1.2 Dividend per Share (DPS):**

Dividend refers the percentage of earnings paid in cash to its stockholders. "As long as there are investment projects with returns exceeding those that are required, it will use retained earnings and the amount of senior firm has retained earnings left over after financing all acceptable investment opportunities, these earnings then would be distributed to stockholders in the form of cash dividends, if not there would no dividends" (Van Horne, 1990:328). People make investment in stock because they will get dividend in return. Therefore, the price they are willing to pay will depend on their expectations of dividends. DPS is the net distributed profit belonging to the shareholders divided by the number of ordinary shares outstanding. It measures the financial performance of the company. It is calculated as under:

$$\text{DPS} = \frac{\text{Amount paid to equity shareholders}}{\text{Number of common share outstanding}}$$

### **3.5.1.3 Price Earnings Ratio (P/E Ratio):**

Price earning ratio reflects the price, which is currently paid by the market for each rupees of earning, which is currently reported earnings per share. The P/E ratio could be calculated by dividing the market value per share by earning per share. It is calculated as:

$$\text{P/E Ratio} = \frac{\text{Market Price per share}}{\text{Earning Price per Share}}$$

### **3.5.1.4 Market Book Value Ratio (MBVR)**

This ratio indicates such types of price, which the market is paying for the value that is reported from the net worth of insurance companies. In other words, we can say that it is the price that the outsiders are paying for each rupee shown to the balance sheet of the company. This ratio is calculated by dividing the market value per share by the book value per share as under:

$$\text{Market Book Value Ratio} = \frac{\text{Market Price per Share}}{\text{Book Value per Share}}$$

### 3.5.1.5 Expected Rate of Return

The expected rate of return is computed in the base of the expected cash receipts over the holding period and the expected ending or selling price (J. Fred Weston & Brigham; 1990:146). The expected return on an investment is the mean value of the summation of the possibility distribution of its possible returns (John. M. Chenny and Edward A.Moses, 1992:34). It can be expressed as an equation.

$$E(r_t) = \sum_{t=1}^n p_t r_t$$

Where,

$p_t$  = Probability of the return for that event

$r_t$  = Possible returns of each event

$n$  = number of observations or returns

$t$  = Different

In case of single holding period, the expected rate of return can be computed by cash dividends paid during the together with an appreciation in market price, or capital gain realized at the end of the year.

$$\text{Single Period Return (r)} = \frac{\text{Dividend} + (\text{Ending Price} - \text{Beginning Price})}{\text{Beginning Price}}$$

Here, ending price and beginning price indicates the cost of investment and the return realizes from that investment at the end of holding period. The nature of investment should be in revenue type of expenditure. The investors expect a regular payment of dividends over the Holding period with less chance of risk and price variations. The high expected rate of return is appreciated by investor s to invest such type of

business and vice versa. Therefore, the investor decisions are larger influenced by the nature of investors.

### 3.5.1.6 Required Rate of Return

Required rate of return is calculated as the risk free rate plus the risk premium on the risk of the particular stock. Total risk contains two parts diversifiable or unsystematic risk and under the assumption of CAM, investors are not compensated for total risk, rather they are compensated in the market for facing the systematic risk. According to the CAPM the required rate of return on any stock is equal to the risk free rate of return plus market risk premium times stock beta.

$$R_j = R_f + [E(R_m) - R_f] \beta_j$$

Where,

$R_j$  = required rate of return on stock j

$R_f$  = risk free rate of return

$E(R_m)$  = market return or average return

$\beta_j$  = beta coefficient of stock j

### 3.5.1.7 Market Return $\{E(R_m)\}$

Market return is the average return of the stocks of all companies in an industry. For this research purpose, market return has been calculated by dividing the difference of this year's market index and previous year's market index. Hence,

$$E(R_m) = \frac{\text{This year's market index} - \text{Last year's market index}}{\text{Last year's market index}}$$

### 3.5.2 RUN TEST

A run can be defined as a sequence of consecutive price change of the same sign followed and preceded by price change of other sign. There exist three types of price changes in a series i.e. positive, negative and zero. Run test is a non- parametric test, which can also be used to examine the independence of a series as a check of results generated by serial correlation tests. Run test is performed to examine whether the

actual number of run confirmed to the expected number of run under the independent Bernoulli process. If the observed run and the expected run are not significantly different from each other, then it is concluded that the independence assumption of the successive price changes is maintain.

**Step 1**

The median of each sample bank under the sample period is calculated by

$$\frac{(N + 1)^{\text{th}}}{2}$$

**Step 2**

The calculated median is then subtracted from consecutive price. In this way positive and negative of signs are appeared.

**Step 3**

Counting the numbers of each sign, the number of positive signs is denoted by  $n_1$  (say) and the number of negative signs is denoted by  $n_2$  (say). The number of fluctuations is plus and minus is denoted by  $r$  (say). If either  $n_1$  or  $n_2$  is larger than 20, sample is called large sample.

**Step 4**

Developing the hypothesis:

Null Hypothesis ( $H_0$ ): The order or sequence of market share price of stocks of sample bank was random.

Alternative Hypothesis ( $H_1$ ): The order or sequence of market share price of stocks of sample bank was not random.

**Step 5**

Computing the value of  $Z$  under the large samples.

$$Z = \frac{r - \frac{2n_1n_2}{n_1 + n_2}}{\sqrt{\frac{2n_1n_2}{n_1 + n_2} \left( \frac{n_1}{n_1 + n_2} - \frac{n_2}{n_1 + n_2} \right)^2}}$$

Where,

$r$  = total number of runs of all signs.

$n_1$  or  $n_2$  = the number of price changes of each sign i.e. positive and negative.

### Step 6

Rejection region. According to the normal curve distribution, if the calculated value of  $Z$  is  $\pm 1.96$  then the probability occurs 0.025 and for the two tailed probability, it would be doubled 0.05 (i.e.  $2 \times p = 2 \times 0.025$ ). Therefore, the calculated value of  $Z$  in simple sample is if greater than  $\pm 1.96$  the two tailed probability associated with occurrence under  $H_0$  would be less than the 5% level of significance ( $\alpha = 0.05$ ).

### Step 7

If the value of calculated  $Z$  is less than tabulated value of  $Z$  (as accordance of normal curve distribution) accept null hypothesis and vice versa.

## 3.5.3 STANDARD DEVIATION

Standard deviation, usually denoted by the letter  $\sigma$  (small sigma) of the Greek alphabet, which was first suggested by Karl Pearson as a member of dispersion in 1893. It is quantitative measure of total risk of assets. It provides more information about the risk of the asset. The standard deviation of a distribution is the square root of the variance of returns around the mean. The following formula is applied to calculate the standard deviation, using historical returns:

$$\sigma_j = \sqrt{\frac{\sum R_j - Z \bar{R}_j}{n}}$$

Where,

$\sigma_j$  = standard deviation of stock  $j$

$R_j$  = realized rate of return at a time.

$\bar{R}_j$  = expected realized rate of return.

$n$  = number of observations in sample.

### 3.5.4 COEFFICIENT OF VARIATION

The relative measure of dispersion based on the standard deviation is known as the coefficient of standard deviation. The coefficient of dispersion based on standard deviation multiplies by 100 is known as the coefficient of variation (CV). It is suitable for comparing the variability, homogeneity or uniformity of two or more distributions. A distribution having less CV is said to be less variability or more uniformity homogeneity, consistency etc. and vice versa. The risk per unit of expected return can be measured by coefficient of variation, which is computed as follows:

$$CV = \frac{j}{\overline{R}_j} \times 100$$

Where, CV = coefficient of variation

$\overline{R}_j$  = expected realized rate of return

$j$  = standard deviation of stock  $j$

### 3.5.5 BETA COEFFICIENT

Total risk of stock consists two parts of risks; one is systematic (market risk) and another is unsystematic (unique risk) and commonly denoted by standard deviation ( ). Statistically, systematic risk and unsystematic risk can be measured by coefficient of determination or beta coefficient and by subtracting the systematic risk through 1 respectively. Less standard deviation and beta coefficient indicate less risk and vice versa. If beta is larger than one, then the assets is more volatile than the market which is called aggressive asset. If the beta is less than one, then the assets is considered defensive assets as its price fluctuations are less than the market. On the other hand, if the beta is equal to one, then the assets is said to average as its price moves proportionate to the market changes. So, these are applied to each sample commercial banks for testing and categorizing the form of stock relation to risk. Beta coefficient is computed by:

$$j = \frac{\text{Covariance } (R_j, R_m)}{m^2}$$

Where,

$\beta_j$  = beta coefficient of stock

Covariance ( $R_j, R_m$ ) = Covariance of the returns of stock j and market.

$\sigma_m^2$  = variance of the market



## **Chapter - IV**

### **Data Presentation and Analysis**

#### **4.1 INTRODUCTION:**

This chapter deals with data presentation, analysis and interpretation following the research methodology presented in the third chapter. Data presentation and analysis are the central steps of the study. The main purpose of this chapter is to analyze and elucidate the collected data to achieve the objective of the study following the conversion of unprocessed data to an understandable presentation. The chapter deals with the main body of the study.

Data presentation is the interpretation of the study. Data analysis summarizes the collected data and its interpretation presents the major findings of the study. Analysis is not complete without interpretation and interpretation cannot proceed without analysis. In this course of analysis, data gathered from various sources have been inserted in the tabular form and shown in diagram form. The data have been analyzed by using financial and statistical tools. The results of the computation have also been summarized in appropriated tables. The samples of computation of each model have been included in annexes. The first section shows the descriptive analysis of the sampled banks. The second section of this chapter examines the three run tests of the daily prices of stocks of the sampled banks. The third section considers the risk and return analysis and evaluate the under or over priced of the sampled stocks. The last section highlights the empirical findings of the analysis.

#### **4.2 A GLIMPSE OF STOCK MARKET TRADING**

The main purpose of this section is to simply provide quantitative information of stock market functioning. The organized stock market is a recent phenomenon in Nepal. NEPSE has adopted an “Open Out -Cry” system. It means transactions of securities are conducted on the open auction principle in the trading floor. The buying broker with the highest bid will post the price and his code number on the buying column, while the selling broker with the lowest offer will post the price and code

number on the selling column on the quotation board. The buying price will change when any other broker increases it and the selling price will change when someone will be ready to sell at low price. When the price matches the buying broker declares the quantity and the selling broker either accepts it or announces the quantity.

#### 4.2.1 BEHAVIOUR OF NEPSE INDEX

Market index has always been of great importance in the world of security analysis and portfolio management. This index is used as a benchmark by the individual and institutional investor to evaluate the performance of their own or institutional portfolio. Market indices are used to determine the relationship between historical price movements and economic variables and to determine the systemic risk for individual securities and portfolios. The index can also be used as measuring tool whether the performance of stock market is good or not. This clearly focuses on the price of stocks that is increasing or decreasing in the market. Higher the index means the better performance of stock market and vice versa.

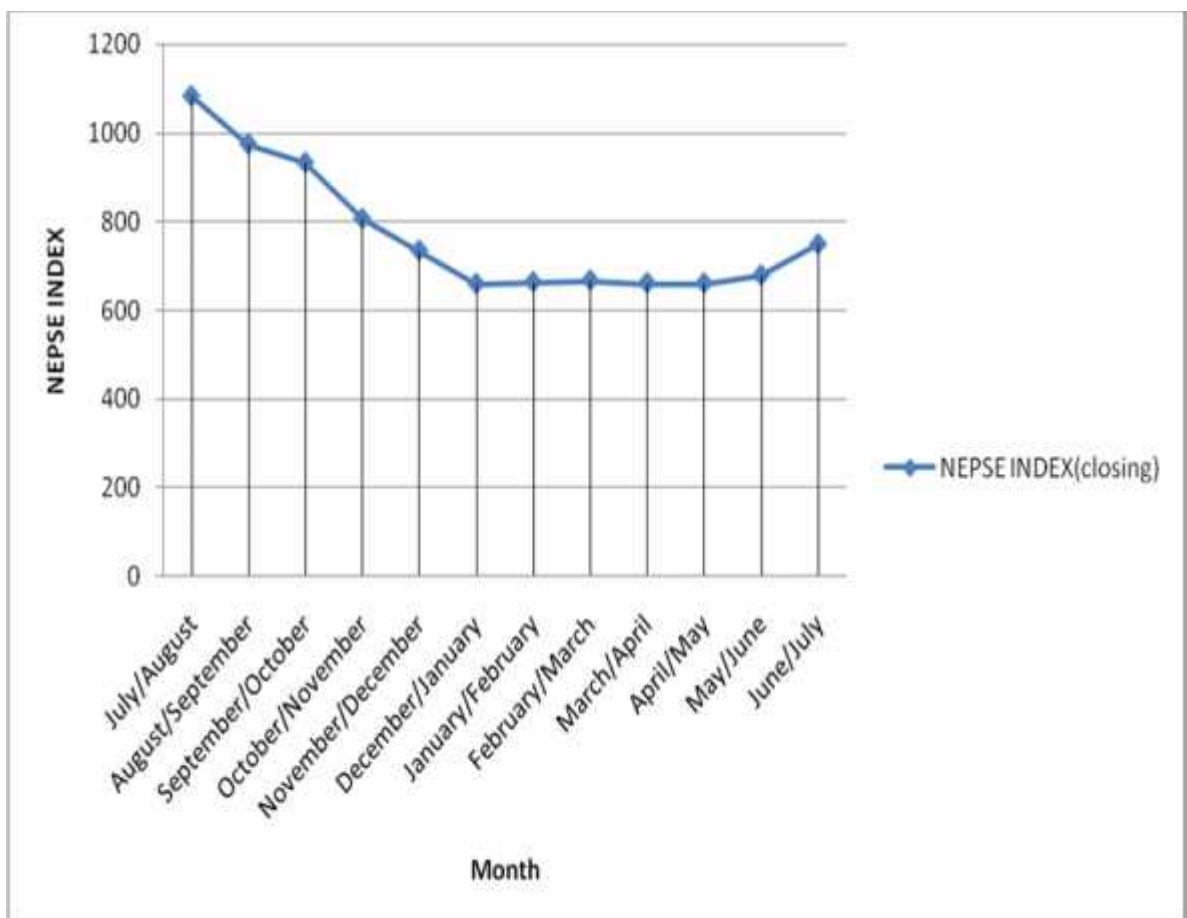
Table 4.1  
Monthly Closing NEPSE Index (Fiscal Year 2008/09)

Month	NEPSE INDEX(closing)
July/August	1084.76
August/September	976.01
September/October	933.97
October/November	806.90
November/December	734.85
December/January	659.81
January/February	663.52
February/March	667.20
March/April	661.27
April/May	660.96
May/June	678.74
June/July	749.10

Source : Annual report of NEPSE, 2009

From the above table it is clear that NEPSE Index is decreasing trend, the end of this fiscal year, NEPSE index decreased by 214.26points close at 749.10points. NEPSE index at the end of the last fiscal year was 963.36points. During this fiscal year the highest points of NEPSE index was 1084.76 recorded in the month July/August, while the lowest points was 659.81recorded on December/January. The monthly trend of NEPSE index is presented in below chart.

Figure 4.1  
Monthly Closing NEPSE Index (Fiscal Year2008/09)



#### 4.2.2 NUMBER OF LISTED COMPANIES:

As concerned with the number of listed companies present in table shows that the rate of listing companies for the fiscal year 2004/2005 is 9.65% which is highest increase rate.

Table 4.2  
Number of Listed Company

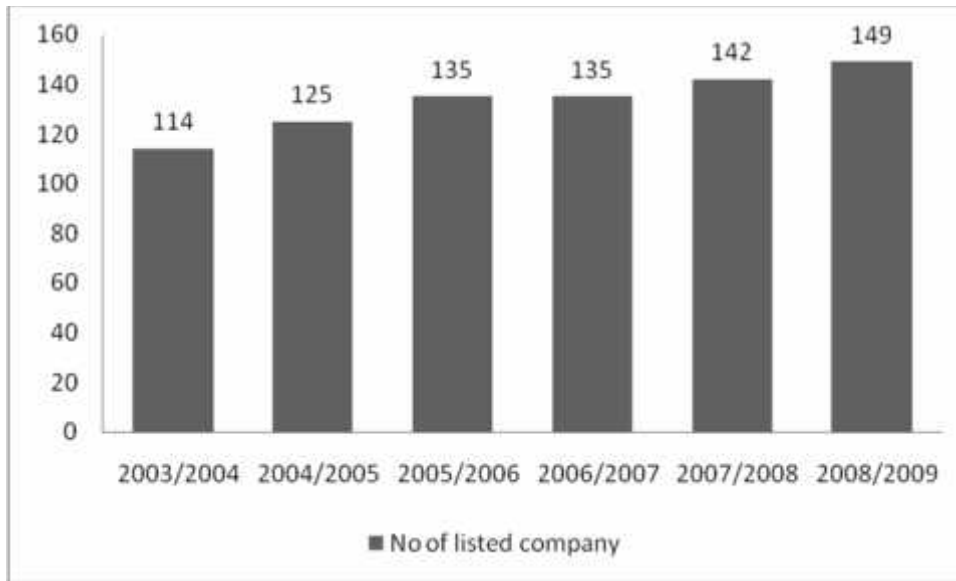
Year	No of listed company	Percentage change
2003/2004	114	–
2004/2005	125	9.65%
2005/2006	135	8%
2006/2007	135	0%
2007/2008	142	5.19%
2008/2009	149	4.93%

*Source : Annual report of NEPSE, 2009*

While talking about in terms of numbers it is 114 for the FY 2003/04. There are Increase in number of listed companies for the FY 2004/05 with 9.65% highest from 5yrs. there is no change in FY206/07. The number of listed companies increased by 7(4.93%) to 149 in FY2008/09 while this number had increase by 135 in 2006/2007 to 142 in FY2007/2008. Increase in the number of listed companies indicates increasing interest of public towards the establishment of companies in the country.

Figure 4.2

Number of Listed Company



#### **4.2.3 PRESENT SITUATION OF STOCK MARKET IN NEPAL:**

Out of the 149 listed companies more than 68% of the transactions took place in the stock exchange related to the securities of the commercial banks and financial institution. Present Government is taking more seriousness to develop the securities market in the country. Currently, we are operating the exchange through manually basis. There are no custodians. The government has given higher priority to strengthen the Capital Market, and has lunched Corporate Financial Governance Project for the trading automation under the assistance of Asian Development Bank.

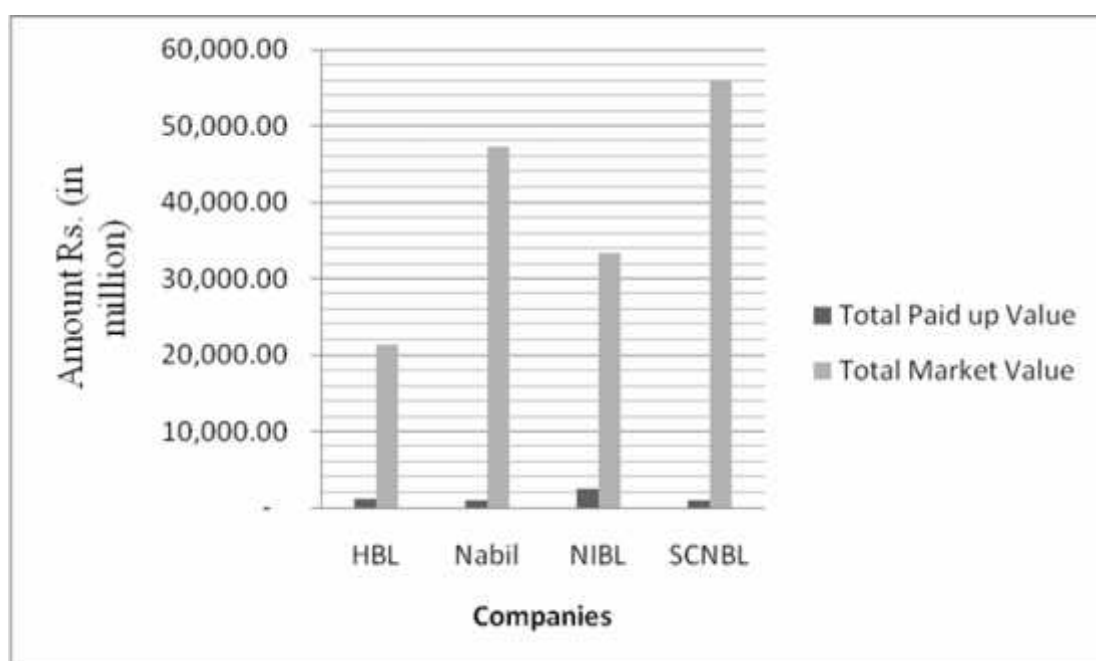
#### **4.2.4 TRADING PERFORMANCE OF SAMPLE STOCKS:**

The table in appendix - F gives different quantitative information about the stock market functioning during the fiscal year 2008/09 for companies taken as sample. In the third column of the table the number of outstanding shares has been demonstrated. In fourth column, closing price of securities has been given. Column 5, 6, 7, and 8 contains the paid up value, number of transactions, shares traded in units and traded amount respectively. Within the samples highest number of transaction has been secured by NIBL, which is

4138 along with highest number of shares traded which are 498.59 thousand shares and the highest traded amount SCBNL with Rs.1248.55 million. Column 9, presents total paid-up values of common stocks. Multiplying the outstanding equity with paid-up values derives each entry in this column. The highest total paid-up capital is Rs.2407.07 million for NIBL and the lowest value belongs to SCBNL with Rs.931.97 million. Multiplying the outstanding equity and closing price of share of each company derives column 10, which contains total market value. The highest total market value is Rs.56011.18 million which is for SCBNL among all whereas the lowest total market value is Rs.21405.38 million recorded for NIBL.

Figure 4.3

Trading Performance of Sample Stocks



Source :appendix - F

#### 4.2.5 Trend Analysis of NEPSE Index

In the trend analysis, the trends of yearly NEPSE index have been analyzed by using the least square method. Here the forecasting for the next five year from the previous five year study has also been performed. The following assumptions have been made for the projection:

- ) It has been assumed that all other things remain unchanged.
- ) The projection holds true only when the limitations for least square method is carried out.
- ) It has been assumed that the economy will run in the present status.
- ) It has been assumed that the banks will run in the position.

Table 4.3  
Trend of NEPSE Index Previous and Next Five year

YEAR	NEPSE Index
2004	68.88
2005	286.10
2006	503.32
2007	720.54
2008	937.66
2009	1154.98
2010	1372.20
2011	1589.42
2012	1806.64
2013	2023.86
2014	2241.08

*Source: Appendix G*

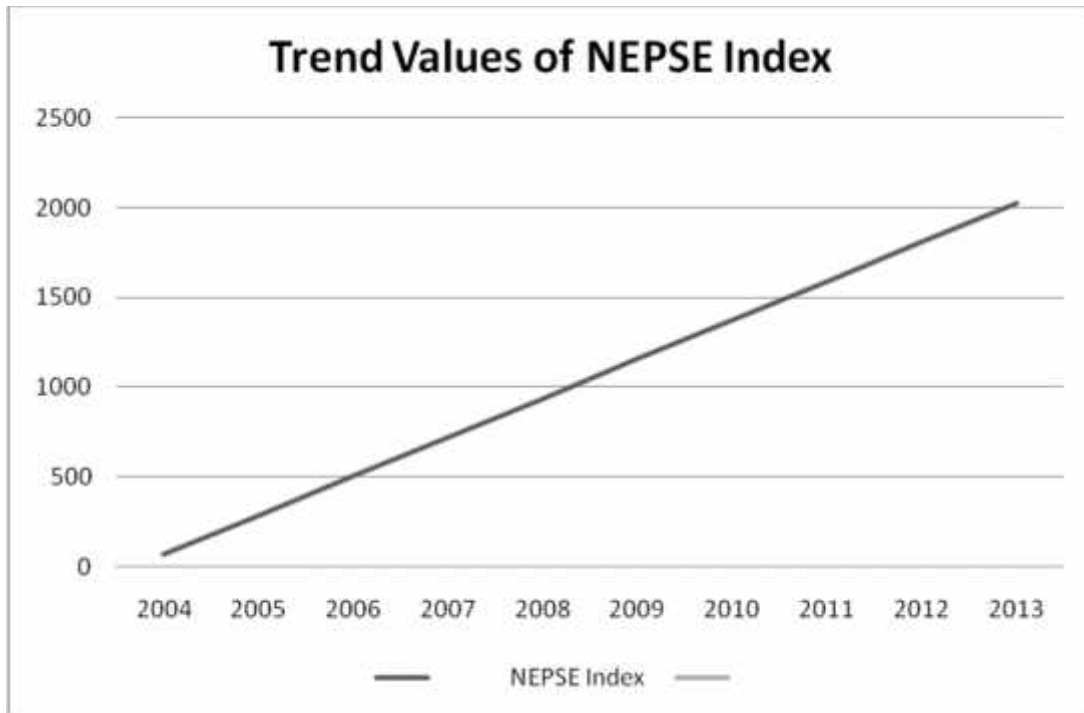
Above table highlights that a i.e. y-intercept and b i.e. slope of the trend line of NEPSE Index were 503.32 and 217.22 respectively. Through out the study period NEPSE Index revealed increasing trend. Therefore the trend equation of the NEPSE index is:

$$Y_c = 503.32 + 217.22x.$$

The above table-5 shows that the above trend equation forecasted NEPSE index for coming five years would be 1372.20, 1589.42, 1806.64, 2023.86, and 2241.08 respectively. The above calculation has been derived from Appendix – G. The trend of the index of NEPSE for the previous and next five years can also be

presented in the following chart. Although the chart shows that the NEPSE index has increased.

Figure 4.4  
Trend Values of NEPSE Index



### 4.3 DESCRIPTIVE ANALYSIS OF BANKS:

#### 4.3.1 Himalayan Bank Limited

Himalayan Bank Limited was established in 1991 in joint venture with Habib Bank Limited of Pakistan, the fourth joint venture bank in Nepal. Unlike the banks previously mentioned, the shareholding pattern of the foreign counter part is only 20% where as the remaining part is financed by promoter group 51%, Nepalese financial institute 14% and general public 15%. Himalayan Bank Limited was incorporated in 1992 by the distinguished business personalities of Nepal in partnership with employees Provident Fund and Habib Bank Limited of Pakistan. Bank operation was commenced from January 1993. It is the first commercial bank of Nepal with maximum number of share holding by the Nepalese private sector. Besides commercial activities, the bank also offers industrial and merchant banking. Products such



as Premium Savings Account, HBL Proprietary Card and Millionaire Deposit Scheme besides services such as ATMs and Telebanking were first introduced by HBL. At present, the bank has 23 branches working around the country. The bank has a very aggressive plan of establishing more branches in different parts of the kingdom in near future. The bank provides services like ‘Any Branch Banking Facility’, Internet Banking and SMS Banking. Living up to the expectations and aspirations of the customers and other stakeholders of being innovative, HBL very recently introduced several new products and services. Millionaire Deposit Scheme, Small Business Enterprises Loan, Pre-paid Visa Card, International Travel Quota Credit Card, Consumer Finance through Credit Card and online TOEFL, SAT, IELTS, etc. fee payment facility are some of the products and services. Himalayan Bank's policy is to extend quality and personalized services to its customers as promptly as possible. To extend more efficient services to its customers, Himalayan bank has been adopting innovative and latest banking technology. Himalayan bank is committed to be a "BANK WITH A DIFFERENCE"

Table 4.4

MPS, DPS, EPS, P/E Ratio & Market Book Value Ratio of HBL

YEAR	Closing Price(Rs)	DPS (Rs)	Stock Dividend %	EPS (Rs)	P/E Ratio	MBVR
2004/05	920	11.58	20.00%	47.91	19.20	3.84
2005/06	1100	30	20.00%	59.24	18.57	4.81
2006/07	1760	15	5.00%	60.66	28.69	6.57
2007/08	1980	25	25.00%	62.74	31.56	7.98
2008/09	1760	12	20.00%	61.90	28.43	6.86

Source : Appendix A(I)

The above table shows that the highest closing market price of share is Rs.1980.00 in the year 2007/08. The MPS of HBL is ranging from Rs920.00 to Rs.1980.00. HBL has paid dividend per share of different amount from the year 2004/05 to 2008/09 in the range of Rs.11.58 to Rs.30.00. Company's EPS ranges from Rs.47.91 to Rs.62.74.

P/E Ratio and Market Book Value Ratio are also fluctuating in the ratio of fluctuating trend of MPS. P/E Ratio and MBVR are highest in the year 2007/08 i.e. 31.56 times and 7.98 times respectively.

#### **4.3.2 Nabil Bank Limited**

Nabil Bank Ltd. was established on July 12th, 1984 under a technical service agreement with Dubai Bank Limited, Dubai, which was later merged with Emirates Bank Ltd., Dubai. Nabil Bank is the first and major joint venture bank in the country with key points of representation all over the Kingdom of Nepal sharing 50% is owned by N.B.International Limited, Ireland, sharing by 20% from financial institution on Nepal and sharing by 30% from general people. After 11 years of active participation, Emirates Bank International Limited (EBI) divested its 50% share holding in Nabil to National Bank Limited, Dhaka, Bangladesh. EBI's decision to divest this investment was influenced by restructuring their own worldwide activities and strategy to concentrate only in United Arab Emirates and Pakistan with increased economic co-operation under the SAARC frame work particularly in the field of trade and commerce and induction of SAPTA agreement, the participation of National Bank Limited of Bangladesh in Nepal, seemed to be most timely. However, the Board of Directors had decided to release the technical assistance contract with National Bank Limited, Dhaka, Bangladesh in May 2001 in a view to that the management of the Nabil Bank Limited could be handled by the Nepalese employees. Nabil was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, Nabil provides a full range of commercial banking services through its 28 points of representation across the kingdom and over 170 reputed correspondent banks across the globe. Nabil, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business. Operations of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes ATMs, credit cards, state-of-art, world renowned software from Infosys Technologies System, Bangalore, India, Internet banking system and Tele-banking system. The

bank has focused to improve its operational efficiency by upgrading the information capability. Among the many ‘firsts’ to credit of Nabil, the business of Credit Cards Issuance and Acquiring is one. It introduced MasterCard to the Nepalese Rupees and US Dollar and also issues Visa Card and Visa Electron. Nabil has been introducing and expanding a number of IT based products. During the review period, Nabil geared itself up and started to acquire Smart Cards. Similarly, Nabil launched ‘Nabil prepaid’ and ‘Nabil Kool Cash’, two convenient prepaid card products. Growing network ATM facilities are available to account holders. Debit cards with PIN numbers are issued to enable customers to avail of 24 hour ATM facility. Nabil is the sole Principal Agent Bank in Nepal of Western Union Financial Services & facilities transfer of funds, through an on-line computer system, instantly to or from more than 170,000 locations in 196 countries and territories.

Table 4.5

MPS, Dividend, EPS, P/E Ratio & Market Book Value Ratio of Nabil

YEAR	Closing Price(Rs)	DPS (Rs)	Stock Dividend %	EPS (Rs)	P/E Ratio	MBVR
2004/05	1505	70	-	105.49	14.27	4.46
2005/06	2240	85	-	129.21	17.34	5.88
2006/07	5050	100	-	137.08	36.84	12.08
2007/08	5275	60	40.00%	108.31	48.70	14.90
2008/09	4899	35	40.00%	106.76	45.89	15.12

*Source : Appendix A(II)*

The above table shows that the highest closing market price of share is Rs.5275.00 in the year 2007/08. The MPS of Nabil is ranging from Rs.1505.00 to Rs.5275.00. Nabil bank has paid dividend per share of different amount from the year 2004/05 to 2008/09 in the range of Rs.35.00 to Rs.100.00 respectively. Nabil bank has distributed stock dividend 40% in years 2007/08 and 2008/09 respectively. Company's EPS

ranges from Rs.105.49 to Rs.137.08. P/E Ratio and Market Book Value Ratio are also fluctuating in the ratio of fluctuating trend of MPS. P/E Ratio is highest in the year 2007/08 i.e. 48.70times and MBVR is highest in the year 2008/09 i.e. 15.12 times.

#### **4.3.3 NEPAL INVESTMENT BANK LIMITED**

Nepal Investment Bank Limited (NIBL), previously Nepal Indosuez Bank Ltd., the second joint venture bank in Nepal was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital) was Credit Agricole Indosuez, a subsidiary of one the largest banking groups in the world. With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, in April 2002, acquired 50% of the holdings of Credit Agricole Indosuez in Nepal Indosuez Bank. The name of the bank was changed to Nepal Investment Bank Ltd. upon approval of the Bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's office.

The shareholding structure comprises of:

A group of companies holding 50% of the Capital

Rastriya Banijya Bank holding 15% of the Capital.

Rastriya Beema Sansthan holding 15% of the Capital.

The general public holding 20% of the Capital.

The Overall management managed by a team of experienced bankers and professionals. The Bank launched "NIBL E-ZEE VISA Prepaid Card" across all the branches. The salient feature of this product is that there is no requirement for opening an account. The card can be availed instantly and reloaded instantly through any of the NIBL branches. This prepaid card is acceptable across all VISA ATMs and point of sale (POS) terminals. The Bank has been successful in getting the Associate Membership of MasterCard International for acquiring and issuance of MasterCard products in Nepal. The Bank has initiated steps to implement an international standard banking software. Bank has been awarded "Bank of The Year 2003" & "Bank of The

Year 2005" by the London-based financial Times' Group The Banker, making it the first all Nepalese managed bank ever to receive the award.

Table 4.6

MPS, DPS, EPS, P/E Ratio & Market Book Value Ratio of NIBL

YEAR	Closing Price(Rs)	DPS (Rs)	Stock Dividend%	EPS (Rs)	P/E Ratio	MBVR
2004/05	800	12.50	-	39.50	20.25	3.98
2005/06	1260	20	-	59.35	21.23	5.25
2006/07	1729	5	35.46%	62.57	27.63	7.39
2007/08	2450	7.50	25.00%	57.87	42.33	10.98
2008/09	1388	20	33.00%	37.42	37.10	8.57

*Source : Appendix A(III)*

The above table shows that the closing market price of share has been increased in year 2007/08 which is indicated higher price than the subsequent years. The MPS of NIBL is ranging from Rs.800.00 to Rs.2450.00. NIBL has paid cash dividend to the investors ranging from Rs.5.00to Rs.20.00. NIBL has distributed stock dividend 35.46%,25.00%and33.00% in years2006/07 to 2008/09 respectively. Company's EPS ranges from Rs.39.50 to Rs.62.57. P/E Ratio and Market Book Value Ratio are also fluctuating in the ratio of fluctuating trend of MPS. P/E Ratio and MBVR are highest in the year 2007/08 i.e. 42.33 times and 10.98 times respectively.

#### **4.3.4 STANDARD CHARTERED BANK NEPAL LIMITED**

The Bank was originally established as a joint venture of Grindlays Bank PLC London and Nepal Bank Limited in 1985 with the shareholding ratio of ANZ Grindlays Bank Limited 50%, Nepal Bank 33.33% and the General Public 16.66%. Along with the change of ownership to Standard Chartered, the banking area of SCBNL saw the rise of a new dawn changing the general

image of the bank. With this acquisition, Standard Chartered Bank now owns 50% shares of Nepal Grindlays Bank Limited (NGBL) previously owned by ANZ Grindlays. The name of the bank change to Standard Chartered Bank Nepal Limited. With the mission statement “To be the leading international bank in out principal markets”, the bank operates through 11 offices, spread throughout Nepal and focuses mainly on corporate, consumer and commercial banking, providing services for international firms, as well. The bank contributed to a large extent in the development of the country by way of loans to industrial projects, the priority and deprived sectors. Further, it’s been a major contributor to the government offices as the highest private corporate taxpayer in the Nepal.

Table 4.7

MPS, DPS, EPS, P/E Ratio & Market Book Value Ratio of SCBNL

YEAR	Closing Price(Rs)	DPS (Rs)	Stock Dividend%	EPS (Rs)	P/E Ratio	MBVR
2004/05	2345	120	-	143.14	16.38	5.55
2005/06	3775	130	-	175.84	21.47	8.06
2006/07	5900	80	10.00%	167.37	35.25	11.52
2007/08	6830	80	50.00%	131.92	51.77	17.01
2008/09	6010	50	50.00%	109.99	54.64	18.35

*Source : Appendix A(IV)*

The above table shows that the highest closing market price of share is Rs.6830.00 in the year 2007/08. The MPS of SCBNL is ranging from Rs.2345.00 to Rs.6830.00. This bank has paid cash dividend to the investors ranging from Rs.50.00 to Rs.130.00. SCBNL has distributed stock dividend 10% in year2006/07 and 50.00% stock dividend in year 2007/08 and 2008/09. Company's EPS ranges from Rs.109.99 to Rs.175.84. P/E Ratio and Market Book Value Ratio are also fluctuating in the ratio of

fluctuating trend of MPS. P/E Ratio and MBVR are highest in the year 2008/09 i.e. 54.64 times and 18.35 times respectively.

#### 4.4 NEPSE (MARKET)

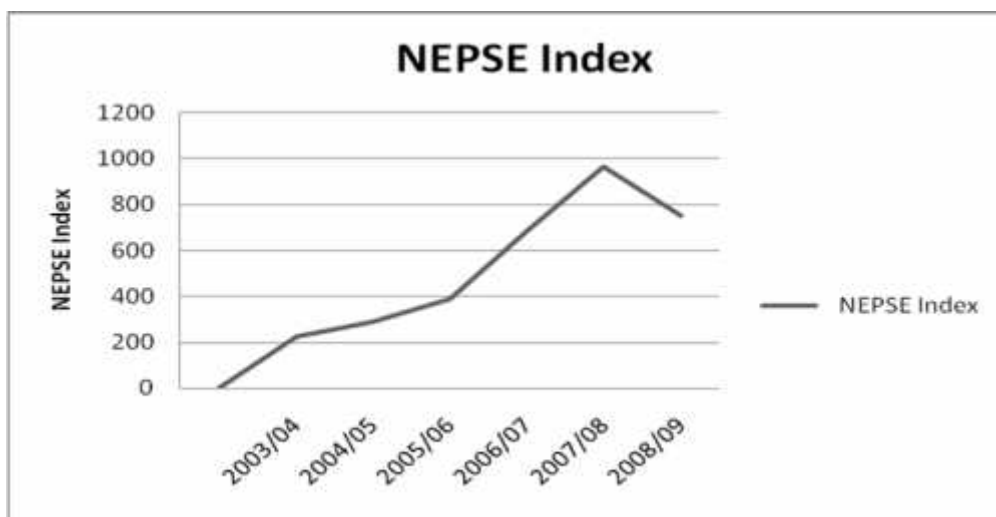
Expected Return on Market  $E(R_m)$  = the market return is the return on the market portfolio of all traded securities. Year ended the NEPSE index is used as the market return into account.

Table 4.8  
NEPSE Index & Annual Return

Year	NEPSE Index	Annual Return (R)
2003/04	222.04	–
2004/05	286.67	0.29
2005/06	386.83	0.35
2006/07	683.95	0.77
2007/08	963.36	0.41
2008/09	749.10	-0.22
	Total	1.60

*Source : Appendix B(V)*

Figure 4.5  
NEPSE Index



### NEPSE Index

The above table shows that by the end of fiscal year, the price index of the listed securities (NEPSE Index) remained at 749.10 points, which is lower by 21426points than that of the last fiscal years' index 963.36points. In this research fiscal year, the highest index of 963.36was noted on year 2007/08 and the lowest index of 222.04 was noted on year 2003/04.

### 4.5 RANDOMNESS OF SHARE PRICES

A Run test is used for testing the randomness of sequence of sample events on the basis of the order of sample events. The sequence or order of sample events may be defective and no defective events, rise and fall of stream. It is based on the order or sequence on which the individual scores or observations originally were obtained. A run is defined as a succession of identical symbols, which are followed and preceded by different symbols or by no symbols at all. The run test examines a series of prices changes and designates each change as a +, - or 0 as figure which obviously depicts the sequence of prices changes and outcomes of different run. Positive price changes are denoted by +, negative changes by - and no changes as 0. A run occurs when consecutive positive or consecutive negative price changes occurs more than once when the price changes then count the number of positive sign is denoted by  $n_1$  and number of negative signs is denoted by  $n_2$ . Before measuring  $n_1$  and  $n_2$  the median of each sample under the period is subtracted from the consecutive price if either  $n_1$  or  $n_2$  is larger than 20.  $H_0$  (Null Hypothesis: the order of market share price of stock was random) may be tested by:



$$Z = \frac{r Z \frac{2n_1 n_2}{n_1 \Gamma n_2} \Gamma 1}{\sqrt{\frac{2n_1 n_2 \int 2n_1 n_2 Z n_1 Z n_2 \Delta}{f n_1 \Gamma n_2 \Delta f n_1 \Gamma n_2 Z 1 \Delta}}}$$

The observed value obtained from above formula may be determined by reference to the normal curve table which gives the one tailed probabilities associated with occurrence under H0 of values as extreme as an observed Z and for two tailed test the probabilities should do twice of one tailed probabilities. The below table is constructed for tabulating and finding.

Table 4.9  
Run Test Finding

H0: The order of market share price of stock was random/ independent.								
H1: The order or market share price of stock was not random/ dependent.								
Banks	Sample Size	r	n <sub>1</sub>	n <sub>2</sub>	Z	Z <sub>tab</sub>	Decision Criteria  Z  < 1.96 : H <sub>0</sub>  Z  > 1.96 : H <sub>1</sub>	Accept
HBL	108	4	52	56	9.86	1.96	9.86 > 1.96	H <sub>1</sub>
NABIL	108	11	83	25	7.77	1.96	7.77 > 1.96	H <sub>1</sub>
NIBL	108	13	72	36	7.84	1.96	7.84 > 1.96	H <sub>1</sub>
SCBNL	108	13	70	38	7.89	1.96	7.89 > 1.96	H <sub>1</sub>

Source : Appendix H

The table reveals that the run test has been done under 108 samples (108 MPS of each sample banks) where 52:56 positive and negative signs were observed in HBL. The market share price of SCBNL and NIBL fluctuates more rather than other banks due to covering higher run (r = 13), following NABIL and HBL 11 and 4 covering respectively. High fluctuation in MPS of SCBNL and NIBL is observed and HBL share prices have less fluctuation in sample. I have shown the above calculation in the Appendix-H.

According to the normal curve distribution, if the observed value of Z is 1.96 then probabilities occur in this value is 0.025 and for two tailed it would be double (i.e.  $2 \times p = 2 \times 0.025$ ). Therefore the observed value of Z is single sample is if greater than 1.96 the two tailed probabilities associated with occurrence under H0: would be less than 0.05 level of significance that notifies the rejection of null hypothesis and acceptance of alternative hypothesis which depicts that the order or sequence or market share price of stock was not randomly moving.

So that regarding to this aspect, all the sampled commercial banks Z value under run test has found the greater value  $\pm 1.96$  which implies the market share price of the stocks of sampled banks was not randomly move. In order words the market prices of share of sample banks imply positive dependence, i.e. the movement of share price of sample banks occurs on the base of historical data.

Run test is determine to see how many positive, negative and zero, or total run may be expected to occur in a series of truly random numbers of size The outcomes are shown in the below tables. Since it is not possible to take whole year's daily share price as a study. Hence, I have taken only six month's (180 days) daily share prices of sampled commercial banks as traded in the NEPSE for a study.

Table 4.10  
Share Trading for the 180 days ( 2008 Oct. to 2009 March) –SCBNL

Days	Share Value in Rupees		Change Price (A-B)	Run Analysis
	Closing Price (A)	Md. Price (B)		
1	8769	4650	4119	Run 1 is Positive
2	8395	4650	3745	
3	8395	4650	3745	
4	7945	4650	3295	
5	7750	4650	3100	
6	7752	4650	3102	

7	7750	4650	3100		
8	7753	4650	3103		
9	7752	4650	3102		
10	7720	4650	3070		
11	7655	4650	3005		
12	5358	4650	708		
13	5100	4650	450		
14	5036	4650	386		
15	4990	4650	340		
16	4921	4650	271		
17	4715	4650	65		
18	4900	4650	250		
19	5100	4650	450		
20	5090	4650	440		
21	5050	4650	400		
22	4999	4650	349		
23	5050	4650	400		
24	5000	4650	350		
25	4950	4650	300		
26	4850	4650	200		
27	4550	4650	-100		Run 2 is Negative
28	4425	4650	-225		
29	4651	4650	1		Run 3 is Positive
30	4651	4650	1		
31	4700	4650	50		
32	4850	4650	200		

33	4998	4650	348		
34	5043	4650	393		
35	4951	4650	301		
36	5000	4650	350		
37	4950	4650	300		
38	4950	4650	300		
39	4950	4650	300		
40	4999	4650	349		
41	5000	4650	350		
42	4875	4650	225		
43	4972	4650	322		
44	4825	4650	175		
45	4795	4650	145		
46	4600	4650	-50		Run 4 is Negative
47	4601	4650	-49		
48	4599	4650	-51		
49	4650	4650	0	Run 5 is Positive	
50	4650	4650	0		
51	4699	4650	49		
52	4710	4650	60		
53	4650	4650	0		
54	4650	4650	0		
55	4720	4650	70		
56	4760	4650	110		
57	4760	4650	110		
58	4775	4650	125		

59	4700	4650	50	
60	4600	4650	-50	Run 6 is Negative
61	4580	4650	-70	
62	4580	4650	-70	
63	4733	4650	83	Run 7 is Positive
64	4420	4650	-230	Run 8 is Negative
65	4475	4650	-175	
66	4480	4650	-170	
67	4470	4650	-180	
68	4385	4650	-265	
69	4212	4650	-438	
70	4220	4650	-430	
71	4439	4650	-211	
72	4439	4650	-211	
73	4528	4650	-122	
74	4350	4650	-300	
75	4325	4650	-325	
76	4325	4650	-325	
77	4300	4650	-350	
78	4414	4650	-236	
79	4600	4650	-50	
80	4590	4650	-60	
81	4661	4650	11	Run 9 is Positive
82	4450	4650	-200	Run 10 is Negative
83	4610	4650	-40	
84	4580	4650	-70	

85	4650	4650	0	Run 11 is Positive
86	4845	4650	195	
87	4845	4650	195	
88	4820	4650	170	
89	4700	4650	50	
90	4575	4650	-75	Run 12 is Negative
91	4550	4650	-100	
92	4550	4650	-100	
93	4580	4650	-70	
94	4602	4650	-48	
95	4540	4650	-110	
96	4550	4650	-100	
97	4599	4650	-51	
98	4620	4650	-30	
99	4600	4650	-50	
100	4600	4650	-50	Run 13 is Positive
101	4650	4650	0	
102	4660	4650	10	
103	4695	4650	45	
104	4715	4650	65	
105	4740	4650	90	
106	4740	4650	90	
107	4735	4650	85	
108	4706	4650	56	

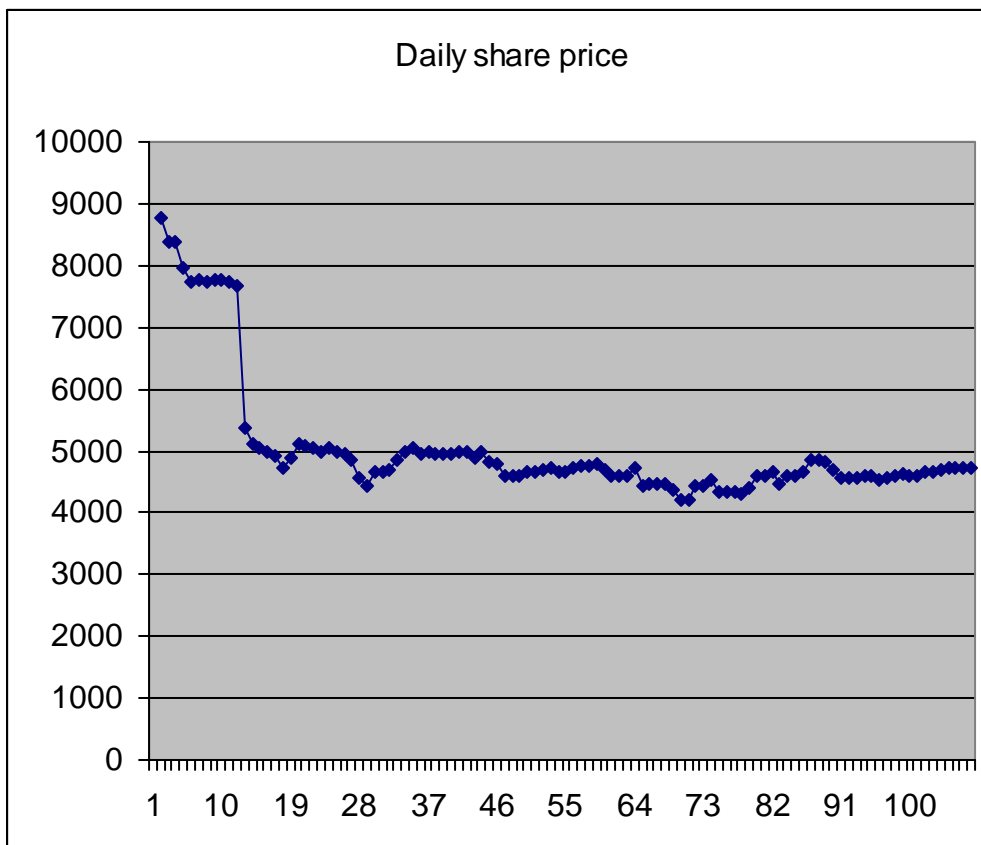
*Source : NEPSE*

$$Z = \frac{r Z \frac{2n_1 n_2}{n_1 \Gamma n_2} \Gamma 1}{\sqrt{\frac{2n_1 n_2 f_{2n_1 n_2} Z_{n_1} Z_{n_2} A}{f_{n_1} \Gamma n_2 A f_{n_1} \Gamma n_2 Z 1 A}}}$$

= - 7.89

Figure 4.6

Share Trading for the 180 days ( 2008 Oct. to 2009 March) –SCBNL



#### 4.6 RISK AND RETURN ANALYSIS

Risk measures the degree of volatility in the market price movements of individual securities. The higher the magnitude of fluctuations, higher will be degree of risk though it is difficult to measure risk, some statistical tools like standard deviation, coefficient of variation and beta coefficient are used to measure the risk involved in individual security. All these are calculated by using the formula described in research methodology chapter.

#### 4.6.1 STANDARD DEVIATION

Standard deviation is a strong statistical device to measure the total risk involved in an investment, which consists of both market risk and diversifiable risk. Moreover it denotes the volatility of the expected rate of return. The calculated value of expected realized return and standard deviation of four sampled different banks are presented in the following table.

Table 4.11  
Standard Deviation of Sampled Commercial Banks

Stocks	Expected Realized Return (%)	Standard Deviation (%)	Ranking of riskiness based on Standard Deviation
Himalayan Bank Ltd.	19.7%	27.2%	3
Nabil Bank Ltd.	48%	48%	1
Nepal Investment Bank Ltd.	16.7%	38%	2
Standard Chartered Bank Nepal Ltd.	34%	27%	4

*Source : Appendix B(I, II,III, IV)*

Based on the assumption of the standard deviation, investment in the common stocks of Nabil Bank are more risky followed by Nepal Investment Bank. Stock of Standard Chartered Bank could be considered as less risky than the other three banks, being the



standard deviation lower than other. The common stock of Nabil Bank is associated with 48% of the highest risk, which indicates that the expected return can be deviated, by 48% in case of common stock investment than the other three sampled banks taken into study. I have shown the above calculation in the Appendix -B (I), B (II), B (III) & B (IV) respectively.

#### 4.6.2 COEFFICIENT OF VARIATION

The standard deviation may not be appropriate measure of risk when the realized rates of returns are not same in all of the companies taken under consideration. Hence also the average realized rates of return are not same for the entire sample. Therefore, it is recommended to use the coefficient of variation to measure the risk involved in individual bank. The coefficient of variation measures the risk per unit of return. The coefficients of variation of the realized rates of return of the sampled banks are shown in the following table.

Table 4.12  
Coefficient of Variation of Sampled Commercial Banks

Stocks	Coefficient of Variation
Himalayan Bank Ltd.	1.38
Nabil Bank Ltd.	1
Nepal Investment Bank Ltd.	2.27
Standard Chartered Bank Nepal Ltd.	0.79

*Source : Appendix B(I, II,III, IV)*

On the basis of coefficient of variation, common stock of Nepal Investment Bank seems to be most risky. The common stock of Standard Chartered Bank Nepal Limited seems to be less risky in comparison with the other sampled banks. The above calculation has been derived from the Appendix – B (I), B (II), B (III) & B (IV) respectively.

### 4.6.3 BETA COEFFICIENT

Standard deviation measures the total risk of an investment and the coefficient of variation measures the risk per unit of return. But the beta coefficient measures the market sensitivity or systematic risk of an investment. As we know, systematic risk is that portion of risk which is directly associated with market phenomenon and cannot be reduced by diversification. The beta coefficient of an individual stock provides the clear picture about the tendency of movement of the stock with market. It measures the stock volatility relative to that of the average stock. An average stock is that which trends to move up or down with the general market as measured by some index. Here, capital NEPSE index is taken into consideration to measure the movements of the general market regarding the stocks of listed commercial banks. Higher beta indicates the greater reaction by individual common stock with the given movement in the market status. The following table shows the degree of riskiness of each stock of entire sample in relation to the general market.

Table 4.13

Beta Coefficients of Sampled Commercial Banks

Stocks	Beta Coefficient	Ranking of riskiness based on Beta Coefficient
Himalayan Bank Ltd.	0.62	4
Nabil Bank Ltd.	1.23	1
Nepal Investment Bank Ltd.	0.75	2
Standard Chartered Bank Nepal Ltd.	0.68	3

*Source: Appendix B(I, II, III, IV)*

By analyzing the above table, we note that Nabil Bank is much more sensitive to the market than other Bank because the beta coefficient of variation of this bank is more than one. The stock of Himalayan Bank, Nepal Investment Bank Ltd, and Standard Chartered Bank Nepal Ltd have beta coefficient less than one and can be concluded as defensive stock. Following the Nabil with 1.23, For example in the case of Nabil

Bank, the calculated beta coefficient imply that one percent variation in the market rate of return leads to 1.23 % variation in their realized rate of return. Hence highly sensitive stocks make quick response to the market change. The above calculation has been derived from Appendix – B (I), B (II), B (III) & B (IV) respectively.

#### 4.7 PRICE ANALYSIS:

In this section the pricing of the shares of the sample companies were analyzed and interpreted. The result derived from the calculation by using Security Market Line equation was presented in the below table, studying the period of 2003/04 to 2008/09.

Table 4.14  
Valuation of Stocks of Sampled Commercial Banks

Stocks	Required Rate of Return	Expected Rate of return	Status of the Company
Himalayan Bank Ltd.	22.7%	19.7%	Over priced
Nabil Bank Ltd.	37.6%	48%	Under priced
Nepal Investment Bank Ltd.	25.88%	16.7%	Over priced
Standard Chartered Bank Nepal Ltd.	24.17%	34%	Under priced

*Source: Appendix B(I, II,III, IV)*

From the above table, it was found that four commercial banks taken as samples were found two are under-prices and two are over priced This shows that the market of the sampled banks was very much inefficient. The detailed calculation of the values of shares is presented in the Appendix – B (I), B (II), B (III) & B (IV) respectively.

#### 4.8 MAJOR FINDINGS

Based on the analysis of data and their interpretation, the major findings of the study in relation to the objectives set could be summarized as follows:

- ) Because of the persistence in the stock price movements, professional traders either individual or institutional can beat the market. Therefore to make greater profit than naive buy and hold strategy, acute fundamental and other analysis are required which accurately predict the appearance of the new information in the market that have impact on prices.
- ) With respect to the calculated of Actual rate of return and Required rate of return of Himalayan Bank and Nepal Investment Bank was found to be lower than Required rate of return, so the stock of HBL and NIBL are overvalued. The remaining two bank Nabil Bank and Standard charter Bank have Actual return more than the required rate of return so the stock price of those Bank is undervalued.
- ) The run test has been done under 108 sample days (108 MPS of each sample banks) where 52:56 positive and negative signs were observed except HBL, NABIL and NIBL. The market prices of share of sample banks imply positive dependence, i.e. the movement of share price of sample banks occurs on the base of historical data
- ) Common stock of Nepal Investment Bank is yielding the highest realized rate of return of 48.00%. Regarding the total risk, Nabil Bank Ltd. consists of highest 65.97% of total risk which is risky among the sample. The stock of Nepal Investment Bank, is recorded as least risky as it contains 39.12% of total risk which is less than the other sampled banks in terms of standard deviation.
- ) The average realized rate of return of all the sampled banks are not the same over the sampled periods. Therefore, the coefficient of variation can be preferred over the standard deviation as measure of risk On the basis of coefficient variation, NIBL shares can be considered as more riskier whereas SCBNL's shares can be measured as less riskier. Stocks of Nabil Bank are more aggressive to market changes as revealed by the highest beta coefficient

of 1.23 and the least beta coefficient is yielded by Himalayan Bank of four sampled banks.

) The finding of this study also implies that Nepal Stock Exchange is operated under the dearth of sophisticated financial and market analysts. Activities of such analysts with the skillful mind, talent and ability including statistical knowledge and react about incoming information and their valuable suggestions in building of new regulations help to cut down the dependence in the stock price changes. But, unfortunately such kinds of activities were not found in Nepalese stock market. Thus, investors are not in attention of publicly available information and whimsically they response the information and accept the new price.

## **CHAPTER V**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

This chapter presents the summary and conclusions derived from analysis of the study. The study was conducted to find out the behavior of stock price of four sampled commercial banks with respect to the movement of various financial indicators, tentative external events and some other factors. The chapter consists of three sections; the first section provides the summary of the study; the second section draws the conclusion of the study. Finally, the third section proposes recommendations to solve the problems observed on the basis of the findings

#### **5.1 SUMMARY**

The study was conducted with the main objective to analyze the share price behavior of four sampled commercial banks namely Himalayan Bank, Nabil Bank, Nepal Investment Bank and Standard Chartered Bank Nepal. It is mainly focused to developed the model accordingly and its empirical test in previous chapter. The model consists of run analysis along with standard deviations; coefficient of variations, beta coefficient and under and overpricing of shares were adopted as test methodologies.

Before analyzing the results of test, the overview of the Nepalese stock markets has been sketched. The recent position and performance of market in Nepal has been analyzed. The Nepalese stock market has not been developed remarkably in the economy because of various market imperfections like limited number of buyers and sellers, stringent government policies, negligence in development of corporate sectors etc.

Market price of stock is the main outcome of investor's psychology. The psychology of investors is affected by various factors. Here in Nepalese market, dividend and price appreciation of stock is major factors for the investors to decide about purchasing of shares. Along with DPS and price appreciation, EPS, market rumors, political and economic environment etc are the other factors to influence the buying and purchasing behavior of the investors. Every investor must consider the financial status of organization before making any decision regarding the investment.

The run analysis of the sampled banks for the month of November showed that the prices of shares do not remain same. Due to various factors like internal and external the prices of the shares are sometimes valued at higher and sometimes lower. Hence, it can be concluded that the market of the four sampled banks is inconsistent. It can be observed that there are more negatives run as compared to positive runs.

The next objective of the study is about the identification of the price of stock whether it is overpriced, underpriced or equilibrium priced. For this purpose, different financial as well as statistical tools such as standard deviation, coefficient of variation, beta coefficients etc have been used. To find out the pricing status of stocks; expected rate of return and required rate of return has been compared. Generally, the trend is that the MPS of public quoted companies is above their book value. The market value is determined by the supply and demand functions. However, in an efficient market MPS fully reflects all the historical information publicly available. As per the presentation, the highest required rate of return is 37.60% of NABIL and the lowest is 22.70% of HBL. In case of expected rate of return, NABIL has highest return i.e. 48.00% and the lowest is 16.70% of NIBL. From the comparison it has been found that the stocks of two sampled commercial banks are underpriced and two sample

commercial banks are overprice. The main reason for underpriced of the stock valuation is that the price of the stock had reached the highest point during the study period but the NEPSE index did not follow the same speed and the rate of Treasury bill issued by NRB also heavily decreased during the study period. It makes the expected rate of return of the sampled banks are high and required rate of return low. Hence, sampled two banks' share prices are underpriced during the study period.

The decision for investment largely depends on the information about the performance of the company. In general, most investors prefer to buy shares of those companies whose earnings are very attractive and dividend payout ratio is high. However, rational investors not only analyze earnings but also various information regarding the company's management, dividend policy, market penetration, financial situation, and other internal and external factors before making investment decision. It is also found that some of the investors invest in shares for dividend and price appreciation and most of them are not interested about the other indicators which could affect the price of shares. It also seems from the research that the investors are conscious about the market price of the share they have bought as many investors seek for their share's price daily or weekly. Although they seek for their share price, most of them are not trading their shares in secondary market, which shows that most of the investors are holding their shares for only dividend and they are not using the change in share price for speculative purpose.

## **5.2 CONCLUSIONS**

The run tests of the sampled banks showed that the prices of shares tends to fluctuate from time to time as a result the investors can buy shares when the value of shares decreases and hold till the share price increase. The dependence in the series of price changes observed implies that the price changes in the future market will not be independent from the price changes of the future days. It brings about that the information of the past price changes is helpful in predicting future price changes. Therefore, sufficient opportunities are available to institutional and individual investors to make higher expected profits in future based on those historical price series. In the mean time while the statistical analysis regarding the risk and return of

the sampled stocks shows that the all the banks seems to be risky than the average stock. But as most of the banks are offering cash dividends every year which may not be applicable to other types of no banking firms, there is race of investors towards the stocks of banking sectors.

Among the various financial indicators EPS seems to be most significantly related with the market price of shares. Two of sampled banks' stock price found to be underpriced because their required rate of return is lower than the expected rate of return and two sampled banks' stock price found to be overpriced because their required rate of return is greater than the expected rate of return. The study also shows that Nepalese investors are more conscious towards the dividend and price appreciation of the shares they are investing but most of the investors are only using buy and hold strategy as only few of them are trading their shares in secondary market. This shows that there is lack of professionalism among Nepalese investors.

### **5.3 RECOMMENDATIONS**

The findings of this study may provide important information for those who are concerned directly or indirectly with the stock market activities. Thus, the following recommendations can be outlined.

- ) From the study it seems that Nepalese investors have limited knowledge about security market. It lacks of professional investors. Hence, the concerned authority is recommended to make aware about the security market to the general public so that they are interested to invest in security market and the previous investors could change as professional investors.
- ) As per the study, investors are trading the stocks without proper analyzing of the financial indicators of concerned companies. Hence, investors are recommended for the empirical study of the financial indicators of those companies before trading the stocks and they must be alert to exploit the opportunities through the short term speculation.
- ) There exists excessive price fluctuation as observed from the stock market while collection the data. To control such erratic price fluctuations the regulatory body should impose effective provisions to the exchange members.



- ) Two of the stocks of sampled banks are undervalued in the stock market. So, investors are recommended to buy these undervalued stocks by selling their overpriced stocks.
- ) The public investors should not directly invest their savings in shares haphazardly. They should at least analyze or get suggestions from expert about the financial position and the level of risk prior to taking an investment decision.
- ) The pace of economic development should be accelerated and the political system should be stable in order to create its positive impact on the stock market development.
- ) The size of stock market is pitifully small in Nepal because of small size of the corporate sector in the economy. Besides, it is the general fact that until there is sophisticated development in the financial institutions, no other sectors could be developed in the full extent. So, government and other related sectors should try to stabilize and modify the rule and regulations concerning to the development of the effective pricing of the shares of such financial institutions as well as other sectors.
- ) For the concerned regulatory bodies such as SEBON and NEPSE, it is recommended to implement Computer Assisted Trading System (CATS) as soon as possible to meet the expectations of investors, brokers, other concerned bodies and individuals as the presently implemented Open-out-cry trading system was found to be out-of-date in present context. It will also be helpful for researchers to carry out further more research work on the stock price behavior to develop an efficient market.
- ) Because of the non randomness of the price movement in the Nepalese share market, professional traders either individual or institutional can beat the market. So, it is recommended that the investors should be aware of exploitation through short term speculation where above average return is possible to some extent from past information.
- ) There should be separate body for regular monitoring and analyzing the strength and weakness of public companies, which will disclose right and value information and suggestion to public investors to take proper investment decision at the right time to avoid or minimize the level of risk.

) This study could not explore the movement of share price of whole sector of listed companies and no any separate software regarding to stock market is applied. Thus it is recommended to future researchers to under take comprehensive study by appropriate method, related to the whole sector wise share price movement.