RISK AND RETURN ANALYSIS
OF
COMMERCIAL BANK IN NEPAL

By:
Narayan Prasad Paudel
Prithivi Narayan Campus
T.U. Registration Number: 7-1-326-161-98

A Thesis Submitted to:

Office of the Dean
Faculty of Management
Tribhuvan University

In partial fulfilment of the requirements for the degree of
Master of Business Studies (M.B.S.)

Pokhara
July, 2009

RECOMMENDATION

This is to certify that the thesis:

Submitted by:

Narayan Prasad Paudel

Entitled

RISK AND RETURN ANALYSIS OF COMMERCIAL BANK IN NEPAL

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

Supervisor

Name: **Janak Bdr. Basnet**

Signature:

Date:

Head of Department

Signature:

Campus Chief

Signature:

VIVA-VOCE SHEET

We have conducted the viva-voce examination of the thesis

Submitted by:

Narayan Prasad Paudel

Entitled

RISK AND RETURN ANALYSIS OF COMMERCIAL BANK IN NEPAL

and found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for degree of

Master of Business Studies (M.B.S.)

Viva-Voce Committee

Chairperson, Research Committee: ……

Member (Thesis supervisor): ……

Member (External expert): ……

Member: ……

Date:

ACKNOWLEDGEMENTS

This Theses is for Master's Degree in Business studies (MBS) undertaken at Tribhuvan University of Nepal. For this I gained lots of guidelines and suggestions from my teachers, friends, other company's officials and my relatives. Firstly, I wish to express my profound gratitude to my respectable supervisor Janak Bahadur Basnet, Teaching Assistance, P.N. Campus and Dr. Puspa Raj Sharma, PhD, Lecturer, Faculty of Management, Head of Research Department, P.N. Campus for their valuable guidance throught the work and my teachers who inspire me to do this study.

I acknowledge staff of Nepal Stock Exchange, Nepal Rastra Bank, Securities Board of Nepal and selected bank in this study, who provided sources of data and other information for this study. I also acknowledge my friend Mr Dhurba Bahadur Chhatri, Laxman Rakhal, and Tilak Ram Lamichhena for their help. I would also like to thanks my respected teacher. Similarly I would like to thank my office member for their advise and inspiring matters.

Finally. I would like to express my sincere gratitude to the staff of Western Regional Library, Pokhara for their cooperation.

Narayan Prasad Paudel

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS USED

BS	:	Bikram Sambat
CAPM	:	Capital Assets Pricing Model
CS	:	Common Stock
Div	:	Dividend
DPS	:	Dividend Per Share
EBL	:	Everest Bank Limited
FY	:	Fiscal Year
HBL	:	Himalayan Bank Limited
MPS	:	Market Price Per Share
NABIL	:	Nabil Bank
NEPSE	:	Nepal Stock Exchange
NIB	:	Nepal Investment Bank
Rp	:	Risk Premium
Rs	:	Nepalese Rupees
SEBO/N	:	Security Board Nepal
SML	:	Security Market Line

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Commercial Bank is a legally formed financial institution, which collects scattered idle funds from the people as deposit and provides it to the investor as loan for productive purposes. In Nepal's condition, the history of banking is not very long. In 1994 B.S. the Nepal Bank limited was established. It was the first bank of our country. The first central bank, Nepal Rastra Bank, was established with objectives of surprising, protecting and directing the functions of commercial bank's activities. Later, it was considered that the Nepal Bank Ltd. was not sufficient to meet the increasing banking service requirement of the government and people. Then, the number of banks increased gradually as per the requirement under different acts like, Agriculture Development Bank / Nepal (ADB/N) under Agriculture Development Bank Act, 2024, other commercial Bank under commercial Bank Act, 2031, Finance company under finance company Act, 2042,etc. In B.S. 2041, Nepal Arab Bank Limited was firstly established as Joint venture bank in Nepal, Then different commercial banks have been establishing very fast. There are 25 commercial banks in Nepal. Banking sector is the most dynamic part of economic which collects unused fund and mobilizes it in needed sectors. It is the heart of trade commerce and industries. In Nepalese context, commercial banks have comparatively good performance among the public limited companies.

There are a lot of commercial banks such as Everest Bank Ltd., Nepal SBI Bank Ltd, Himalayan Bank Limited, etc. Twelve banks are

domestic private banks which are Bank of Kathmandu, Nepal Credit and Commercial Bank, Nepal Industrial and Commercial Bank, etc. and the rest are government commercial banks such as Nepal Rastriya Bank Ltd.

For the study of the present purpose four Banks such as NABIL are taken in sampling. Out of them, NABIL. It is the first joint venture commercial bank established in 1984 A.D. (2041 B.S.) in Nepal and listed in NEPSE in the year 1986 A.D., Initially Dubai Bank Ltd. invested 50% of equity share of NABIL. The share owned by DBL is transferred to Emirates Bank International Limited.

HBL is another joint venture bank established under the Company Act of Nepal. The Bank was incorporated in 1992 A.D. and was listed in the NEPSE in 1993 (2050/2/5 B.S.). The control office of its organization is in Sanchayakosh building Thamal. Its authorized capital is 24 million, issued capital 24 million and paid of capital 24 million.

NIBL was established on 21 January 1986 as a joint venture bank under the Company Act 1964. Now this bank is opening under full ownership of Nepalese promoters and share holders. Authorized capital of this bank was 270000000. Issued capital is Rs 169,984,500 and paid of capital 169,984,500.

Everest Bank Limited was established in 1994 A.D. with the joint venture of Punjab National Bank Limited, India. It was listed in NEPSE in 1996 A.D. Authorized, issue, and paid up capital of EBL is 600 million, 466.80million 455 million respectively.

1.2 Focus of the Study

Risk and return are the important factor and the foundation of the modern finance theory. The relationship between risk and return is described investor's perception about risk and their demand for compensation. No investor like to invest in risky assets unless they are assured of adequate compensation for the assumption of risk. Similarly,

Return is the motivating force in investment process that is, the reward for undertaking the investment. Therefore, it has crucial importance for investors as it is the only rational way for corporation to compare alternative investment that differs in what they offer (pradhan 1992) Risk is defined as the chance that the actual outcome frame and investment will differ from expected outcome. Risk is uncertainty and its magnitude depends upon the degree of variability in uncertain cash flow. Risk and return are most important factors in finance and investment area. As a result risk and return go together in investment and finance. It is in sensible to talk about return with out taking risk because investment decision involves risk and return in trade so, return increases in proportion to risk.

There are different kinds of uncertainty about future return. The actual return may be less than expected return. The main source of uncertainty is the price at which the stock will be sold. The stock price can be affected by economic factor such as interest rate, economic growth inflaction and the strength of dollars. The risk of stock can be measured by price volatility. One of the main sectors of financial market is capital market where stock and bond are trade.

Finance is composed depending upon three functions: investment, financing and dividend. All those having little knowledge about finance are interest on investment, the stock market definitely drags the attention of everybody in Nepalese context stock market definitely drags the attention of every body in Nepalese context.

This study has focused on the analysis of risk and return associated with the share price of commercial bank. In commercial bank the risk and return are fully based on portfolio analysis. Therefore this study is also focus on the analysis of risk and return how an investor or should return how an invest or should take investment decision in share of domestic private commercial bank in Nepal. Many political, economic, social and technological factors affect the commercial bank.

1.3 Statement of Problem

Generally, risk and return are worked out to identity the suitable position of any organization and financial institution. After the establishment of Nepal stock exchange, the capital market was grown rapidly with in the very short period.

The commercial bank invests different kinds of their subject because they will be generate some benefits in future. The investors don't measure return and various risk involbs in their investments. It investor are able to know the price situation of listed companies they can make good return by making sales or buy decision of the common stock they hold or intend or investment.

Investors don't have any idea of risk and return because most of the investors to be a least familiar with the financial activities with out getting theoretical knowledge of risk associated with investment most of the investors are making investment on stock that may be terms as ill praltice. Bank issue a share, debenture, and bond. But their become huge demand rather then supply but if other sectors such as hotel, insurance and manufacturing company issue their money. In Nepalese context, most of people deposit their money in bank instead of investment in financial assets. Such as share, bond and debenture. A lot of investors do not know how to make investment and how to calculate risk and return on their investment. In Nepal most of the financial institutions issue only common stock. In ours country the commercial bank are playing viatle role in the capital market, risk and return and other different kinds of area. On the basis statement, the study is to seek the following question.

a. What is the level of systematic risk and unsystematic risk of commercial bank?
b. What is the average rate of return of commercial bank?
c. What is the level of risk and return of listed commercial bank?

1.4 Objective of the Study

The basic objective of this study is to find out risk and return relationship of commercial bank of Nepal. The following are the specific objective of the study.

a. To analyze the systematic risk and unsystematic risk of commercial banks.
b. To compare the unsystematic risk of commercial banks.
c. To analyze the risk and return position of commercial banks.
d. To analyze the annual average rate of commercial banks.
e. To analyze the risk premium of commercial banks in Nepal.

1.5 Significance of the Study

"The study is to point out the risk and return position of investing shares in commercial bank of Nepal. The study will be helpful for investors as well as commercial banks and also provide proper guideline for making choice of stock and bond on the basis of risk and return. It is also important those people who are interested to know about risk and return. The study will be beneficial for the entire person who is interested to know about the capital market in Nepal." In light of these contributions, the study is valuable for the investors, commercial banks, organization studies and researchers. The study has following significant:-

a. The analysis of risk and return to develop the effective portfolio.
b. An individual firm is made known of its value position that it can search for its strength and weakness.
c. The study suggests for a careful judgement of risk and return relationship.
d. An individual firm is made known of its value position. So that it can search for its straights and weakness.

1.6 Limitation of the Study

Every research naturally have some delimitation. So this study is not to exceptional wage, the major decimalization to the study are as under.

a. The study covers the relevant and information only 10 years i.e., Fiscal year 1997/1998 to 2006/07.
b. Analysis is based on the tools developed in the context of efficient market condition.
c. Time and finance constraints are also the major limitation of the study. The report is to be submitted in a limited time period.
d. The study is to fulfill the requirements as M.B.S. to the study can't cover all the dimension of the subject matter.

1.7 Organization of the Study

This study has been classified into six chapters. The first chapter, introduction, includes general introduction, focus of the study, statement of the problem, objective of the study, significance of the study, limitation of study and organization of the study. The second chapter- Review of literature includes theoretical review and relevant material. The third chapter- Research methodology includes research design population and sample size, source of data, data collection procedure and data analysis tools. The fourth chapter is Data presentation and Analysis, It interprets the collected data using various financial and statistics tools and technique. It also analyzes and interpreted the data by using the figure and table. It includes major finding of the studies. The fifth chapter- summarizes the whole study conclusion and forward the recommendation and six chapters Bibliography of the study.

CHAPTER II

REVIEW OF LITERAURE

Research is a continues process and it never ends. The procedures and the finding may change but research continues. So for analysis the data and to find something new a researcher must review and know if there are any studies ahead or not. The purpose of reviewing the literature is to develop some expetise is ones area to see what new contributions be can made and to receive some ideas for developing a research design. Thus the previous studies can't be ignored because they provide the foundation to the present study with the past research study.

In this chapter the review of relevant theoretical literatures and previous related studies. It is divided into two parts i.e. theoretical review and research review. Conceptual review includes definitions and summary of different book and authors and research review includes the review of the article published different journal and past studies.

2.1 Conceptual Review

2.1.1 Capital Market

Capital market means anybody of individuals whether incorporated or not, constituted for purpose of selling or dealing in security (Bhalla 19:) Capital market consists of security market and non security market. Securities market implies mobilization of the fund through issuance of the securities sector and bonds, bills and debentures by corporate sector and bonds, bills and debentures by governments. These securities traded in the market are generally negotiable and hence can be traded in the secondary

market. Non-securities market refers to the mobilization of the financial resources by the financial institutions in form deposits and loans. Capital market is divided into two parts, One is primary capital market and other is secondary capital market.

Primary Capital market: Financial securities which are offered for the first time in market is called primary market. The primary market securities are the new issue market, which bring together the "Supply and Demand" or sources and uses for new capital fund. In this market the principal source of fund is the domestic saving of individuals and business, Other supply includes foreign investors and governments. In a highly developed capital market by the largest proportion of individuals saving reaches the new issues market indirectly via a financial internal for example the saving of most individual are to an ultimate user corporation designing to expansion of its productive facilities and investment company or similar institutions, moreover most investor or individual investors are unfamiliar with new issue market and its institutions, such as underwrites and selling syndicates which serve as middle men between the corporate demanders of fund and the individual investors and financial institutions which supply the fund to most investors the team securities is synonymous with the "Stock Exchange"

Secondary Market

The market where the existing and pre-developed securities are bought and sold is called secondary market. Secondary market provides liquidity to the purchase of the securities. High liquidity of the secondary market encourages the investors to invest in the primary market as well. Secondary market can be regarded as the center to convert stock, bonds and other securities into cash immediately. The secondary market deals with the previously issue share mainly traded through the stock exchange, over the counter (OTC) market direct dealing. 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 to the original issuer (i.e. it does not create new additional capital) but to the owners of the securities. In other words securities are traded among the individual as well as institutional investors. Transactions in existing securities market is to provide marketability and liquidity for long term investments, there by supply equity and long term debit capital for the financing of business enterprises: once investors purchase in the primary market they need the place to sell those securities in secondary market. Secondary market can be categorized in two part. (a) Organized Stock Exchange (b) Over the Counter (OTC) Market.

Nepal Stock Exchange (NEPSE) is the only a secondary market in Nepal. It is noteworthy that the firm whose securities are being traded in the secondary market is not involve in the secondary market transaction and thus does not receive any funds from such transaction.

2.1.2 Development of Capital Market in Nepal

Capital market in Nepal is in infancy. Stock investment practice in Nepal developed after the establishment of Biratnagar Jute Mill LTD in 1993 and Nepal Bank Ltd. in 1994, tills 1980, the majority of the share issuing company would belong to the ownership of government. Initial public offerings hardly found in practices in fund were collected through the direct placement of bond. The prime objectives of raising the funds would be the development of the infrastructure and public welfare programs. It has helped housing the primary government bond market on the other hand the share of Nepal Bank Ltd. were in existence but Ltd. to the ownership of Ranas (Khadka 2004) In 1992, government issue the treasury bills for the first time to finance the infrastructures development it is followed by the issuance of development bonds in 1964. Trading of governmental bond have always felt a security of capital market and in

1964, industrial policy was promulgated. This policy has opened the doors for the establishment of an institution named security market centre (SMC) in 1977 with its primary aim of developing the Capital market for government securities in the country under the joint effort of Nepal Rastra Bank (NRB) and Nepal Industrial Development corporation (NIDC). It was converted in to security. Exchange centre in 1976 Security Exchange Act (SEA) was approved by legislature and value into existence with effect from 13th April 1984. The former securities exchange centre was converted into Nepal stock exchange with the major objective to arrange marketability and liquidity to the government and corporate securities. Floor trading through market intermediaries such as brokers and market makers has also evolved. Restoration of democracy following the political movement of 1990 has brought lots of reforms in the financial sector liberalization in the real sense was initiated. Nepal launched extended structural adjustment program in 1992 by taking 'Extended Structural Adjustment Facility' (ESAF) through first amendment in the SEA. This has led to the establishment of securities board and it was given the responsibility of regulating and developing the transaction of securities whereas NEPSE to facilitate the transaction of stock and bonds in the floor through its member intermediaries. NEPSE presently has 27 brokers and 11 issue manager and 2 portfolio manager i.e. dealer secondary market. Currently there are 114 listed companies Non-Residence Nepalese (NRN) have declared to establish a multipurpose mutual fund investment company with the amount of Rs 10 billion in the near future which would help to grow the capital market in Nepal. Similarly, state owned corporations like Nepal Telecom, Nepal Electricity Authority are planning to issue bond and share to public investors which are encouraging for the capital market encouraging and alternative investment sectors for investors (www.nepalstock.com)

2.1.3 Meaning of Risk

"Risk is defined to Webster's as a hazard a price exposure to loss or injury. Thus risk refers to chance that some unfavorable event will occur if you engaged in skydiving you are taking a chance with your life sky diving in risky. If you bet on the horse, you are risking your money. If you invest in speculative stock or any stock, you are taking a risk in hope of making an appreciable return. The greater the chance of loss or negative return the riskier the investment. Most people view risk is the manner. We just described the chance of loss. In reality, risk occurs when we can't be creation about the outcomes of a particular activity or event. So we are not sure that will occur in the future consequently risk result from the face that an action such as investing can produce, more then one outcomes in future. (Weston and Brigham 1996)

In the basic sense risk is the chance of financial loss. Assets having greater chance of loss are viewed as more risky then those with lesser chance of loss. More formally, the tream risk is used interchangeably with uncertainty to refer the variability of return associated with a given assets.

Beta coefficient: This is the mathematical value that measure the risk of one assets in term of its effect on the risk of a group of assets, called a portfolio. It is concerned solely with market related risk as would be the concern for an investor holding stock and bonds. It is derived mathematically so that a high beta indicated high level of risk; low beta represents a low level of risk.

Standard Deviation: This is a measurement of the dispersion of forecast return when such return approximate a normal probability distribution. It is a statistical concept and is widely used to measure risk from holding a single assets. The standard deviation is derived so that a high standard

deviation represent a large dispersion of return is a high risk. On the other hand, low standard deviation is a small dispersion and represents low risk.

Subjective Estimates: A subjective risk measure occurs when qualitative rather then quantitative estimates are used to measure dispersion. We will used the definition of risk that deals with dispersion of return. We will also note that fact that mathematical approach can be used to estimate such dispersion.

2.1.4 Source or Risk

An investment is commitment of money that is expected to generated additional money. Every investment entails some degree of risk. It requires a person certain sacrifices for future uncertain benefit.

The primary risk factor that create investment uncertainties are as follows:

1. Interest rate risk: Interest rate risk is defined as the potential variability of return caused by changes in market interest rate. Interest rate risk can be demonstrated, if we reconsider the single period rate of return formula for a bond or a stock. In interest rate risk, if market interest rate rise, then investment values and market prices will fall and vice-versa. The variability of return that result interest rate risk. This interest rate risk affect the price of bond stock, real estate gold, puts, calls, futures contracts and other investments as well.
2. Purchasing power Risk: Purchasing power risk is the variability of return an investor suffers because of inflation. Economic measure the rate of inflation by using a price index. The consumer price index(CPI) is a popular index in a U.S. The percentage change in the CPI is a widely followed measure of the rate of inflaction.

3. Management risk: Management risk is defined as the variability of return caused by a decision made by a firm's management and board of directors. Through many top executives earn princely salaries, occupy luxurious offices and wield enormous power within their organization, they are mortal and capable of making a mistake or a poor decision. Furthermore, errors made by business manager can harm those who invested in their firms. Forecasting management error is difficult work that may not be worth the effort and, as a result, imparts a needlessly skeptical outlook. Agency theory provides investors with an opportunity to replace skepticism with informed insight as they endeavor to analyze subjective management risk.
4. Default risk: Default risk is that portion of an investments total risk that results from changes in financial integrity of the investment. It is related to the probability that some of all of the initial investment will not be returned.
5. Liquidity risk: Liquidity risk is that portion of an assets total variability of return which results from price discount given or sales commission paid in order to sell the with out delay. Perfectly liquid assets are highly marketable and suffer no liquidation costs. Liquid assets are not readily marketable either price discount must be given or these costs must be incurred by the seller, in order to find a new investor for an illiquid assets. The more illiquid an assets is the larger the price discount.
6. Collability Risk: Some bond and preferred stock are issued with a provision that allows the issuer to all then in for repurchase. Issuers like the call provision because it allows them to buy back outstanding preferred stock and/or bonds with funds from a newer issue it market interest rate drop below the level being paid on the outstanding securities.

The portion of a securities total variability of returns and derives from the possibility that the issue may be called is the collability risk. Collability risk commands a risk premium that comes in the form of a slightly higher average rate of return. This additional return should increase as the risk that the issue will be called increase.

7. Convertibility Risk: Collability risk and convertibility risk are similar to respects. First, both are contractual stipulations that includes in the term of the original securities issue. Second both of these provision after the variability of return from a convertible bond or a convertible preferred stock that reflects the possibility that the investment may be converted into the issuer's common stock at a time or under terms harmful to the investor's best interest.
8. Political risk: Political risk arises from the exploitation of a politically weak group for the benefit of a politically strong group with the efforts of various groups to improve their relative positions increasing the variability return form the affects assets. Regardless of whether the changes that cause political or by economic interests the resulting variability of return is called political risk are sought by political or by economic interest, the resulting variability of return is called political risk if it is accomplished through legislative, judicial or administrative branches of government. Political risk can be classified as internal political risk and domestic political risk.
9. Industry risk: An industry may be viewed as a group of companies that complete with each other to market a homogeneous product. Industry risk is that portion of can an investments total variability of return caused by events that affects the product and firms that make up an industry. the stage of the industry's life cycle, international tariffs and/or quotas on the product by and industry, products or industry product or industry related tax industry wide labour union problems, environmental restrictions, raw materials availability and

similarly factors interact and affects all the firms in a industry simultaneously. As the result of these commonalties, the price of the securities issued by completing firms trend to rise and full together (Clark 1991)

10. Credit Risk: It is usually associated with loan and investments, but it can also arise in connection with derivatives foreign exchange, and other extension of bank credit. Although banks fail for many reasons, the single most importance reason is bad loans. Banks of course don't make bad loans. However, unforeseen change in economic condition and other factor such as interest rate stock, change in tax laws and soon, have resulted in credit problems.
11. Price Risk: Price risk is the risk to earning or capital resulted to market making dealing or taking in securities, derivatives, foreign exchange or other technical crises in Russia institution.
12. Strategic Risk: Strategic risk is the risk to earning or capital arising from making bed business decisions that adversely affect the value of the bank.

2.1.5 Types of Risk

There are two types of risk in securities market:

1. Systematic risk
2. Unsystematic risk

Systematic risk: It is market related in other word it arises from the change in the economy and market condition for example high inflation recession, impacts of political factors, which are beyond the control of company management. It affects all firm in the market. The portion of the risk is not-divesible and can't be reduct. The systematic risk rewarded in the firm of risk premium. Some times systematic risk is also called market risk. Systematic risk affects almost all assets in the economic, at lease to some degree, whereas systematic risk affects at most a small number of

assets. The principle of diversification has an importance implementation to a diversified investor, only systematic risk matters. It follows that in deciding whether or not to buy a particular individual assets, a diversified investor is only be concerned with that assets systematic risk. This is a key observation and it allows us to say great about the risk and return on individual assets in particular. It is the basis for a famous relationship between risk and return called the securities market line. To develop the SML, we introduce the equally famous Beta coefficient, one of the centerpiece of modern finance. Beta and SML are key concepts because to get supply as with at least part of the answer to the question of how to about determined the required return on an investment.

Unsystematic Risk: The unsystematic risk is not market factor related. In other word, it arises from the project specific factors. For example inefficiency of management failure in new product in production, employee, strikes, lawsuits and any other event that is unique to the company. It is inherent individual companies or project. This portion of the risk is divestible and it is possible to redact or eliminate through diversification of investment.

2.1.6 Meaning of Return

The meaning of return is defined as different wages to different investors. The rate of return from capital investment is a concept that has different meaning to different investors. Some competitive seek near term cast inflow and give less value to more distant returns. Return can be expressed by cash dividend or capital gain or loss. Still some investors measure return using financial ratios.

The return shows financial position of any organization. The company's position may be better if it has high return. Return is the rewards for an investors from his/her organization. Investors want to minimize expected return subject to their tolerance for risk. Return is the

motivating force and it is the key method available to investors in comparing alternative investment. Realized return and excepted return are two terms which is often used in the language of investment. Realized return is after the face return, that was earned or it is history.

The return on investment is measured as the total gain or loss experienced on behalf of the owner a given period of time. It is commonly stated as the change in value plus any cash distribution, expressed as percentage of the beginning of the period investment value. The expression for calculating the rate of return earned on any assets over period t, kt is commonly defined as:

$$K_t = \frac{P_t - P_{t-1} + C_t}{P_{t-1}}$$

Where,

K_t = Rate of return during the period t

P_t = Price (value) of assets at time t

P_{t-1} = Price (value) of assets at time t-1

C_t = Cash (flow) received from the assets investment in the time period t – 1 to + (Gitmain 2001)

2.1.7 Expected Rate of Return

The expected rate of return of holding period return is based up on the expected cash receipt over the holding period and expected ending or selling price. Depending up on the assumption make about cash receipt and ending price, a number of expected rate of return are possible. These possible expected rate of return estimated by the investors summarized in the expected rate of return. The expected rate of return in order for the investor to find the investment acceptable (Cheney and Moses, 1925).

2.1.8 Capital Asset Pricing Model (CAPM)

CAPM provides a frame work for measuring the systematic risk of an individual security and related it to the systematic risk of a well –

diversities portfolio an the context of CAPM the risk of individual security is defined as the volatility of security return vis-à-vis the return of a market portfolio. Capital Assets Pricing Model was developed by William F. Sharpe and Dohn linther 1960 (Van Horn: 1997). CAPM is simple in concept and has real world applicability. The model describes the relationship between risk and return or expected return, In the made a securities expected (required) return is the risk free rate plus a premium based on the of CAPM. It is the letter measure of risk the most importance aspect of risk is the overall risk of the firm as viewed by investors in the market price overall risk significantly affects investment opportunities and even more importance, the owner wealth. The basic theory that asks together risk and return for all assts is commonly called capital asset pricing model. The CAPM equation or securities market line (SML) is usually written as:

$(Rj) = R_f + [E(Rm) – R_f) \times \beta j$

Where,

(Rj) = Required return on j^{th} risky assets

Rf = The rate of return on a risk less assets

βj = COV (Rj Rm)/VAR (Rm) A measure of the un diversifiable risk of the j^{th} security (Western and Copelan: 1996)

E(Rm) = Expected rate of return of market

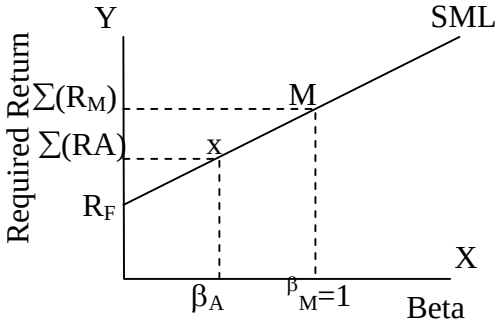
Assumption of the CAPM

CAPM is the based on a number of assumption the most importance assumption are (Sharpe, Alerander and Bailey: 1998):

1. Investors evaluate portfolio by looking at the expected return and standard deviation of the portfolio over one period horizon.
2. Individual assets are infinitely divisible, meaning then an investors can bay a fraction of a share if he/ she so desires.

3. There is a risk-free-rate at which an investor may either lend i.e. invest money or borrow money.
4. Tax and transaction cost are irrelevant.
5. All investors have the same one person horizon.
6. The risk free rate is the same for all investors.
7. Information is freely and instantly available to all investors.
8. Investors have homogeneous expectations, meanly then that have the same perceptions in regard to the expected return standard deviation and covariance of securities.

CAPM provides a measure of risk and a method of estimating the market's risk return line. The systematic (market) risk of securities is measure in term of its securities sensitivity to the market movement. This sensitivity is referred to security's beta (β). Beta reflects the systematic risk that can't be redacted. Investors can eliminate unsystematic risk, when they invest their wealth in a well diversifiable market portfolio. A zero beta of 1.0 indicates average level of risk while more then 1 means that the security's return fluctuates the actuates more that of the market portfolio. A zero beta means no risk. The graphical presentation of CAPM is called the security market line $\sum(R_j)$(Pandey:1990).



In graph, risk as measured by beta B, is plotted on the X-axis and required rate of return (R_m) are plotted on the Y-axis security market line has drawn from middle of Y-axis (Weston and Copland: 1996).

2.2 Research Review

These days information highway or the interest has become to the most easily medium to gain information is subject matter. In the study period different book and article have been consulted. The study has also used different database, which is available in Western Regional Library of Prithivi Narayan Campus, Pokhara and other different kinds of Libraries. The review of relevant articles published in different journal are available on line on International Network for the Availability of Scientific Publication (INASP). In this section data base been reviewed and presented.

2.2.1 Review of Journal

Financial economics has defined as the application of economics theory to financial market (Smith 1996). It is the large body of theory including such well-known models as modern portfolio theory (Markowitz 1952), the capital asset pricing models (CAPM) (Shap 1964), the efficient market hypothesis (Samulson and fama 1965) and option pricing model (Black and schowrs 1973). Although these models are all included in institute of faculty education Ltd. (1995) there are acceptance or use is controversial.

Akhibe and Whyte (2004) in their research paper "The Gram leach-Billey ACT" of 1999: Risk implication for the financial service industry have focused on the risk implementation of banking and private sectors. The research paper has included many other studies some of the studies find that bank expansion into banking activities can effect of events that permitted only Ltd. Entry by bank into not banking activities. The study is conducted on the systematic, unsystematic and total risk. Such risk are calculated by using statistical tools i.e. variance, standard deviation, t-statistical and signed rank which recently used by Aminud, Delong and Saunders (2002). The study has included 300 bank for the sample size then

they partition two sub-samples; 40 large bank and 200 small banks. The major finding of the study is that evidence of a significant decline in systematic risk for banks securities firm and insurance companies but a significant increase in total and unsystematic risk for the banks and insurance company. This study has included five years period data. The study also found that bank and insurance company are less risky then the securities business so if securities firm want to decline in risk. Securities firm can be explained by their ability to diversity into less risky banking and insurance activities. The research paper result suggests that regulators should carefully monitor and supervise banking activities in the new era of financial modernization to mitizate adverse effects from the increase in risk.

Pagaho's (2001) has study on how theories of financial intermediation of cooperate risk management influence bank Risk. Taking behaviour from both cooperate finance and banking perspective. That data set cover period from (2004-2008). In this study the researcher has used mathematical tools that are model beta, standard deviation total risk (systematic and non-systematic risk) interest rate risk. The main objectives of the study is to examine the rationales for risk taking and risk management behaviour for both a cooperative financial and banking perspective. After combing the theoretical insights from the cooperate finance and banking literatures related to hedging and risk taking the paper reviewed empirical tests based on these theories to determine which of this theories are based support by the data.

Managerial incentives apart to be the must consistently supported rational for describing how banks manage risk. In particular, moderate/high levels of equity ownership reduce bank risk while positive about of stock option grants increase bank risk taking behaviour. The empirical result suggested he gable risk such as interest rate risk problems. This implies empirical test on theory of cooperate risk management need to considered

individual sub-components of total risk and the banks ability to trade these risk in component financial market.

Berkowitz and Brein's (2002) in their research paper "How accurate are value-at-risk models at commercial banks?" to has focused on the first direct evidence on the performance in the value-at-risk models for trading firms.

The result shows that variance for casts for six large commercial banks have exceeded nominal average levels over the part two years and for some bank –variance we substantially removed from the lower range of trading P&L while such conservative estimates imply higher levels of the capital coverage for trading risk, the reported variance are less useful as a measure of actual portfolio risk. They have used standard deviation, mean correlation coefficient, VAR correlation coefficient, Beach mark model and portfolio model. To a certain extent the study is Ltd. by the fact that bank only forecast a single percentile of a portfolio distribution significant more could be learned about the empirical performance of internal valuation of models of destiny forecast were recorded. Destiny forecast evaluation techniques described in Diebold, Gunthur and Tay (1998) and Berkowitz (2001) provide researcher with substantially more information to asset the dimensions in which models and need improvement and those in which models do well.

2.2.2 Review of Related Studies

Bhatta's (1996) study on assessment of the performance of listed companies in Nepal has based on the data of 10 listed companies from 1995 to 2000. One of the major objectives of this study is to analyze the performance of listed companies in term of risk and return and internal rate of return, systematic risk and devastation a risk through portfolio context. The major finding of the study is that a highly significant positive correlationship has been addressed of the between risk and return character

of the company. Investors expect higher return from those stock that associates higher risk. Nepalese capital market is not efficient one, so the information relating to market and company itself. Neither investor analyze the overall relevant information of the stock nor does the member of stock exchange try to determinate the information. Therefore the market return and risk both may not show high priced stock. Pandey- Sijapati (2000) has conducted a study on risk and return analysis of common stock investment by taking six insurance companies as sample. she has used analytical tools like Rate of Return standard deviation, coefficient of variance, beta coefficient and t-test has used. According to his study the main objectives are calculate the risk and return of the common stock and portfolio and also understand and identify the problem faced by individual investors and insurance companies. The major finding of the study are generally public list understood the risk of investment which may due to poor education, lack of adequate information, etc. that may abstract the development of the stock market. There is no significant different between the performance of common stock of the insurance companies and overall market portfolio. The study has covered five years period.

Sapkota (2000) has studes on risk and return analysis in common stock investment. The main objectives of the study is to analysis the risk and return of common stock in Nepalese stock market. But the study is very closely related to common stock of commercial bank.

On his findings, expected return on the common stock of Nepal Bank Ltd has maximum and SBI Bank Ltd has found minimum common stock of NBL is most risky and NSB is least risky. In the context of industries, expected return of finance and insurance industries has focused highest so that common stock of Nepal Bank Ltd is the best for investment. Mr. Sapkota has conducted that, commercial stock is the most risky securities and lifeblood of stock market because of the higher expected

return, CS attracts more investors. Private CS holders are the passive owners of the company.

Pandey (2000) has a study on risk and return analysis of common stock investment. The main objectives of the study is to analysis the risk and return of common stock investment in banking and financial sectors. The study also related to insurance companies. In the study, she has taken six insurance companies in account. To measure the return, she has used standard deviation, expected return, variance coefficient and beta on her study, concludes that among all the securities common stock has known to be the most risky security. Higher the risk, higher will be return. Most of the investors have attracted to common stock security because of its higher expected return.

As for the investor, it is important to analysis each investment, company to potential return with the risk on average the potential return from the potential return from an investment should compensate for the level of risk under taken. If proper allocation of assets is performed it can reduce risk and can even eliminated if well diversified.

Mishra (2001) analyzed risk and return on common stock investment of commercial bank in Nepal with special reference to five listed commercial banks. The main objectives of this study was to promote and protect the interest of the investor by regulating the issuance, sales and distribution of securities and purchases, sales or exchange of securities. He also tried to render contribution to the development of capital market by making securities transaction fair, healthy, efficient and responsible in this study the researcher has used mathematical tools that are expected return, standard deviation, coefficient of variance, dividend per share, portfolio return beta coefficient, required rate of return. The period of the study was taken five years data from (2059-2064) on this study, it was noticed that there is a positive correlation between risk and return character of the company, Nepalese capital market being inefficient, the price index itself is

not sufficient to five the whole information about the prevailing market situation and the company. It was also notice that investors don't have any idea about the procedures of the securities insurance. Neither company nor the stock brokers transmit any information to the about the current market situation and hence it becomes difficult for the common investors to invest in the securities.

Mishra also has focused that Nepalese banks and government should try to promote healthy practices so that the stock brokers don't give false information to the investor for their personal benefit which is common practice in Nepal. Investor should get regular information about the systematic risk (beta) return on equity of various listed companies in the same way as it has given in economic times companies listed in Indian stock exchange. Upadhaya (2001) conducted the result entitled risk and return on common stock investment of commercial bank in Nepal. His study is based on descriptive and analytical research design which covers the five years period from (2059-2064). The main objectives of the study was to analyze the risk and return of the common stock of commercial banks in Nepalese stock market, the study focused in the common stock of the commercial banks one of the objectives that are related to this study was to evaluate common stock of listed commercial bank in the terms of risk and return. The major finding of the study is that expected return on the common stock of the NGBL has maximum, which is very high rate of return. Other CS of having higher return is CS of NBBL and EBL with more than 59% expected return. Expected return of NABIL is also favorable with 25% CS of SBI is listed risky. Mr. Sudeep has focused on changing environment of Nepalese business and economic but did not focus on relationship between closing MPS and EPS.

Saytal (2002) has a study on risk and return analysis of listed commercial bank for analysis, among listed companies eight are taken into account the main objective of the study were analyze the risk, return other

variable that help in making decision about investment in securities of the listed companies and to examine the moment of the market price of share, also to provided suggestion on the basic of the findings. He used holding period return and expected rate or return to calculate of the return of the coefficient of variation (CV) and beta were used to measure risk and CAPM for portfolio analysis. The expected return of Nepal investment is 36% CV is .06 and risk is 38.3 percent. The beta of list share is 0.66. Expected return of Himalayan Bank Ltd. is 52.66 percent, risk is 29.3 and CV 0.556. The beta is 1.567 so HBL is less risky then NIB for the study the researcher has taken 5 years period. Shrestha (2003) has a study on risk and return analysis on common stock investment of banking sector in Nepal. The main objective of the study was to analyzes the systematic risk and unsystematic risk associated with securities. The study was covered six years data from (1996-2001).

In this study the researcher has used analytical tools i.e. return of common stock, expected return, standard deviation beta coefficient CAPM coefficient of determinates and hypothesis (t-test). The major finding of his study are NBBL's common stock is yielding the highest realized rate of return with 71.80% where as it is the lowest 26.60 percent in case of NIB Ltd. The banking industry average 47.85 percent. The commercial bank NBBL, BOKL and EBL reprehensively rate of return are 71.80 percent, 67.60 percent and 65.60 percent. All the commercial bank required rate of return is less then expected rate of return which means that they are all under price there for it will be beneficial to investors who are going to purchase the companies. Common stock from the study it has found that investment in banking sectors are beneficial instead of other financial sectors.

Tamang (2003) has a study on risk and return analysis of commercial bank in Nepal. The main objectives of the study is to determine whether the shares of the commercial bank are correctly priced

or not by analyzing the required rate of return using the capital assets pricing models also to measure the systematic and unsystematic risk of the commercial banks. In this study the researcher has used mathematical tools i.e. market model, single period return, Expected Rate of Return, standard derivation, coefficient variations Beta coefficient (B). The period of the study has taken five years data from (1996-2001). The major finding of the study, the systematic risk of Nepal Arab Bank Ltd. is the (greater) highest among the shares that is 95.59 percent and Bank of Kathmandu has the lowest on being 35.81 percent, Nepal Arab Bank has highest unsystematic risk but total risk or variance of Bangladesh is the highest(10%). From the study it was also found that the shares of Nepalese commercial banks are heavily trade in NEPSE, non of the share is correctly priced.

Joshi (2004) has conducted a research on risk and return analysis of common stock of five listed commercial banks. The main objectives of the study was to assess the associated with return on common stock investment of the basic of selected tools. For the study, the researcher has used five year data 1998 to 2002.

He has used arithmetic mean to calculate the return, standard deviation and coefficient of variance, which are used to measure the unsystematic risk and beta coefficient. The measurement explains sensitively or volatility of stock with market and individual relationship between risk and return. The researcher also used t-test to calculate hypothesis. The major finding of his study are that banking sectors has the expected return is 21.77 percent, risk is 36.10 percent and CV is 1.66, similarly finance and insurance sectors has 21.77 percent, 36.10 percent and 1.66 hotel sector has 10.16 percent, 72.40 percent. Trading sector has 6.86 percent and other sector has 6.86 percent and other sector has 16.61 percent 50.45 percent.

Khadak (2004) has the study on risk and return analysis on selected Nepalese commercial bank listed in NEPSE. The main objectives of the

study to measure system and unsystematic risk of the commercial bank. The study have covered 6 years period and used expected return, coefficient variation which measure risk /unit of stock individually standard charter bank Nepal Ltd has the lowest coefficient of variance (1.89) and NABIL Bank has the highest on (3.35). The total systematic risk has related to individual share and correlation coefficient with market portfolio.

CHAPTER III

RESEARCH METHODOLOGY

The research methodology is the systematic way of solving research process which a researcher conduct during his her study. It include all the procedures from theoretical underpinning to the collection and analysis of the data. As must of the data are quantitative the research is based on the scientific models. It is composed of both part of technical aspect and logical aspect on the basis historical data.

This chapter gives the theoretical foundation of data collection and analysis for the study. This chapter has represents the highlight of research design, population and sample size, data collection techniques sources and data analysis tool. It shows that road map of data presentation and analysis. Research methodology has been used to fulfill the objectives of the study.

3.1 Research Design

The present study is based on descriptive and analytical research design. Descriptive research is used to describe the relationship risk and return from table, trend and figures with the help of present data. As the result analytical research design is used to analyze the standard deviation coefficient of variation, Beta coefficient, Risk premium, expected return and average rate of return of sampled bank. Analytical research design evaluated the present data clearly. This study has been carried out the 10 years period from 15 July 1998 to 15 July 2007.

3.2 Population and Sample

The total population of the study used for 8 listed commercial banks in Nepal. Total population of the study taken on the basikot listed year of commercial banks, which are listed before 15th July 1998A.D in NEPSE. Currently there are 25 commercial banks in Nepal. According to SEBON, only 14 are listed in NEPSE, till the study period. The sampled banks have been selected from random sampling technique. SPSS computer Aided random sampling technique is used to select the samples. The cover overall 33.5% of the population

3.3 Source of Data

The data for the study only secondary sources. The main source of data is report of Nepal Stock Exchange Ltd, report of security board Nepal, web side, annual report of commercial bank. The data has been taken from NEPSE closing and opening price and sectors closing and opening price. Similarly, SEBON has been visited to taken annual report of SEBON and annual report of sampled commercial bank. (www.Nepal Stock.com 2007)

3.4 Data Collection and Techniques

All the data for present study have been collected from secondary source. The annual report commercial bank have been taken from SEBON. Similarly, NEPSE price have been taken from NEPSE. NRB visited to collect the treasury-bill rate and banking and financial statistics then collected data where record in master sheet. Manually then data were entered to spread sheet to work out statistical financial analysis ratios. These data are also used to prepare figures and tables. To process the data of the present study manual and computer based programs were used (Microsoft Excel and word).

3.5 Data Analysis Tools

All the data has been presented and analyzed to fulfill the objectives, to illustrate the research work table and figure has been used for data presentation to evaluate risk and return, the present study has been used financial and statistical tools.

3.5.1 Financial Tools

3.5.1.1 CAPM Equation/security market line (SML) using CAPM model, the investor can estimate the required rate of return stock. The intrinsic value of the stock in inversely related to required rate of return of stock other thing remaining the same higher required rate of return will lower the intrinsic value of stock. CAPM models, helps for pricing implications of common stock.

The relationship between an assets returns and its systematic risk can be expected by CAMP which is also called the security market line (SML) SML is the line showing the relationship between systematic risk index (beta) and required rate of return. The equation of the CAPM or SML is :

Required Rate of Return (Rj) $= Rf + [E(R_M) – Rf] \times \beta j$

Where,

Rf =Risk free rate of return

$E(R_M)$ = Expected rate of return of market

β = Beta of asset

3.5.1.2 Risk and Premium

Risk premium is record for bearing the risk. In other word risk premium as the different between the return on risky investment and that on a risk-free investment. TO Calculate risk premium, we use treasury bills, (TBS). They are short term government securities. It can be bought and sold any time, thus they have liquidity. Also they don’t have the

difficult. Treasury bills are also called risk free securities, which can be replaced on risk free for the study treasury bills period has been taken 364 days.

Risk premium = Rj - R_F

3.5.2 Statistical Tools

3.5.2.1 The expected rate of return is the expected after tax increase in the value of initial investment over the holding period. The overall tax of return can be decomposed into capital appreciation and dividend components. The expected rate of return can be count under this formula .

$$\text{Expected rate of return}\left(\overline{\text{Ri}}\right) = P_1 R_1 + P_2 R_2 \ldots\ldots\ldots + P_n R_n$$

$$= \sum_{i=1}^{n} \text{PiRi}$$

Where

R_i = possible i^{th} outcomes

P_i = probability of the i^{th} outcomes

n = number of possible outcomes

$\overline{Ri}$ = weight average of the possible outcomes.

3.5.2.2 Average rate of return

Average rate of return can be calculated by using arithmetic mean instead of geometric mean.

$$\text{Average rate of return } (\overline{R}_j) = \frac{\sum \text{Rj}}{\text{N}}$$

where,

$\overline{R}_j$ = Average rate of return

Σ (R_j) = summation of the Annual return

N = number of observation (year)

3.5.2.3 The standard deviation

It is quantitative measure of the total risk of Assets. It provides more information about the risk of assets; It is a measures the dispersion of return around the mean. The formula for calculate the standard deviation is

(Rothari 1989) $\sigma j = \left[\frac{\sum_{i=1}^{n} (Rj - \overline{R}j)^2}{N - 1} \right]^{\frac{1}{2}}$

Where,

σj = Standard deviation of return stock I during the time period

R_j = The possible rate of return

$\overline{R}_j$ = The average mean return

N = Number of observation

3.5.2.4 The coefficient of variation

It is defined as the standard deviation by the mean of expected return . It is used to standardize the risk per unit of return so that measure the risk per rupees. It is a measure of relative risk.

coefficient of variation,

$$CV = \frac{\pm_j}{\overline{R}_j}$$

Where,

σ_j = Standard deviation of stock j

$\overline{R}j$ = Average mean return of stock j.

3.5.2.5 Beta coefficient ( )

The beta coefficient is an idea of systematic risk. It may be used for ranking the systematic risk of different assets. If beta is large then 1, then

the assets are more volatile then the market, which is called an aggressive assets. If the beta is less then 1, then assets are considered as defensive assets as it's price fluctuation are less volatiles then market on the other hand, if the beta is equal to I then assets is said to be average as it's price move proportional to the market changes beta of market is also one (dark 1997)

$$b_j = \frac{Cov(jm)}{\sigma^2 m}$$

Where,

b_j = The beta value of security i

cov (jm) = covariance between security and market.

$\sigma^2 m$ = variance of market

$$\text{covariance of } (R_j\ R_m) = \frac{\sum\left[\left(Rj - \overline{R}j\right) \times \left(Rm - \overline{R}m\right)\right]}{N - 1}$$

3.5.2.6 Systematic Risk

Systematic risk is the market related risk It is also called the market risk or and virsitible risk. for e.g. institution, interest rate war etc.

Systematic Risk = $\beta j^2 \times \sigma_m^2$

3.5.2.7 Unsystematic Risk

It is non-market related risk. It is also called non-market related risk or company unique risk or diversifiable risk. for e.g. discovery of new technology, labour strike etc.

Unsystematic Risk = Var(σ) – Systematic risk

3.5.2.8 Correlation coefficient

It is the relationship between two variables, dependent and independent variables. It is also measured the two assets relationship. It's

value are limited between the rank of +1 and -1. karl person's method is used to calculate correlation coefficient. A positive correlation coefficient indicate that the return from two securities generally move in the same direction and vice-versa. Correlation coefficient is used to test the significant between and expected return. Microsoft excel has used to calculate correlation between risk and return.

$$r = \frac{Cov(x, y)}{\pm x \times \pm y}$$

Significant test is necessary since sometimes interpretation of the result of the correlation coefficient may be misleading. Significant test is done with the help of calculation of the problems error.

$$\text{Probable Error (P.E.)} = 0.6745\frac{1 - r^2}{\sqrt{N}}$$

Where,

N = Number of pairs of observation

r = Coefficient of correlation.

3.6 Limitation of Methodology

Every research has its own limitation this study also has the following limitations:

1. The major portion of analysis and interpretations has been done on the basic of available secondary data and information so the consistency of finding and analysis are depend upon the reliability of the secondary data and information. The data analysis depends upon the models, which had used for data analysis.
2. The study had used average rate return as expected rate of return.
3. For the study, 15 July 1998 has been taken as based year.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

This chapter focuses on the data analysis and data presentation of the sample bank. The study covers ten years period from 15th July 1997 to 15 July 2007. This chapter considered of historical return, average return of coefficient of variance standard deviation, risk premium, correlation coefficient and Beta coefficient sampled banks. Beta coefficient is used to measure market sensitivity. The standard deviation is used to measure diversity risk. Similarly, years end return and average return are used to evaluate the return position of sampled banks. It has also demonstrated the figures and tables to analyze the present data. The last of this chapter has deals with the major finding of the study.

4.1 Data Presentation and Analysis

4.1.1 Analysis of Historical Return of sampled banks

There are four commercial bank listed with NEPSE. They are NABIL, HBL, NIB and EBL. The study period covered the 15 July 1997 to 15 July 2007. To analysis risk and return of commercial bank are used figures and table. Historical return of sampled bank is calculated by using dividend per share and closing and opening price of sampled bank. Trend line has been demonstrated to analyze historical return of individual bank. This chapter also so the overall return of four commercial bank.

4.1.1.1 Analysis of Historical Return of NABIL Bank

The every year end return of NABIL over the study period has been presented in table 4.1.

Table 4.1 Historical Return and Average Rate of Return of NABIL

Year	Closing Price(Rs.)	Dividend (Rs)	$Rj = \frac{P_t - P_{t-1} + Div.t}{P_{t-1}}$
1997/98	430	30	-
1998/99	700	50	74
1999/00	1400	405	1.58
2000/01	1500	40	0.10
2001/02	735	20	-0.49
2002/03	735	50	0.07
2003/04	1000	65	0.45
2004/05	1505	70	0.58
2005/06	1675	85	0.16
2006/07	1725	80	0.08

Source: Calculated on the basis Data exteracted from NEPSE and Annual Report of NABIL Bank.

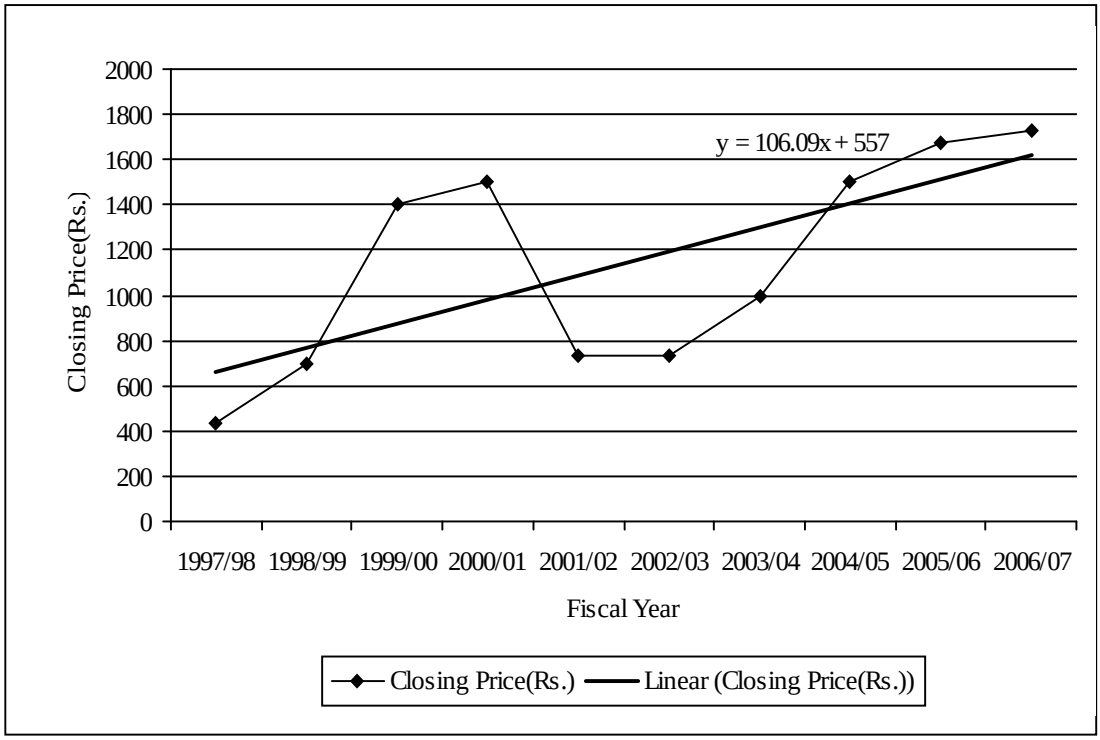
$$\text{Average rate of return } (\bar{R}_j) = \frac{\sum Rj}{N}$$

$$= \frac{3.27}{10}$$

$$= 33\%$$

NABIL bank has maximum year end return in year 1999/2000 that is 1.58 percent in year 1999/2000. Closing market price per share is double then previous years market price per share. NABIL has declared stock dividend in 1997/1998. Average return of NABIL id 33 percent. The fig. 4.1 exhibits the trand line of historical return of NABIL.

Fig. 4.1 Trend Line of Historical Return of NABIL Bank



The trend line of NABIL is shown in upward slop. NABIL historical return is negative in 2000/2002. In the year 2002, NABIL year end return is negative that is -49 percent, which is minimum point of 9 years. The trend line show overall condition of NABL which indicates that year end return in least year better then previous years. The trend line y=a+bx has demonstrated the performance of NABIL where ‘a’ and ‘b’ are the constant factors and x is variable. The slop of NABIL is in upward slope but the trend has not given satisfactory. result because the slope of b is only 106.09. The line of closing price is upward and downward because the closing price has been fluctuation every years. But the year 2000/01, and 2002/2003 the closing price is same.

4.1.2 Analysis of Historical Return of Himalayan Bank

The historical return of HBL over the study period has been presented in table 4.2.

Table 4.2: Historical Return and Average Annual Return of HBL

Year	Closing Price (Rs.)	Dividend per Share	$Rj = \frac{P_t - P_{t-1} + Div.t}{P_{t-1}}$
1997/98	755	503	-
1998/99	1000	300	0.72
1999/00	1700	475	1.175
2000/01	1500	475.50	0.16
2001/02	1000	125	-0.25
2002/03	836	210.32	0.046
2003/04	840	30	0.041
2004/05	920	199.58	0.356
2005/06	965	187.50	0.253
2006/07	1010	235	0.230

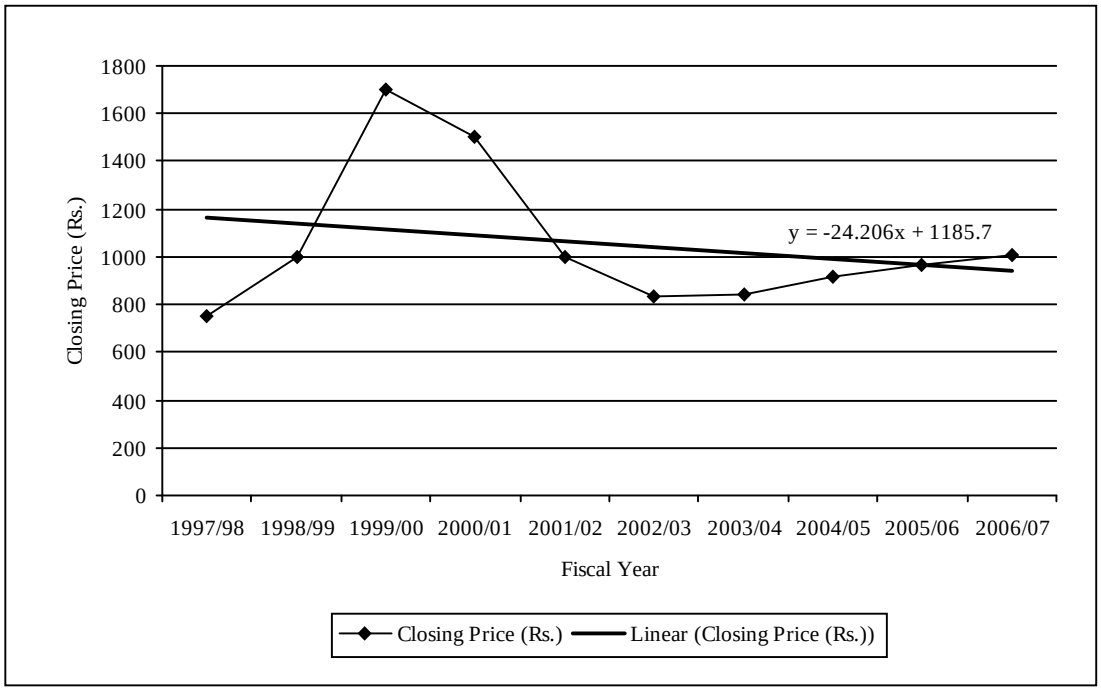
Source: Calculated on the basis of data extracted from NEPSE and Annual Report of Bank.

Average rate of return ($\overline{R}_j$) $= \frac{\sum Rj}{N} = \frac{2.731}{10} = 27.30$

Historical return of HBL has maximum in year 2000 i.e. 117 percent which is maximum then previous years return. In 2002, Himalayan banks year return is negative or no return. MBL has declared stock dividend in many time that is year 2000, 2001, 2002, 2003 and 2005. Before 2002 closing market price per share of Himalayan bank has maximum but after 2002. It has been decreasing rapidly performance of Himalayan bank can be seen from table 4.2 Average annual return of HBL is 27.30%.

The fig 4.2 has been show a trade line y = a + bx, where ‘a’ and ‘b’ are constant ‘a’ gives the intercept and ‘b’ give the slope of the year end return. The slope of HBL is negative that is -24.206. It represents overall performance of HBL is not so good. The closing price of HBL is not same every years so that the line of the figure has been upward and downward.

Fig 4.2: Trend line of Historical Return of HBL



4.1.3 Analysis of Historical Return of Nepal investment Bank

The Historical return of NIB over the study has been presented in table 4.3.

Table 4.3: Historical Returns and Average annual rate of NIB

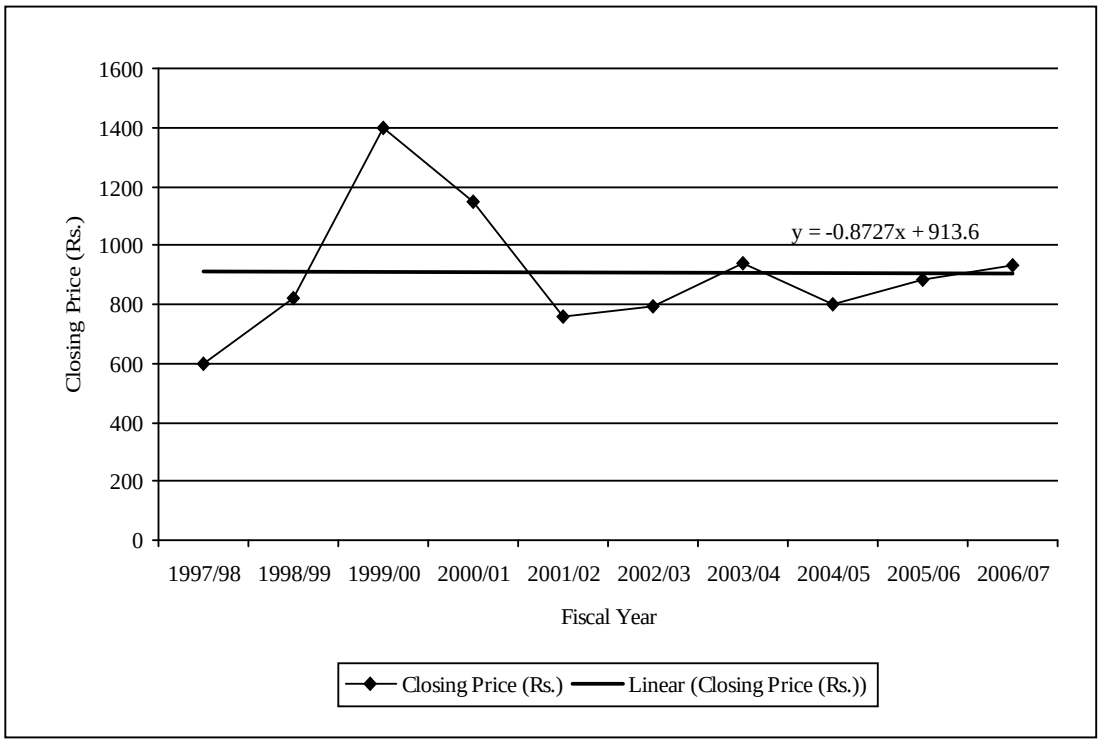
Year	Closing Price (Rs.)	Dividend per share	$Rj = \frac{P_t - P_{t-1} + Div.t}{P_{t-1}}$
1997/98	600	50	-
1998/99	822	30	0.42
1999/00	1401	377.75	1.16
2000/01	1150	0	-0.18
2001/02	760	228	-0.14
2002/03	795	20	0.07
2003/04	940	15	0.20
2004/05	800	12.50	-0.14
2005/06	885	14.50	0.122
2006/07	935	17	0.073
Total			$ER_j = 1.585$

Source: Calculated on the basis of data extracted from NEPSE and Annual Report of investment bank.

Average rate of Return ($\overline{R}_j$) = $\frac{\sum Rj}{N} = \frac{585}{910} = 17.61\%$

Closing market price per share of NIB has maximum in the year 1999/2000. In the year 2000, year end investment bank is less than NABIL, Himalayan and Everest. In the year 2002, investment bank is no return. The trade line of historical return over the study period has been depicted in fig. 4.3. Average annual rate of return of NIB is 17.61% over the study period.

Fig. 4.3: Trend line of Historical Return of NIB



It can be explained with the help of fig. 4.3, trend line of NIB is downward slopping because the value of 'b' is negative. The curve line shows that maximum point of return in year 2000 and minimum in year 2001. The closing line of NIB is downward and upward because the closing price is not same in every year. As a result of fluctuation the price of the closing is different in every year.

4.1.2 Analysis of Historical Return of Everest bank

The Historical return of Everest Bank Limited has been presented in table 4.4.

Table 4.4: Historical Return and Average Rate of Return of EBL.

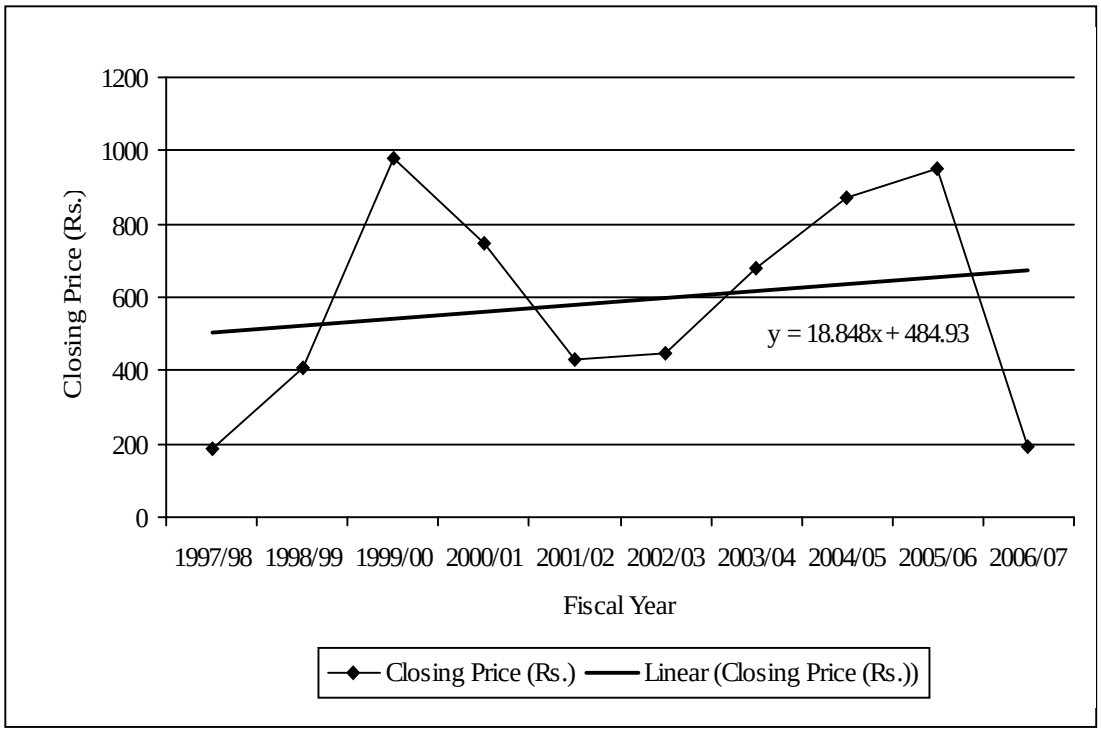
Year	Closing Price (Rs.)	Dividend per share (stock + cash)	$Rj = \frac{P_t - P_{t-1} + Div_t}{P_{t-1}}$
1997/98	184	15	-
1998/99	407	195	1.29
1999/00	980	-	1.889
2000/01	750	86	-.23
2001/02	430	20	-.312
2002/03	445	20	-.08
2003/04	680	20	.57
2004/05	870	20	.31
2005/06	950	38	0.11
2006/07	190	46	0.19
Total			$\sum Rj = 4.34$

Source: Calculated the Basic of data extracted from NEPSE and Annual Report, Bank.

Average Rate of Return $(\overline{R}_j) = \frac{\sum Rj}{N} = 48.22$ percent.

The closing market price per share of Everest bank is less then among four banks. In 1997/98 the closing market price per share is 184 at the end of review its market price per share is Rs.1090 only. In year 1990/2000 the Everest bank has also maximum return of Everest bank has maximum among the four banks i.e. 48.22%. The trend line of EBL over the study period has been depicted in figure. 4.4

Fig. 4.4: Trend Line of Historical Return of EBL



The trend line of Everest bank is also downward slopping year end return is decreasing slope in 2005 and historical return of EBL has touch minimum point in year 2002. The line of closing price of Everest Bank, is upward and downward because the closing price of Everest Bank is not same every year. Fig. 4.4 Everest Bank, we can easily deserve over performance of EBL.

4.1.3 Comparative Analysis of Historical Return of Sampled Banks

In table 4.5 the comparative analysis of historical return of sampled bank has been presented in 15th July 2005 NABIL, HBL and EBL are positive return but NIB has negative return. Average return of EBL has highest return 48.22% and NIB has the lowest then other sampled bank i.e. 17.61% overall condition of HBL is better among the sampled bank because it has positive return on whole year Expected 1st July 2002 in 15th July 2002, all the sampled banks have negative return. NABIL and HBL Return are increasing in positive direction but NIB and EBL return are increase in negative direction. The historical return of NIB has positive in

the beginning of study period 15th July but in the ending of study period 2007.

Table 4.5: Comparative Analysis of Historical Return of Sampled Banks

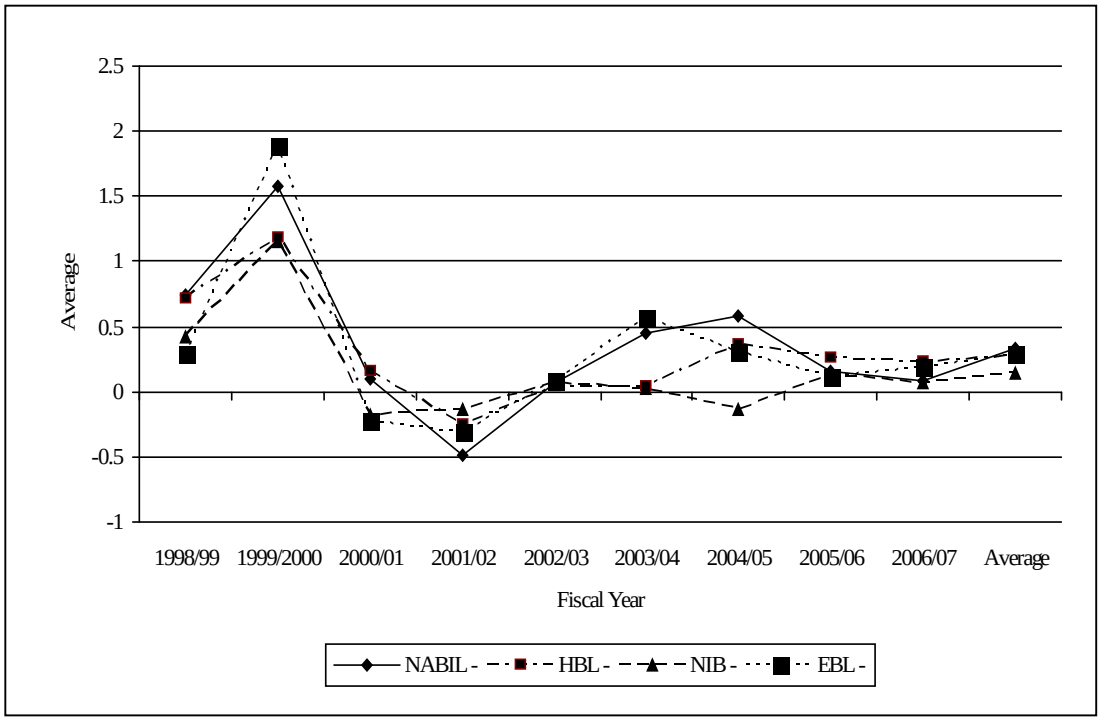
Year	NABIL	HBL	NIB	EBL
1997/98	-	-	-	-
1998/99	0.74	0.72	0.42	0.29
1999/2000	1.58	1.175	1.16	1.889
2000/01	0.10	0.16	-0.18	-0.23
2001/02	-0.49	-0.25	-0.14	-0.312
2002/03	0.07	0.046	0.07	0.08
2003/04	0.45	0.041	0.02	0.57
2004/05	0.58	0.356	-0.14	0.31
2005/06	0.16	0.253	0.122	0.11
2006/07	0.08	0.230	0.073	0.19
Average	0.3270	0.2731	0.1405	0.2897

Source: Calculate on the basic of data extracted from NEPSE and Annual report of Bank.

The historical return of NABIL in 1999/2000 is highest. In 2001/2002 all the sample banks are negative historical return. In the year 1999/2000 the HBL, NIB and EBL has highest historical reurn. The average rate of return of NABIL, HBL, NIB and EBL are 32%, 27.31%, 14.05 % and 28.97%. As a result NABIL has the highest historical return and NIB has the lowest historical return. As the fluctuation of historical return the line has been upward and downward.

As a whole NABIL, HBL and EBL result are satisfactory but NIB result is not satisfactory. The historical return over the study period has been depicted in the fig 4.5.

Fig. 4.5: Comparative Analysis of Historical Return of Sampled Banks



Capital market indicates overall share price of listed companies where 114 companies was disted till the study period. But commercial bank sector index indicates share price of listed commercial banks only. In this chapter the study has describe the relation. Ship between market index and commercial banks sector index. The data for the study has been taken from NEPSE. Annual report and trading report. To calculate annual return, the study has been used opening and closing price of share of NEPSE and commercial banks sector index return over the study period has been presented in table 4.6

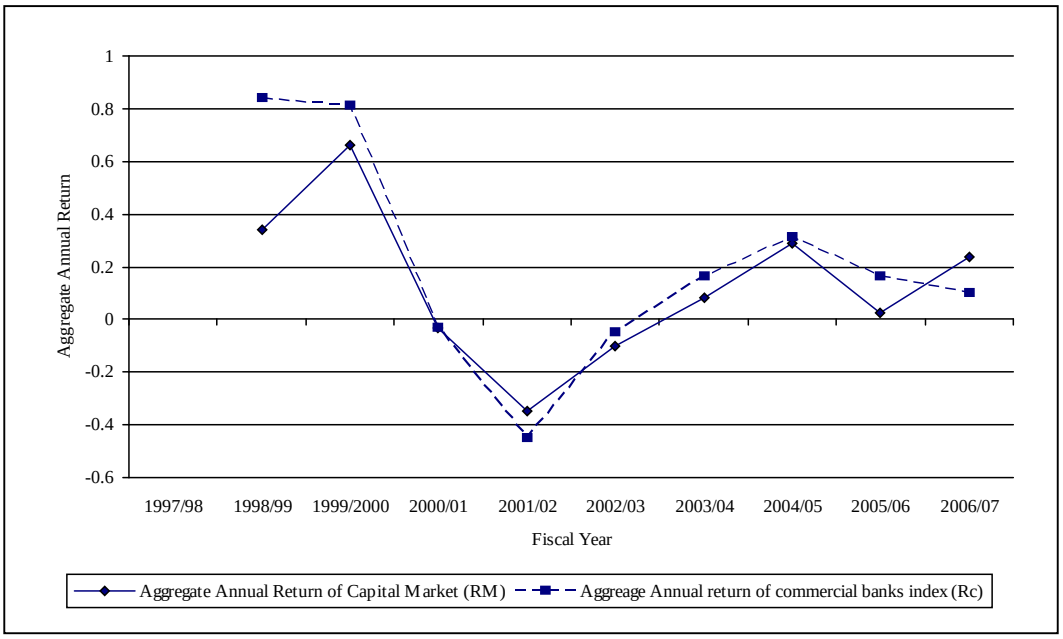
Table 4.6: Expected Market Return and Commercial Banks Return

Year	NEPSE	Aggregate Annual Return of Capital Market (R_M)	Commercial bank index closing	Aggreage Annual return of commercial banks index (Rc)
1997/98	163.35	-	218.82	-
1998/99	216.35	0.34	219.04	0.84
1999/2000	360.70	0.66	392.71	0.81
2000/01	348.43	-0.03	384.04	-0.03
2001/02	227.54	-0.35	212.68	-0.45
2002/03	204.86	-0.10	200.67	-0.05
2003/04	222.04	0.084	231.97	0.16
2004/05	286.07	0.29	304.64	0.31
2005/06	297.04	0.023	354.84	0.16
2006/07	287.5	0.24	392.54	0.10
		$\sum R_M = 1.1570$		$\sum Rc = 1.38$
		$\overline{R}_M = 12.86\%$		$\overline{R}c = 15.33\%$

Source: Calculated on the Basic of Data Extracted from NEPSE.

In the year 1998 the NEPSE index has the maximum them commercial bank. In the year 2000, 2001, 2003, the capital markets negative as a result in 2001, 2002 and 2003 the commercial bank market index return is negative in 2000 the commercial bank index and NEPSE index is highest. Average return of commercial banks is 15.33% and capital market return is 12.86%. As a result market return is more fluctuation then commercial banks sectors index. In the year 2005 both return are positive and satisfactory. The result between capital market and commercial bank sector index. Aggregate Annual return lines has been upward and downward because the return is not same every years. The commercial banks sector index return and capital market return over the study period has been depicted in fig. 4.6

Fig. 4.6: Expected Market Return and Commercial Banks Return



4.1.4 Analysis of Risk Premium of Commercial Banks

Sector index, capita market and individual banks.

In the study has been describe about the risk premium of sampled commercial bank and its sector. In this factor has also describe capital market risk premium. Risk free rate of return has been taken from NRB to calculate risk premium and individual historical return taken from Table 4.1-4.4. Similarly, historical return of capital market and commercial bank sector has been taken from 4.5 Risk premium of above sector has been calculated by using formula, which is given on research methodology 3.5.1.2 risk premium of individual banks, capital market and commercial bank sector over the study period has been presented in table 4.7.

Table 4.7: Risk Premium of Individual Banks, Capital Market and Commercial Bank Sectors Index

Year	NABIL Risk Premium (RJ-RF)	HBL Risk Premium (RJ-RF)	NIB Risk Premium (RJ-RF)	EBL Risk Premium (RJ-RF)	RF	Aggregate Risk Premium of market (RJ-RF)	Aggregate Risk Premium of Commercial Bank (RJ-RF)
1997/98	-	-	-	-	-	-	-
1998/99	0.719	0.699	0.399	1.269	0.021	0.319	0.819
1999/2000	1.534	1.129	1.114	1.843	0.046	0.614	0.764
2000/01	0.051	0.111	-0.229	-0.279	0.049	-0.079	-0.079
2001/02	-0.537	-0.29	-0.187	-0.357	-0.047	0.397	0.497
2002/03	0.035	0.611	0.035	0.045	0.035	-0.135	-0.085
2003/04	0.377	-0.032	0.497	0.497	0.073	0.011	0.087
2004/05	00.623	.399	-0.97	0.353	-0.043	0.333	0.353
2005/06	0.123	0.216	0.0850	0.073	0.037	-0.014	0.123
2006/07	0.0320	0.182	0.25	0.142	0.048	0.192	0.052
Total	2.9570	3.0250	1.642	3.686	0.2731	1.638	2.5312

Source: Calculate on the Basic of Data Extracted from NEPSE and NRB.

From the above table the risk premium of NIB Bank has the lowest risk premium and EBL has the highest risk premium. Among for Banks, EBL has the highest return and NIB has the lowest return. All four banks are negative risk premium in year 2002 or no return. The Table 4.7 also represents risk premium of market index and sector index were market risk premium is les than commercial banks risk premium that is 1.638 and 2.5312 respectively. When return goes up risk premium also goes up and vice-versa.

4.1.5 Comparison between Average Rage of Return and Required Rate of Return of Commercial Banks in Nepal

Capital assets pricing model has been used to calculate required rate of return of sampled banks, which is given in research methodology 3.52%. To calculate required rate of return has been taken from Table (4.1

to 4.4) and excess return is calculated by using average and required rate of return. Risk free rate of return has taken from NRB. It is average of Treasury bill rate (364 days) of past 9 years rate of treasury bills. Treasury bill taken 364 days Risk free rate approximately 3.2947 Average rate of return and required rate of return over the study period has been presented in Table 4.8. **Note Treasury bill taken 364 days Risk free rate Approximately 3.2947.**

Table 4.8: Average Rate of Return and Required Rate of Return

Banks	Average rate of return	Required rate of return	Excess Return
NABIL	33%	7.75	25.25
Himalayan	27.30%	11.907	15.393
Investment	17.61	7.975	9.635
Everest	48.22	19.5127	28.7073

Source: Appendix X.

4.1.6 Risk Analysis

Previous analysis has only observe return position of individual banks, risk, premium of capital market risk premium of commercial banks, sector index and individual sampled banks. In this section I have study the risk position of individual commercial banks, capital market and commercial banks sector index. In this section the study has only focused on standard deviation, Beta, Risk indicator (Systematic and Unsystematic risk) and relative measurement of risk (coefficient of variance) from the risk perspective, standard deviation, variance coefficient of variance is calculated through Beta is taken as an indicator to measure the relative risk of the individual stock to the market. In the term of Beta Coefficient, when beta is negative the movement of market (NEPSE) in negative.

4.1.6.1 Risk Analysis of NABIL Bank

Risk Analysis of NABIL Bank over the study period has been presented in Table 4.9

Table 4.9: Risk Analysis of NABIL Bank

Particulars	NABIL Bank
Variance	0.3062
Standard Deviation	0.5534
Coefficient of variance	0.1342
Beta Coefficient	0.15
Coefficient of Variation	0.039
Total Risk	0.3062
Systematic Risk	0.0067
Unsystematic Risk	0.2995
Average rate of Return	33%

Source: Appendix XI.

Beta of NABIL is 0.244 it reveals that the stock has positive relation with the market (NEPSE). As beta of this stock is measure. 0.15 the positive change in NEPSE if it will be 1 percent the stock will have positive response by 0.15 percent. From this view point of volatility, the stock is less volatile then the market. Systematic risk and an unsystematic risk of the bank are 0.0067 and 0.2995 respectively. Nabil banks has only one defensive stock among the sampled bank.

4.1.6.2 Risk Analysis of Himalayan Bank Limited

Risk analysis of HBL bank over the study period has been presented in Table 4.10.

Table 4.10: Risk Analysis of HBL

Particulars	HBL
Variance	0.158
Standard Deviation	0.397
Coefficient of Covariance	0.099
Beta Coefficient	0.3588
Coefficient of Variation	0.4758
Total Risk	0.158
Systematic Risk	0.0355
Unsystematic Risk	0.1225
Average rate of Return	27.30%

Source: Appendix XII.

The Beta of Himalayan Bank is 0.3588. As the result it reveals that the stock has positive correlation with the market (NEPSE). The return of Himalayan Bank is more volatile then the market. As Beta of this stock is measured 0.3588, the positive change NEPSE, the stock will have positive response. From the view point of volatility, the stock is more volatility then the market. This stock therefore can be categorized as aggressive stock. It is therefore risky then the market. The variance has indicates the total risk of the bank is 0.158 and the variance is 0.158.Systematic and unsystematic risk are 0.0355 and 0.1225.

4.1.6.3 Risk Analysis of Nepal Investment Bank

Risk analysis of NIB over the study period has been presented

Table 4.11: Risk Analysis of Invest Bank

Particulars	NIB
Variance	0.1673
Standard Deviation	0.4090
Covariance	0.0902
Coefficient of Variance	0.4191
Beta	0.3269
Total Risk	0.1673
Systematic Risk	0.295
Unsystematic Risk	0.1378
Average rate of Return	17.61%

Source: Appendix XIII.

From this table beta of Nepal Investment bank is 0.3269. It reveals that the stock have positive correlation with the market (NEPSE). The retain of Nepal Investment Bank is less volatile then the market. The Beta of this stock is measure 0.3269 the positive change in NEPSE, the stock will have positive response. From the view point of volatility the stock less volatile then the market. The variance indicates the total risk of the bank which is 0.1673 as a result variance is 0.1673. Systematic risk and unsystematic risk of the banks are 0.0295 and 0.1378 respectively.

4.1.6.4 Risk Analysis of Everest Bank Limited

Risk analysis of EBL for ten year period has been presented in Table 4.12.

Table 4.12: Risk Analysis of Everest Bank

Particulars	EBL
Variance	0.466
Standard Deviation	0.683
Covariance	0.171
Coefficient of Variance	0.4772
Beta	0.361
Total Risk	0.466
Systematic Risk	0.106
Unsystematic Risk	0.3598
Average rate of Return	48.22%

Source: Appendix XIV.

Beta of Everest Bank is 0.6205, the Beta reveals that the stock has positive correlation with the market (NEPSE), from the view point of volatility the stock is more volatility then the market. This stock therefore can be categorized as aggressive stock. It is therefore more risky then the market. The total risk of the banks is 0.466 and systematic risk is 0.106. As a result an systematic is 0.1062. The average rate of return of this bank is 48.22%.

4.1.6.5 Comparative Analysis and Compare the Unsystematic Risk for four sampled banks

This section only explain comparative analysis of four commercial banks. To analysis the study has been taken data from the table 4.9-4.12 comparative analysis has been presented in Table 4.13.

Table 4.13: Comparative Analysis of four Sampled Banks

Particulars	NABIL Bank	HBL	NIB	EBL
Variance	0.3062	0.158	0.1673	0.466
Standard Deviation	0.5534	0.397	0.4090	0.683
Coefficient of Variance	0.039	0.4758	0.4191	0.4773
Beta	0.15	0.3588	0.3269	0.361
Covariance	0.0170	0.099	0.090	0.171
Total Risk	0.3062	0.158	0.1673	0.466
Systematic Risk	0.0067	0.0355	0.0295	0.106
Unsystematic Risk	0.2995	0.1225	0.1378	0.3598
Average rate of Return	33%	27.30%	17.61%	48.22%

Source: Appendix XI-XIV.

The table 4.13 has been presented overall risk indicates of NABIL, HBL, NIB and EBL. Everest bank limited has the highest Average rate of return. NIB has the lowest average rate of return of 17.61%. The average rate of NABIL, HBL has 33% and 27.30%. The total risk of EBL is highest it is 0.466 and lowest total risk of HBL is 0.158. The result show the NABIL has the lowest beta (0.15) then other sampled banks and EBL has the highest Beta coefficient (0.361). The variance of NIB has the highest and EBL has lowest so that it s less risky then other sampled banks. The result shows that NABIL has lowest coefficient of variation (0.039) and HBL has the highest coefficient of variation, covariance of NABIL is lowest and EBL has highest. The table 4.13 indicates that systematic risk is less then unsystematic risk. Unsystematic risk can diversity but systematic risk can't diversity. Among four banks, NABIL has minimum systematic risk and EBL has highest systematic risk.

Unsystematic risk is one that affects of single assets or a small group of Assets. Such risk is caused by factor specific to a particular firm. These factor are availability of raw materials efficiencies of management strikes

by labor union financial average. The unsystematic risk of NABIL,HBL,NIB and EBL is 0.2995, 0.1225, 0.1378 and 0.3598.compare the four banks EBL has the highest unsystematic risk and HBL has lowest systematic risk.

4.1.6.6 Analysis of Overall Capital Market Relative to Commercial Banks Sector Index

Risk Analysis of overall capital market relative to commercial banks sectors index study period has been presented in Table 4.14.

Table 4.14: Risk Analysis of Overall Capital Market Relative to Commercial Banks Index.

Particulars	Market Index	Commercial bank index
Average return	12.86%	15.33%
Standard Deviation	27.60%	41.02%
Variance	7.62%	16.83%
Coefficient of Variance	2.1462%	2.6758%
Beta of NABIL	0.15	0.1302
Beta of HBL	0.3588	0.1674
Beta of NIB	0.3269	0.3613
Beta of EBL	0.361	-0.1503

Source: Appendix XX.

Table 4.14 exhibits market index and commercial bank index for the study period. The table has bee show the Average rate of return of market index is 12.8% and commercial banks average rate of return is 15.33%. Similarly commercial banks index standard deviation is greater then market index standard deviation. They are 41.02% and 27.60% percent. The variance of market index is 7.62% and commercial banks index variance is 16.83%. Which is greater then market index. The coefficient of variance of market index and commercial banks index are 2.6758 percent and 2.1462 percent. Betas of Himalayan bank and Everest bank are 0.1674

and -0.1503 respectively by using market index and this short of stock can be categorized as aggressive stock but from the view point of commercial banks index. Stock of Himalayan Bank can be categorized as defensive stock. NIB Bank and HBL are more risky than EBL and NABIL from the view point of commercial banks index. But NIB is more risky then NABIL and Himalayan Bank from the view point of market index.

4.1.7 Correlation between Risk and Expected Return

Correlation coefficient indicates the relationship between two or more variable. It shows the significant and insignificant result between two or more variables. The correlation between risk and return has been analyzed table 4.15. Theoretically, when risk increases return also increase and vice-versa. For the analysis, standard deviation and expected rate of return has been taken from previous calculation and it has been calculated by using Microsoft Excel program. Correlation between risk and Expected return has been presented in table 4.15.

Table 4.15

Correlation between Risk and Expected Return

Risk Standard deviation	Return expected return	Correlation	PE	6PE	Result	Remarks
		0.9308	0.0451	0.2703	r>6PE	significant

Source: Appendix XXI

The tables results show that the correlation 0.9308 between risk and return probably error is 0.0451 and 6PE is 0.2703. The correlation between risk and return is greater then PE and 6PE. Which indicate that the result of the study is significant. From the basis of following statement, positive correlation indicates that when risk increase return also increase with out proportionally.

4.2 Major Findings of the Study

4.2.1 The Average rate of return of NABIL, HBL, NIB and EBL are 33%, 27.30%, 17.61% and 48.33%. As the result the Everest Bank has the highest return and NIB has the lowest return.

4.2.2 Over the ten years study period the slope of NABIL, HBL, NIB and EBL has 106.09, -24.206, -0.8727 and 18.848 respectively.

4.2.3 In the year 2001/02 all the sampled bank have negative annual return or no return. Annual return of NABIL, HBL, NIB and EBL return is -0.49, -0.25, -0.14 and -0.312 respectively and in the same year NEPSE movement is also negative that is 0.079.

4.2.4 Expected return and risk of banking sector are 15.33% and 41.02% respectively, where as CV remains 2.6758%. Similarly, expected return and risk of capital market is 12.86% and 31.49% respectively where as CV remains 2.1486.

4.2.5 Aggregate risk premium of NABIL, HBL, NIB and EBL is 2.9570, 3.0250, 1.6420 and 3.686 respectively. Aggregate risk premium of capital market and banking sector is 1.638 and 2.5312. Aggregate risk premium of banking sector has maximum then capital market.

4.2.6 Standard deviation of NABIL, HBL, NIB and EBL are 55.34%, 39.70, 40.90%, 68.3% and Beta coefficient of NABIL, HBL, NIB and EBL are 0.15, 0.3588, 0.3269 and 0.361 respectively. The standard deviation of EBL has the highest and HBL has the lowest.

4.2.7 Coefficient of variation of NABIL, HBL, NIB and EBL is 0.039, 0.4758, 0.4191 and 0.4773 respectively. The coefficient of variation of EBL is highest and NABIL is lowest.

4.2.8 Systematic Risk of NABIL, HBL, NIB and EBL is 0.0067, .0355, 0.0295 and 0.106 respectively. As a result unsystematic risk of NABIL, HBL, NIB and EBL are 0.2995, 0.1225, 0.1378 and 0.3598 respectively.

4.2.9 Correlation coefficient between risk and return of sample bank is +0.9308. Which probable error (PE) and 6 (PE) are 0.0451 and 0.2703 respectively.

4.2.10 According to CAPM theory, HBL has the highest required rate of return which is 19.51 percent and NABIL has the lowest required rate of return which is 7.75 percent respectively.

4.2.11 The closing line of four sampled banks is upward and downward because the closing price of all bank has not same every year.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.1 Summary

Risk and return are the two parts of coins. "If there is no risk there is no return." Risk and return measure the performance of any organization it is a key factor of financial sectors. For any investment decision, investors should calculate rate of return and risk. The economic is growing rapidly, which force the life style change fast.

Banking sector is most dynamic part of economic which collects unused fund and mobilizes it in needed sectors. Bank is the heart of trade commerce and industry. In our country joint venture bank and private sectors bank has performed better than Nepalese government sectors banks because of trading and development, high skill management, efficient and capacity of proper risk management. Capital market play vital role to develop the economic world. NEPSE is the heart of capital market. Capital market has the two parts one is primary market and other is secondary market. In the primary market and secondary different companies and investors exchanges the shares transactions. The present study has been analyzed risk and return of common stocks investment. common stock is the most risky security and life blood of stock market. The main objective of the study is to analyze the risk and return of commercial bank and it also focused of common stock of listed commercial bank.

Four listed commercial bank like NABIL, HBL, NIB and EBL in NEPSE have been taken as sample and their individual risk and return were calculated and analyzed as a whole to find out the performance of each

bank. While analyzing the risk and return brief reviews of related studies has been done. Review of Literature for the study have been described theoretical review has been presented definition of risk and return of different books and authors. Similarly, journal and thesis have reviewed from web side and master dissertation T.U the study has also included research methodology to fulfill the objective of present study. To analyze the data standard deviation, beta, required rate of return, expected rate of return and coefficient of variation have been calculated. The study fully dependent upon secondary sources. For, the study secondary data were collected from NEPSE, NRB and related commercial bank's annual report and web side. The study has mainly focused on risk and return of listed commercial banks. Presentation and analysis have been measured beta, CV standard deviation, required rate of return and expected return. On the basic of major following conclusion are drown.

5.2 Conclusion

5.2.1 CV of commercial banking sector is greater then CV of capital market therefore market sector is less risky than other sector it is beneficial for the investor who invests the share of market sector.

5.2.2 The risk of common stock of EBL is most risky while HBL is lowest risky. If investors want to invest the share of Banking sector they can purchase the share of HBL.

5.2.3 Beta of EBL is highest and beta of NABIL is lowest. It shows that NABIL has lowest risk and EBL has highest risk.

5.2.4 Average return of EBL has the highest (48.33%) and NIB has the lowest (17.61%). From the view point of average rate of return investor can invest the share of EBL.

5.2.5 The present study has mainly focused on risk and return analysis from this point, investment bank has the lowest risk. If investor is

risk averter he/she can invest in NIB securities but investor is risk seeker, he can invest in EBL.]

5.2.6 According to CAPM theory, EBL has the highest required rate of return which is 19.51 percent and NABIL has the lowest required rate of return which is 7.75% percent respectively. All four sampled banks are under priced so it is concluded that investor will purchase share of commercial bank.

5.2.7 From the study result, it is concluded that none of the share price are in equilibrium because all the sampled banks average rate of return is more then required rate of return.

5.3 Recommendation

Above conclusion have presented the following recommendations:

5.3.1 The beta of EBL is 0.361 which is the highest among sampled banks. It in data that it has the highest systematic risk so it is recommended that sampled bank should diversity their investment policy to reduce the risk.

5.3.2 The common stock return of commercial bank are highly sensitive to market. They are highly positively correlation to the market. So, market should be analyzed.

5.3.3 Overall, it is belived that higher the return higher the risk and lower the return lower the risk. Investment risk are better covered through a large and diversified portfolio. Divesting an investment is a way of reducing the risk so all the risky sampled banks are recommended to the diversity their investment policy in less risky securities.

5.3.4 Most of the researchers have included only five years data but only five years data can't be sufficient to analyze risk and return of commercial banks so it is suggested that further researcher should be included at 10 years data.

5.3.5 The result of correlation between risk and return is significant. The result is unsatisfactory because the sampled size of the study is to small and the data for the study is used from annual report and web side which may not be sufficient so it is suggested that for further researchers will recommended to include sufficient sampled size.

BIBLIOGRAPHY

Books and Report:-

Alibe, Akigbe and Ann Marie Whytem Fall 2004. The Gramn-Leach Blley Act of 1999: Risk Implication for Financial Service Industry, **Journal of Financial Research**, XXVII no.3: 453-466.

Balla, V.K. 1999. ***Investment Management: Security Analysis and Portfolio Management.*** 6th ed. New Delhi: S. Chand and Company Ltd. Ram Nagar.

Bhatta, Gopal Prasad, 1995. "Assessment of the Performance of Listed Companies in Nepal." Master dis. Tribhuvan University.

Brealey, Richard. A and Stewart (Myer), 1991. ***Principle of Corporate Finance*** 4thed. New Delhi: MC Graw Hill.

Copper, Donal R and Pamela S.Schindler, 2003. ***Business Research Method*** 8th ed. New Delhi: Tata MC Graw Hill.

EBL, 15th July 1996-15th July 2005, **Annual Report**, Kathmandu: Everest Bank Limited.

Francis, Jack Clark, 1995. ***Investment of Managerial*** 5th ed. New Delhi: Publishing Pvt. Ltd.

Gitaman, Lowrance J. 1998. ***Principle of Managerial Finance*** 5th ed. New York: Harper Collins Publication.

Hampton, John J. 1998. ***Financial Decision Making (Concept, Problems and Cases)***, 4th ed. New Delhi: Prentice Hall of India Private Limited.

HBL, 15th July 1998-15th July 2007, **Annual Report**. Kathmandu: Himalayan Bank Limited.

Joshi, Deepak Raj, 2004. "Risk and Return Analysis of Common Stock of Five Lister Commercial Banks Listed in NEPSE." Master diss., Tribhuvan University.

Khadka, Ram Hari, 2004. "Analysis of Risk and Return on Selected Nepalese Commercial Banks Listed in NEPSE." Master diss., Tribhuvan University.

Kothari, CR. 1991. Qualitative Techniques 2nd ed. New Delhi: Vikash Publishing House Pvt. Ltd.

Kothari, CR. 1989. ***Research Methodology: Method and Techniques.***2nd ed. New Delhi: Wishwa Prakashan.

NABIL, 15th July 1996 – 15th July 2005. **Annual Report.** Kathmandu: NABIL Bank.

Nepal Stock Exchange Ltd. 2005. ***Financial Statement of Listed Company,*** Kathmandu: NEPSE.

NIB 15th July 1996-15th July 2005. Annual Report, Katmandu: Nepal Investment Bank Limited.

Operational Date Nepal Rastra Bank <http://www.nrb.org.np>.

Pandey, Primina, 20000. "Risk and Return Analysis of Common Stock Investment." Master diss., Tribhuvan University.

Pandey, I.M. 1995. ***Financial Management*** 7th ed. New Delhi: Publising House Pvt. Ltd.

Pandey Sijapati, 2000. "Risk and Return Analysis of Common Stock Investment. Master diss., Tribhuvan University.

Pradhan, Surendra 1991. ***Basic of Financial Management.*** 1st ed. Kathmandu: Educational Enterprises (P) Ltd.

Prashan, Radhes S. 2004. ***Financial Management***. 1st ed. Kathmandu: Educational Enterprises (p) Ltd.

Ross, Stephen A. Randolph. W. Westertield and Jeffery F. deffe 1998. ***Fundamental of Corporate Finance*** 3rd ed. New Delhi: Tata MCGraw- Hill.

Sapkota, Jeet Bahadur, 2000. “Risk and Return. Analysis in Common Stock Investment.” Master diss., Tribhuvan University.

Securities Board of Nepal 15th July 2004/05. **Annual Report**. Kathmandu: SEBON.

Sharpe, William F. Gordon J. Alexander and Jeffery V, Baily 1998. ***Investment.*** 5th ed. New Delhi: Prentice Hall of India Private Limited.

Shrestha, Amit 2003. “Risk and Return Analysis on Common Stock Investment of Banking Sector in Nepal”. Master diss., Tribhuvan University.

Tamang, Buddhi RAj 2003. “Risk and Return Analysis of Commercial Banks in Nepal.” Master diss., Tribhuvan University.

Upaddhaya, Sudeep 2000. “Risk and Return Analysis in Common Stock Investment.” Master diss., Tribhuvan University.

Van, Horn, James C. 1997. ***Finance Management and Policy*** 11th ed. New Delhi: Prentice Hall of India Private Limited.

Westerfield, Ross and Jordan. 1998. ***Fundamentals of Corporate Finance***, 6hd ed. New Delhi: Tata MC Graw-Hill Publishing Company, Ltd.

Western,m J Fred and Thomas, 9th ed. Orland of Lorda: The Dryden Press.

Wolff Roward K and Prem R. Pant, 2003. ***A Hand Book for Social Science Research and Thesis Writing,*** 3rd ed. Kathmandu: Buddha Academy.

Journal:

Michall, S Pagano. Dec 2001. How Theories of Financial Intermediation Corporate Risk Taking Management Influence Bank Risk Taking Behaviour, **Journal of Financial Market 10,** *no* 5: 277-323, April 3, 2006, >http://wwww.backwell-Synergy. com/ doi/ pdf/ 10.1111/ j 1540 6188. 2001. 00122x>.

Jeremy Berkowitz andJames O' Brien's, June 2002. How Acurate are value – at – Risk Models at Commercial Bank Z. **Journal of Finance and Vol. 3**: 410-432, April 13, 2006<http://www.backwell-Synergy/.comdoi/pdf 10.1046./j.1410.2002.00712>.

Nepal Rastra BAnk Mid. July 2007. Banking and Financial Statistics no. 45. Bank and Financial Institutions Regulation Department. Kathmandu: NRB.

Nepal Rastra Bank. Mid July 2007 Quarterly Economic Bulletin vol XXXIX, NH Kathmandu: NRB.

Listed Company. January 2, 2006. Nepal Stock Exchange Ltd. <http://www.Nepal STock Com/69/txt>.

April3, 2006<http://www.blackwell-synergy. com/doi/ pdft/ 10.=1046/ j1540.00619?

Nepal Stock Exchange Ltd. 1998-2007. Trading Report vo. 4-9. Kathmandu: NEPSE.

APPENDIX I

Commercial Bank Operating in Nepal

S.N.	Name of bank	Opening A.D.
1.	Nepal Bank Limited	1937/11/15
2.	Rastiya Banijya Bank	1966/01/23
3.	Nabil Bank Limited*+	1984/7/16
4.	Nepal Bangladesh Bank*	1993/6/5
5.	Standard Chartered Bank Limited*	1987/1/3
6.	Himalayan Bank Limited*+	1993/1/18
7.	Nepal SBI Bank Limited*	1993/7/7
8.	Nepal Investment Bank Limited*+	1986/2/27
9.	Everest Bank Limited*+	1994/10/18
10.	Bank of Kathmandu Limited*	1995/3/12
11.	Nepal Credit and Commercial Bank Limited	1996/10/14
12.	Lumbini Bank Limited	1996/7/17
13.	Machhapuchhre Bank Limited	2000/10/3
14.	Nepal Industrial and Commercial Bank Limited	1998/7/21
15.	Kumari Bank Limited	2001/4/3
16.	Laxmi Bank Limited	2002/4/3
17.	Siddartha Bank Limited	2002/12/24
18.	Agricultural Development Bank	2024/10/10
19.	Global Bank Limited	
20.	Citizen Bank Limited	
21.	Prime Commercial Bank Limited	2024/10/7 B.S.
22.	Sunrise Bank Limited	2064/01/7 B.S.
23.	Bank of Asia Nepal Limited	2064/6/25 B.S.
24.	Development Credit Bank Limited	2057/10/10 B.S.
25.	N.M.B. Bank Limited	2053/09/11 B.S.

Source: NEPSE and NRB Bank

* Population of Study

+ Sample of Study

APPENDIX II

Year	NEPSE Index Closing	Commercial Bank Index (Closing	Treasury Bill Rate	RF
1997/98	163.35	118.82	3.5037	
1998/99	216.35	219.04	2.1222	0.021
1999/00	366.7	392.71	4.5812	0.046
2000/01	348.43	384.04	4.9535	0.049
2001/02	227.54	212.68	4.717	-0.047
2002/03	204.86	200.67	3.4975	0.035
2003/04	222.04	231.97	3.7273	0.073
2004/05	286.67	304.64	4.2882	-0.043
2005/06	297.04	354.84	3.7127	0.037
2006/07	287.5	392.54	3.2947	0.048

APPENDIX III

HIMALAYAN BANK LIMITED

Year	Closing Price	Opening Price (Rs.)	Cash Dividend %	Stock Dividend %
1997/98	755	-	50	60
1998/99	1000	755	50	25
1999/00	1700	1000	50	25
2000/01	1500	1700	27.5	30
2001/02	1000	1500	12.5	10
2002/03	836	1000	1.32	25
2003/04	840	836	20	-
2004/05	920	840	11.58	20
2005/06	965	900	14	22
2006/07	1010	965	17	14

APPENDIX IV

Nabil Bank Limited

Year	Closing Price	Opening Price (Rs.)	Cash Dividend %	Stock Dividend %
1997/98	430	-	30	-
1998/99	700	430	50	-
1999/00	1400	700	55	-
2000/01	1500	1400	40	25
2001/02	735	1500	30	-
2002/03	735	735	50	-
2003/04	1000	735	65	-
2004/05	1505	1000	70	-
2005/06	1675	1505	85	-
2006/07	1725	1675	80	-

APPENDIX V

Nepal Investment Bank Limited

Year	Closing Price	Opening Price (Rs.)	Cash Dividend %	Stock Dividend %
1997/98	600	-	50	-
1998/99	822	600	30	-
1999/00	1401	822	275	25
2000/01	1150	1401	-	-
2001/02	760	1150	-	30
2002/03	795	760	20	-
2003/04	940	795	15	-
2004/05	800	940	12.5	-
2005/06	885	800	14.5	-
2006/07	935	885	17	-

APPENDIX VI

Everest Bank Limited

Year	Closing Price	Opening Price (Rs.)	Cash Dividend %	Stock Dividend %
1997/98	184	-	-	-
1998/99	407	184	15	-
1999/00	980	407	-	20
2000/01	750	980	-	-
2001/02	430	750	-	20
2002/03	445	430	20	-
2003/04	680	445	20	-
2004/05	870	680	20	-
2005/06	950	870	15	20
2006/07	1090	950	10	-

APPENDIX VII

NABIL Bank Limited

Year	Stock Cash Div./ Share	Cash Div/ Per Share	Cash Stock	No. of common stock (000)	Closing Price Per Share
1997/98	-	30	30	3927.96	430
1998/99	-	50	50	3927.96	700
1999/00	35	55	405	3927.96	1400
2000/01	-	40	40	4916.34	1500
2001/02	-	20	20	4916.34	735
2002/03	-	50	50	4916.34	735
2003/04	-	65	65	4916.34	1000
2004/05	-	70	70	4916.34	1505
2005/06	-	85	85	4927.48	1675
2006/07	-	80	80	5638.46	1725

APPENDIX VIII

Himalayan Bank Limited

Year	Stock Cash Div./ Share	Cash Div/ Per Share	Cash Stock	No. of common stock (000)	Closing Market Price Per Share
1997/98	453	50	503	1200	755
1998/99	250	50	300	1920	1000
1999/00	425	50	475	2400	1700
2000/01	448	27.50	475.50	3000	1500
2001/02	112.50	12.50	125	3900	1000
2002/03	209	1.32	210.32	4290	836
2003/04	10	20	30	5362.54	840
2004/05	188	11.58	199.58	5362.50	920
2005/06	173.50	14	187.50	5056	965
2006/07	218	17	235	5475	1010

APPENDIX IX

Investment Bank

Year	Stock Cash Div./ Share	Cash Div/ Per Share	Cash Stock	No. of common stock (000)	Closing Price Per Share
1997/98	-	50	50	1353.51	600
1998/99	-	30	30	1353.51	822
1999/00	350	27.50	377.75	1553.51	1401
2000/01	-	-	-	1699.85	1150
2001/02	228	-	228	1699.86	760
2002/03	-	20	20	2953	795
2003/04	-	15	15	2953	940
2004/05	-	12.5	123.50	5905.86	800
2005/06	-	14.5	14.5	5905.86	885
2006/07	-	17	17	5948.86	935

APPENDIX X

Everest Bank

Year	Stock Cash Div./ Share	Cash Div/ Per Share	Cash Stock	No. of common stock (000)	Closing Price Per Share
1997/98	-	-	-	1200	184
1998/99	-	15	15	1200	407
1999/00	196	196	195	1200	980
2000/01	-	-	-	2208.59	750
2001/02	86	86	172	253.19	430
2002/03	-	20	20	3150	445
2003/04	-	20	20	3150	680
2004/05	-	20	20	4550	870
2005/06	-	38	38	4550	950
2006/07	-	46	46	4750	1090

Required rate of return = $R_F + (\sum \overline{R}\, m - R_F)$

$3.2947 + (33 – 3.2947)\ .15 = 7.75$

$3.2947 + (17.30 – 3.2947) \times 0.3588 = 11.9070$

$3.2947 + (17.61 – 3.2947) \times 0.3269 = 7.9744$

$3.2947 + (48.22 – 3.2947) \times 0.361 = 19.51$

APPENDIX XI

Correlation Coefficient, Standard Deviation, Variation Coefficient of Variation and Beta Coefficient of NABIL Bank

Year	Rj	$(Rj - \overline{Rj})$	$(Rj - \overline{Rj})^2$	$(Rj - \overline{Rj})(R_M - \overline{R}_M)$	$R_M - \overline{R}_M$	$(R_M - \overline{R}_M)^2$
1997/98	-	-	-	-	-	-
1998/99	0.74	0.4312	0.186	0.0119	0.211	0.0445
1999/00	1.58	1.2712	1.615	0.5313	0.531	0.2820
2000/01	0.01	-0.209	0.044	0.0006	-0.159	0.0253
2001/02	-0.49	-0.799	0.638	0.1212	-0.479	0.2294
2002/03	0.17	-0.239	0.057	0.0019	-0.229	0.524
2003/04	0.45	0.1442	0.019	0	-0.045	0.0020
2004/05	0.58	0.2712	0.074	0.0031	0.161	0.0259
2005/06	0.16	-0.2044	0.0418	0.0216	-0.106	0.0112
2006/07	0.08	-0.2844	0.0809	-0.0317	0.111	0.123
	3.28	0.3820	2.7557	0.6599		0.6851

Source: Calculated on basic data extracted from NEPSE and annual report of Bank.

a. Variance : $\frac{\sum_{i=1}^{n}(Rj - \overline{R}j)^2}{n} = \frac{3.7557}{9} = 0.3062$

b. Expected rate of return = $\frac{\sum Rj}{n} = \frac{3.28}{9} = 33\%$

c. Standard deviation (σ) = $\sqrt{\text{Variance}} = \sqrt{0.3062} = 0.5534$

d. Total risk $\sigma^2 = 0.3062$

e. Systematic risk = $Bj^2 \times \sigma^2 m = 0.15^2 \times 0.2759 = 0.0067$

f. Unsystematic = Total risk – systematic risk = 0.3062 – 0.0067 = 0.2995

g. Covariance = $\frac{\sum_{i=1}^{n}(Rj - \overline{R}j)(Rm - \overline{R}m)}{n} = \frac{0.6599}{9} = 0.039$

h. Coefficient of variance = $\frac{0.039}{\sigma m \times \sigma j} = \frac{0.039}{(0.5253 \times 0.3334)} = 0.1342$

i. Beta Coefficient = $\frac{Cov(Rj \times Rm)}{\sigma^2 m} = \frac{0.039}{0.2759} = 0.15$

j. $\sigma^2 m = \sqrt{\frac{6851}{9} =} \quad .2759$

APPENDIX XII

Calculation of Standard Deviation, CV, Variance and Beta Coefficient of Himalayan Bank

Fiscal Year	Rj	(Rj - $\overline{R}$j)	(Rj - $\overline{R}$j)^2	(R_M - $\overline{R}_M$)	(Rj - $\overline{R}$j) (R_M - $\overline{R}_M$)
1997/98	-	-	-	-	-
1998/99	0.72	0.447	0.2	0.211	0.094
1999/00	1.175	0.902	0.814	0.531	0.479
2000/01	0.16	0.113	0.013	-0.154	-0.018
2001/02	-0.25	-0.532	0.283	-0.479	0.255
2002/03	0.046	-0.227	0.052	-0.229	0.053
2003/04	0.041	-0.232	0.054	-0.045	0.01
2004/05	0.356	0.083	0.007	0.161	0.013
2005/06	0.253	-0.02	0	0	0.002
2006/07	0.23	-0.043	0.002	0.111	0.005
	2.7310	0.4910	1.4250		0.8930

a. Variance : $\frac{\sum_{i=1}^{n}(Rj-\overline{R}j)^2}{n} = \frac{1.4250}{9} = 0.158$

b. Expected rate of return = $\frac{\sum \text{Rj}}{n} = \frac{2.7310}{9} = 27.31\%$

c. Standard deviation (σ) = $\sqrt{\text{Variance}} = \sqrt{0.158} = 0.397$

d. Total risk $\sigma^2 = 0.158$

e. Systematic risk = $\text{Bj}^2 \times \sigma\text{m}^2 = 0.3588^2 \times 0.2759 = 0.0355$

f. Unsystematic = Total risk – systematic risk = 0.158 – 0.0355 = 0.1225

g. Covariance = $\frac{\sum_{i=1}^{n}(Rj-\overline{R}j)(Rm-\overline{R}m)}{n} = \frac{0.8930}{9} = 0.099$

h. Coefficient of variance = $\frac{0.039}{\sigma\text{m} \times \sigma\text{j}} = \frac{0.099}{(0.397 \times 0.5253)} = 0.4742$

i. Beta Coefficient = $\frac{\text{Cov}(\text{Rj} \times \text{Rm})}{\sigma^{2}_{\text{m}}} = \frac{0.099}{0.2759} = 0.3588$

APPENDIX XIII

Calculation Standard Deviation, Variable, Coefficient of Variation Covariance and Beta Coefficient of Investment Bank Limited

Fiscal Year	Rj	(Rj - $\overline{R}$j)	(Rj - $\overline{R}$j)^2	(R_M - $\overline{R}_M$)	(Rj - $\overline{R}$j) (R_M - $\overline{R}_M$)
1997/98	-	-	-	-	-
1998/99	0.42	0.362	0.131	0.211	0.076
1999/00	1.16	1.102	1.214	0.531	0.585
2000/01	-0.18	-0.239	0.057	-0.159	0.038
2001/02	-0.14	-0.199	0.04	-0.479	0.095
2002/03	0.07	0.012	0	-0.229	-0.003
2003/04	0.2	0.142	0.02	-0.045	-0.006
2004/05	-0.14	-0.199	0.04	-0.161	0.032
2005/06	0.122	0.064	0.004	-0.106	-0.007
2006/07	0.073	0.015	0	0.111	0.002
	1.5850	1.06	1.5060		0.8120

a. Variance : $\frac{\sum_{i=1}^{n}(Rj-\overline{R}j)^2}{n} = \frac{1.5060}{9} = 0.1673$

b. Expected rate of return = $\frac{\sum \mathrm{Rj}}{n} = \frac{3.28}{9} = 33\%$

c. Standard deviation (σ) = $\sqrt{\text{Variance}} = \sqrt{0.1673} = 0.4090$

d. Total risk $\sigma^2 = 0.1673$

e. Systematic risk = $\mathrm{Bj}^2 \times \sigma^2 \mathrm{m} = 0.3269^2 \times 0.2759 = 0.0295$

f. Unsystematic = Total risk – systematic risk = 0.1673-0.295 = 0.1378

g. Covariance = $\frac{\sum_{i=1}^{n}(Rj-\overline{R}j)(Rm-\overline{R}m)}{n} = \frac{0.8120}{9} = 0.902$

h. Coefficient of variance = $\frac{0.039}{\sigma\mathrm{m} \times \sigma\mathrm{j}} = \frac{0.0902}{(0.4090 \times 0.5253)} = 0.4191$

i. Beta Coefficient = $\frac{\mathrm{Cov}(\mathrm{Rj} \times \mathrm{Rm})}{\sigma^2 \mathrm{m}} = \frac{0.902}{0.2759} = 0.3269$

APPENDIX XIV

Calculation Standard Deviation, Variable, Coefficient of Variation Covariance and Beta Coefficient of Investment Bank Limited

Fiscal Year	Rj	(Rj - $\overline{R}$j)	(Rj - $\overline{R}$j)^2	(R_M - $\overline{R}_M$)	(Rj - $\overline{R}$j) (R_M - $\overline{R}_M$)
1997/98	-	-	-	-	-
1998/99	1.29	0.808	0.653	0.211	0.17
1999/00	1.889	1.407	1.98	0.531	0.747
2000/01	-0.23	-0.712	0.507	-0.159	0.113
2001/02	-0.312	-0.794	0.63	-0.479	0.38
2002/03	0.08	-0.402	0.162	-0.229	0.092
2003/04	0.57	0.088	0.008	-0.045	-0.004
2004/05	0.31	-0.172	0.03	0.161	-0.028
2005/06	0.11	-0.372	0.138	-0.106	0.039
2006/07	0.19	-0.292	0.085	0.111	0.032
	3.8970	-0.4410	4.0930		1.5410

a. Variance : $\frac{\sum_{i=1}^{n}(Rj-\overline{R}j)^2}{n} = \frac{4.0930}{9} = 0.4548 = 0.466$

b. Standard deviation (σ) = $\sqrt{\text{Variance}}$ = $\sqrt{0.466} = 0.683$

c. Total risk $\sigma^2 = 0.466$

d. Systematic risk = $Bj^2 \times \sigma^2 m = 0.6205^2 \times 0.2759 = 0.1062$

e. Unsystematic = Total risk – systematic risk = 0.3598

f. Covariance = $\frac{\sum_{i=1}^{n}(Rj-\overline{R}j)(Rm-\overline{R}m)}{n} = \frac{1.5410}{9} = 0.1712$

g. Coefficient of variance = $\frac{\text{Cov (Rj Rm)}}{\sigma m \times \sigma j} = \frac{0.1712}{0.683 \times 0.5253} = 0.4772$

h. Beta Coefficient = $\frac{\text{Cov}(Rj \times Rm)}{\sigma^2 m} = \frac{0.1712}{0.2759} = 0.6205$

APPENDIX XV

Calculation of Correlation between Risk and Return of Sampled Banks

Banks	Average return	Standard Deviation
NABIL	0.33	0.5534
HBL	0.2730	0.397
NIB	0.1761	0.4090
EBL	0.4822	0.683
Correlation		0.9308
PE		0.0451
6PE		0.2703

APPENDIX XVI

Nabil Bank Limited Company Performance

Particular	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Authorized capital (Rsmn)	550	500	500	500	500	500	500	500	500	500
Issue capital (Rsmn)	392.8	392.8	392.8	491.65	491.65	491.65	491.65	491.65	501.65	501.65
Paid of capital	392.8	392.8	392.8	491.65	491.65	491.65	491.65	491.65	501.65	501.65
Reserve (Rsmn)	476.21	541.21	645.67	649.3	654.77	822.53	990.05	998.64	1035	1048
Net worth (Rsmn)	869.01	934.1	938.47	1140.95	1146.42	1314.18	1481.68	1551.68	1033	1658
Total debts (Rsmn)	377.76	190.22	285.2	-	417.3	961.46	229.66	242.56	264	287
No of share (000)	3927.96	3927.96	4916.54	4916.54	4916.54	4916.54	4916.54	5051.64	5125	5256
Net worth per share(Rs)	221.24	237.81	237.8	238.92	232.06	233.18	267.3	267.30	269	285
Net worth per share (Rsmn)	174.8	266.49	329.1	291.37	271.64	416.24	455.32	536	591	603
Earning per share (Rs)	44.5	67.8	83.78	59.37	55.25	84.66	92.61	98.63	101	109
price earning multiple	9.66	10.32	16.71	59.26	13.3	8.66	10.8	11.25	1242	1425
paid up value per share	100	100	100	100	100	100	100	100	100	100
Cash Dividend	30	50	55	40	20	50	65	70	85	85
Stock Dividend	-	-	25	-	-	-	-	-	-	-
Provision for tax (Rsmn)	126.6	131.07	165.62	181.99	181.99	199.15	201.76	212.68	234	248
Depreciation (Rsmn)	15.4	25.33	25.01	26.27	26.27	35.04	46.27	48.25	68.92	71.25
Assets block (Rsmn)	189.44	219.59	235.17	235.12	235.12	251.92	338.13	362.25	394	401
Total Assets (Rsmn)	11230.9	12424.69	15314.74	18808.9	17629.25	16562.6	16745.45	17865	17968	18502

Equity Data

Particular	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Trade share	59.75	20.56	94.61	124.8	113.6	92.61	88.79	97.40	86.87	86.87
Market capitalization (Rsmn)	1659.04	2744.59	5499.14	5891.94	3608.81	3608.81	4909.95	7489.4	78.36	81.24
Trade rate amount	22.67	29.44	32.68	1052.68	98.08	212.65	84.7	66.78	77.44	81.24
Turnover ratio	1.93	38.29	1.78	3.68	2.49	1.85	1.62	2.86	2.98	3.36
No of transaltion	1176	1353	1248	1600	1632	878	402	144	2.77	284
Market price per share										
High Rs	675	762	1495	2301	1500	875	1005	1515	1414	1226
Low Rs	415	404	700	1310	465	700	705	1000	1124	1222
closing price	430	700	1400	1500	735	735	1000	1505	1675	1725

APPENDIX XVII

Himalayan Bank Limited Company Performance

Particular	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Authorized capital (Rsmn)	240	240	240	600	1000	10000	1000	1000	1000	1000
Issue capital	120	192	240	300	390	429	536.25	650	657	713
Paid of capital (Rsmn)	120	192	240	300	290	429	536.25	643.5	666.36	701
Reserve (Rsmn)	192.1	211.18	226.05	330.59	468.11	634.13	787.92	898.25	436.23	1080
Net worth	312.1	403.18	466.05	630.59	858.11	1063.13	1324.17	1541.75	1631	1736
Total debts (Rsmn)	-	232.85	128.64	79.53	534.01	645.84	659	506.65	654	735
No of share (000)	1200	1920	2400	3000	3900	4290	5362.5	6435	6301.5	6470
Net worth per share	124.11	165.25	199.38	280.7	235.02	212.13	263.05	308.28	308.64	293
Earning per share	113.31	86.07	83.08	93.57	60.26	49.45	49.05	47.91	64.21	63.63
price earning multiple	6.66	11.62	20.46	16.03	16.59	16.91	17.12	19.2	14.72	15.81
paid up value per share	100	100	100	100	100	100	100	100	100100	100
Cash Dividend	50	50	50	25.5	25	1.32	20	11.58	1450	1708
Stock Dividend	60	25	25	30	10	25	-	20	-	-
Provision for tax (Rsmn)	81.01	86.22	114.32	154.32	114.02	147.9	157.52	214.27	214.17	228
Depreciation (Rsmn)	12.01	13.38	19.58	22.7	23.74	13.18	34.73	37.41	39.42	38.41
Assets block (Rsmn)	110.6	171.31	193.05	201.67	318.84	229.87	299.64	295.82	274.81	282.44
Total Assets (Rsmn)	5012.01	6808.9	8763.36	11231.56	15957.56	19544.3	10672.43	23279.3	2473273	22378

Equity Data

Particular	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Trade share (000)	17.03	25.36	29.26	37.97	30.87	22.25	178.7	160.4	166.5	168.3
Market capitalization (Rsmn)	906	1200	4080	4500	3000	3586.44	4410	4830	5030	5430
Trade rate amount	14.47	24.47	42.85	75.4	34.5	19.3	152.15	101.62	101.62	104.56
Turnover ratio %	1.32	2.04	1.05	1.68	1.15	0.54	3.45	2.1	2.45	3.01
N0 of transation	384	715	865	941	1020	623	865	1249	1442	1536
Market price per share high	775	1200	1780	1716	1530	950	1010	1181	1184	1156
Low	625	700	1000	1325	610	750	800	855	857	885
Closing price	755	1000	1700	1500	1000	836	840	920	965	1010

APPENDIX XVIII

Investment Bank Limited

Particular	97/98	98/99	99/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Authorized capital (Rsmn)		270	270	270	270	270	590	590	1000	1000
Issue capital (Rsmn)	135.35	135.35	135.35	169.98	169.98	295.29	295.29	690	705	751
Aid of capital	135.35	135.35	135.35	169.98	169.98	295.29	295.29	258.74	296.78	305
Reserve capital (Rsmn)	232.85	231.85	241.05	299.91	353.43	343.25	435.75	592.13	598	624
Net worth (Rsmn)	368.2	370.36	376.4	469.89	513.42	638.54	729.04	1180.7	1204.60	1326
Total debt	100	50	140	120	98.5	6.83	361.5	350	374	405
No of share	1353.57	1353.51	1353.51	1699.85	1699.85	2953	2953	5905.85	6981	8145
Net worth per share	93.84	45.69	72.66	56.4	57.11	116.82	152.67	232.15	264.14	314.26
Sharing per share	69.33	33.76	53.68	33.16	33.6	39.56	51.7	39.31	59.26	69.23
Price earning mintiple (p.e.)	5.65	24.35	20.1	34.66	22.62	20.1	18.18	20.35	26.40	27.48
Price value per share	100	100	100	100	100	100	100	100	100	100
Cash divident	50	30	25		0	20	15	12.5	38	46
Stock divident			25	30						
Provision for tax (Rsmn)	4012	42.57	33.25	37.44	21.01	53.33	78.8	101.53	108.23	114
Depresiation (Rsmn)	6.72	7015	9.32	8.82	8.59	11.87	23.1	32.79	41.26	39.21
Assets block (Rsmn)	28.75	36.22	39.92	33.97	35.88	192.12	219.79	230.59	245	252
Total assets in (Rsmn)	3397.2	3190.26	3967.47	3155.53	4973.89	9014.23	16274		18420	22450

Equity Data

Particular	97/98	98/99	99/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Trade share (000)	13.94	38.77	25.69	29.02	873.8	26.3	873.8	26.73	51.06	127.7
Market capitalization (Rsmn)	810	1112.5	1896.26	1945.66	1285.76	1881.33	2775.75	2362.3	2627	2875
Trade rate amount (rsmn)	9.12	28.83	28.76	58.78	588.52	21.06	41.39	137.5	128.25	232.71
Turn over ratio %	1.13	2.59	1.52	3.02	45.77	1.12	1.49	5.82	4.21	5.84
No of transaction	371	511	480	567	610	586	613	1392	1402	1527
Market price high	760	980	1415	2730	1750	890	949	1430	1540	1680
Market price low	470	551	822	1080	575	635	745	760	865	1005
Closing	600	822	1401	1150	760	795	940	800	885	935

APPENDIX XIX

Everest Bank Limited Bank Performance

Particular	97/98	98/99	99/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Authorized capital (Rsmn)	240	240	240	400	400	600	600	600	670	700
Issue capital (Rsmn)	120	120	120	264	264	315	316.8	466.8	513.15	524
Paid up capital	117.56	118.43	118.43	220	259.32	315	315	455	485	510
Reserve (Rsmn)	9.87	26.73	84.42	98.53	131.59	157.82	225.32	314.62	405	485.25
Net worth (Rsmn)	127.43	145.16	20.285	348.53	390.91	472.82	540.32	769.62	745	795
Total debt (Rsmn)	1292.54	2147.98	3215.61	4899.29	6076.26	7439.38		300	-	225
No of share (000)	1200	1200	1200	2208.59	2593.29	3150	3150	4550	5560	6633
Net worth per share	25.63	25.23	41.27	69.79	85.35	94.9	143.57	170.81	171.25	205
Sharing per share	20.86	21.03	34.39	31.56	32.91	29.9	45.58	37.54	36.74	54.65
Price earning muntiple	88.2	19.36	28.5	23.76	13.06	14.88	14.58	23.18	26.27	27.28
Paid up value per share	100	100	100	100	100	100	100	100	100	100
Cash divident		15				20	20	20	15	10
stock divident			20		20					
Provision of tax	0.18	13.46	19.51	32.35	42.04	41.71	67.55	81.91	88.91	98.74
Depresiation	2	3.9	7.3	8.91	10.06	19.5	19.74	21.12	24.13	26.17
Assets block	18.6	34.28	49.05	50.36	93.38	109.59	118.37	134.07	143.36	153
Total asset in (Rsmn)	1419.98	2293.14	3417.85	5218.68	6607.17	8052.2	9608.57	11792.1	12273	13391

Equity Data

Particular	97/98	98/99	99/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Trade share (000)	39.39	53.98	50.98	50.96	69.12	66.51	101.8	163.2	184.20	205
Market capitalization (Rsmn)	88.32	488.4	1176	1080	619.12	1171.29	2142	2740.5	2941	3032
Trade rate amount (Rsmn)	5.9	12.36	36.31	61.75	35.31	29.3	56.11	1232.76	78.35	89.97
Turnover ratio %	4.42	2.53	3.09	5.72	5.7	2.5	262	4.48	5.36	6.73
no of transaction	1255	1082	2157	1679	1906	1496	1742	2126	2425	2628
Market price high	201	440	980	1850	740	490	723	905	143	1721
Market price low	66	184	400	670	325	349	400	625	745	825
Closing price	184	407	980	750	430	445	680	870	950	1090

APPENDIX XX

Market and Commercial Bank Ltd

Fiscal Year	NEPSE	Aggregate Annual Return or Capital Market (Rm)	Commercial Bank Index Closing	Aggregate Annual Return or Commercial Bank Index (Rc)	$(R_c - \overline{R}c)$	$(Rm - \overline{R}m)^2$	$(R_c - \overline{R}c)^2$
1997/98	163.35	-	218.82	-	-		-
1998/99	216.35	0.34	219.04	0.84	0.6867	0.0447	0.4716
1999/00	360.70	0.66	392.71	0.81	0.6567	0.2824	0.4313
2000/01	348.43	-0.03	384.04	-0.03	-0.1833	0.0252	0.0336
2001/02	227.54	-0.35	212.68	-0.45	-0.6030	0.2291	0.3640
2002/03	204.86	-0.10	200.67	-0.05	0.2033	0.0523	0.0413
2003/04	222.04	0.084	231.97	0.16	0.0067	0.002	0.0067
2004/05	286.07	0.29	304.64	0.31	0.1567	0.026	0.1567
2005/06	297.04	0.23	354.84	0.16	0.0067	0.0112	0.0067
2006/07	287.50	0.24	392.54	0.10	-0.0533	0.131	0.0028
		1.1570			1.38	0.6860	1.5410

$$\overline{\text{Rm}} = \frac{\sum \text{Rm}}{\text{n}} = \frac{1.1570}{9} = 0.1286 = 12.86\%$$

$$\overline{\text{Rc}} = \frac{\sum \text{Rc}}{\text{n}} = \frac{1.38}{9} = 0.1533 = 15.33\%$$

$$\text{Variance of Capital Market} = \frac{\sum_{i=1}^{n} (\text{Rm} - \overline{\text{Rm}})^2}{\text{n}} = \frac{0.6860}{9} = 0.0762 = 7.62\%$$

$$\text{Variance of Commercial Bank Index} = \frac{\sum_{i=1}^{n} (\text{Rc} - \overline{\text{Rc}})^2}{\text{n}} = \frac{1.38}{9}\ 16.83\%$$

$$\text{Standard Deviation of Capital Market} = \sqrt{\text{Variance}} = \sqrt{0.0762} = 27.60\%$$

$$\text{Standard Deviation of Commercial Bank} = \sqrt{\text{Variance}} = \sqrt{0.1683} = 41.02\%$$

$$\text{Coefficient of Variance of Capital Market} = \frac{\pm m}{Rm} = \frac{27.60}{12.86} = 2.1462$$

$$\text{Coefficient of Variance of Commercial Bank} = \frac{\pm\ c}{R\ c} = \frac{41.02}{15.33} = 2.6758$$

Covariance of NABIL and Commercial Bank Index = $\frac{\sum_{i=1}^{n}(Rj-\bar{R}j)(Rc-\bar{R}c)}{n}$

$= \frac{0.3820\times 0.4703}{9} = 0.02$

Beta of NABIL = $\frac{0.02}{\pm\,^{2}c} = \frac{0.02}{0.1533} = 0.1302$

Covariance of HBL = $\frac{\sum_{i=1}^{n}(Rj-\bar{R}j)(Rc-\bar{R}c)}{n} = \frac{0.4910\times 0.4703}{9} = 0.0257$

Beta of HBL = $\frac{0.0257}{\pm\,^{2}c} = \frac{0.257}{0.1533} = 0.1674$

Covariance of NIB = $\frac{\sum_{i=1}^{n}(Rj-\bar{R}j)(Rc-\bar{R}c)}{n} = \frac{1.06\times 0.4703}{9} = 0.0554$

Beta of NIB = $\frac{0.0554}{\pm\,^{2}c} = \frac{0.0554}{0.1533} = 0.3613$

Covariance of EBL = $\frac{\sum_{i=1}^{n}(Rj-\bar{R}j)(Rc-\bar{R}c)}{n} = \frac{-0.4410\times 0.4703}{9} = -0.023$

Beta of EBL = $\frac{-0.023}{\pm\,^{2}c} = \frac{-0.023}{0.1533} = -0.1503$

APPENDIX – XXI

X1	X_2	$d_2 = x_1 - A_1$ $X_2 - 0.397$	$d_2 = x_2 - A_2$ $X_2 - 0.2730$	d_1d_2	d_1^2	d_2^2
0.5534	0.33	0.1564	0.0570	0.0089	0.0245	0.0032
0.397	0.2730	0	0	0	0	0
0.4090	0.1761	0.0120	0.0969	0.0012	0.0001	0.0094
0.683	0.4822	0.286	0.2090	0.0598	0.0818	0.0437
		$\sum d_1 = 0.4544$	$\sum d_2 = 0.1691$	$\sum d_1d_2$ =0.675	$\sum d_1^2$= 0.1064	$\sum d_2^2$ =

$$r_{12} = \frac{N\sum d_1d_2 - \sum d_1 . \sum d_2}{\sqrt{N\sum d_1.^2 - \left(\sum d_1\right)^2}\ \sqrt{N\sum d_2.^2 - \left(\sum d_2\right)^2}}$$

$$= \frac{4 \times 0.0675 - 0.4544 \times 0.1691}{\sqrt{4 \times 0.1064 - (0.4544)^2}\ - \sqrt{4 \times 0.563 - (0.1691)^2}}$$

$$= \frac{0.1932}{\sqrt{0.2191} \times \sqrt{0.1966}}$$

$$= \frac{0.1932}{0.4681 \times 0.4434}$$

$$= 0.9308$$

$$PE = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - 0.9308^2}{\sqrt{4}} = 0.0451$$

$$6PE = 0.0451 \times 6 = 0.2706$$