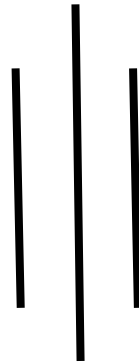# RISK AND RETURN ANALYSIS OF
LISTED JOINT VENTURE COMMERCIAL BANK IN NEPAL

BY
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In Partial Fulfillment of the Requirements for the Degree of
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September, 2010

RECOMMENDATI ON

This is to certify that the thesis

Submitted By

Pramila Basnet

Entitled

RISK AND RETURN ANALYSIS OF
LISTED JOINT VENTURE 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.

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VIVA-VOCE SHEET

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

Pramila Basnet

Entitled

**RISK AND RETURN ANALYSIS OF
LISTED JOINT VENTURE 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 for the requirement of

Master's Degree in Business Studies (M.B.S)

Viva-Voce Committee:

Head, Research Department :………………………………………....

Member (Thesis supervisor): ………………………………………….

Member (Thesis supervisor): ……………………………………………

Member (External expert) ……………………………………

Date:………………………

DECLARATION

I hereby declare that the work reported in this thesis entitled **"Risk and Return Analysis of Listed Joint Venture Commercial Bank in Nepal"** submitted to Office of Dean, Faculty of Management, Tribhuvan University is my original work done in the form of partial fulfillment of the requirement of Master of Business Studies (M.B.S.) under the guidance and supervision of Prof. Dr. Kamal Das Manandhar and Kiran Thapa of Shanker Dev Campus, T.U.

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Date: …………………….

ACKNOWLEDGEMENT

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CHAPTER-I

INTRODUCTION

1.1 General Background

Nepal is one of the least developed countries of the world. The economic development of the country, which is reflected by the annual GDP growth rate, is also not very significant. Nepal's average GDP growth rate in recent years is a 4.8 percent and recently it has declined to 0.2% and it has also the fluctuating trend. The development of any country largely depends upon its economic development. Thus the primary goal of any nation, including Nepal is rapid economic development to promote the welfare of the people and the nation as well.

Recently markets for products and services have developed throughout the world and the competition among the firms has alerted their CEO's to foresee the future preferences of the society. All this has induced businesses to gear up investments in many fields, where investment needs huge amount, which cannot be covered by the firms it selves. Further more, some members of the society undertake additional activities of investment requiring more funds than what they have. Thus, there is no equilibrium in income and expenditure. Similary there members have varying perceptions towards risk and enterprising ability the advent of securities market has successfully served this purpose of fund transfer from one unit to the other.

Return is a prime factor of investment. People invest their belongings with an expectation of getting some reward for leaving its liquidity, they only invest is those opportunities where they can get higher return. So, they want favorable return to yield by their stock investment.

Other hand risks are the facts of investment, where more risks, there is definitely high return and vice versa. Risk is a fact is an indication of chance of losing investment values. So, it can say simply a lack of definite outcome, which can be any unknown event which may be unfavorable. It is a chance of happening some unfavorable event or danger of losing some material value.

A stock reflects the uncertainty about future returns, so that the actual return may be less than expected. Price is the main source of uncertainty at which the stock will be sold. And also stock price can be affected by economic factors such as interest rates, economic growth, inflation and the strength of dollar; they can also be affected by microeconomic factors. The risk of a stock can be measured by its price volatility. Risk volatility serves as a measure of risk because it may indicate the degree of uncertainty surrounding the stocks future returns.

In Nepal, Banking activities were started from the establishment of Nepal Bank Limited on 1994, kartik, 30. It was a first financial institution of the nation. Rastriya Banijaya Bank was founded on 2022 B.S. followed by the other Joints Venture Banks (JVBS) from 2040 B.S. First Joint Venture Bank, Nepal Arab Bank Limited (NABIL) was established on in 2040 B.S.

In 2043 B.S. second JVBS named Nepal Indosuez Bank Limited (converted to Nepal Investment Bank (NIBL) was established, than at the same year Nepal Greendleys Bank (Now Standard Chartered Bank Nepal Limited) has been incorporated. The Government of Nepal took the policy of economic liberalization and privatization in the year 1990_s .Under the policy of Privatization, various public companies have been privatized and that made positive affect on banking sector. So there were many private banks were established in the 50th decade with other JVBS. These JVCS and Private Banks now are going ahead to fulfill the financial needs of Nepalese Industry and commerce as well as the general public of the Nepal.

Following are the list of commercial banks in Nepal.

Table 1.1: List of Licensed Commercial Banks in Nepal

S. No.	Commercial bank	Established Date A.D	Head office	Type
1	Nepal Bank Limited	1937/11/15	Kathmandu	National
2	Rastriya Banijya Bank	1966/01/23	Kathmandu	National
3	Agriculture Development Bank Lt	1968/01/02	Kathmandu	National
4	NABIL Bank Limited	1984/07/16	Kathmandu	FIV
5	Nepal Investment Bank Limited	1986/02/27	Kathmandu	National
6	Standard Chartered Bank Nepal Limited.	1987/01/30	Kathmandu	FIV
7	Himalayan Bank Limited	1993/01/18	Kathmandu	FIV
8	Nepal SBI Bank Limited	1993/07/07	Kathmandu	FIV
9	Nepal Bangladesh Bank Limited	5/6/1994	Kathmandu	FIV
10	Everest Bank Limited	1994/10/18	Kathmandu	FIV
11	Bank of Kathmandu Limited	1995/03/12	Kathmandu	National
12	Nepal Credit and Commerce Bank Limited	1996/10/14	Siddharthanagar, Rupendehi	National
13	Lumbini Bank Limited	1998/07/17	Narayangadh, Chitawan	National
14	Nepal Industrial & Commercial Bank Limited	1998/07/21	Biaratnagar,Morang	National
15	Machhapuchhre Bank Limited	2000/10/03	Pokhara, Kaski	National
16	Kumari Bank Limited	2001/04/03	Kathmandu	National
17	Laxmi Bank Limited	2002/04/03	Birgunj, Parsa	National
18	Siddhartha Bank Limited	2002/12/24	Kathmandu	National
19	Global Bank Ltd.	2007/01/02	Birgunj, Parsa	National

20	Citizens Bank International Ltd.	2007/6/21	Kathmandu	National
21	Prime Commercial Bank Ltd	2007/9/24	Kathmandu	National
22	Sunrise Bank Ltd.	2007/10/12	Kathmandu	National
23	Bank of Asia Nepal Ltd.	2007/10/12	Kathmandu	National
24	Development Credit Bank Ltd.	2001/01/23	Kamaladi, Kathmandu	National
25	NMB Bank Ltd.	1996/11/26	Babarmahal, Kathmandu	National
26	Kist Bank Limited	2003/02/21	Anamnagar, Kathmandu	National
27	Janta Bank Nepal Ltd.	2010/03/30	New Baneshwoor	National
28	Megha Bank Limited	2010/07/23	Kantipath, Kathmandu	National

Sources: www.nrb.org.np.

In Nepal there are altogether 6 joint venture banks; they are:

1) Nepal Arab Bank Limited (NABIL Bank)

NABIL Bank limited the first joint venture bank in Nepal which was established in 1984/07/06 under the company act 1964. Dubai bank limited (DBL) was the initial foreign joint venture bank partner with 50% equity investment. The share owned by DBL was transferred to emirate bank international ltd.(EBIL) Dubai. Later on EBIL sold its entire stock to national bank ltd, Bangladesh (NBL). Hence 50% so the current configuration given of follows.

i.   National bank limited Bangladesh 50%.

ii.   Nepal industrial development corporation NIDC 10%/

iii. Rastriya Beema Sansthan 9.66%.

iv.   Nepal stock exchange (NEPSE) 0.34%.

v.   Nepalese public 30%.

These shareholders pattern of Nabil bank is also clearly shows in pie chart

Figure 1.1

Share of Partners of NABIL
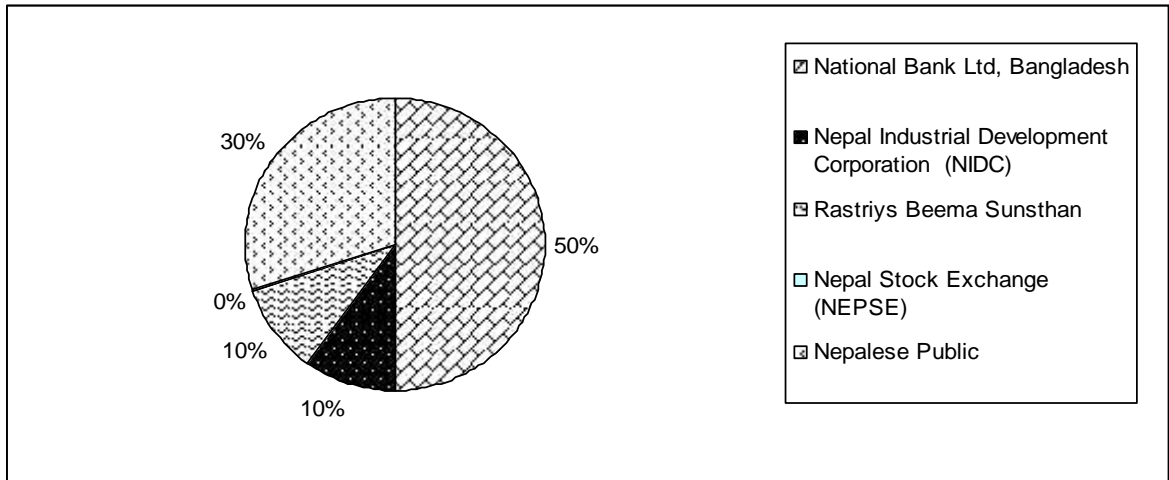
Authorized capital and paid of capital of Nabil Bank ltd. are Rs.500 Million and RS. 689.20 million. Nabil was incorporated with the objective of extending international standard modern banking service to various sectors of the society. Pursuing its objective, Nabil provides a full range of commercial banking service through its 19 point of representation across the kingdom and over 170 reputed correspondent bank across the globe.

Bank is fully equipped with modern technology which includes ATM, credit card state of art, world renowned software from infosfy technology system, Banglore, India, internet banking system and tele-banking system.

2) Standard Chartered Bank Nepal Limited

Standard chartered bank Nepal limited (earlier known as Nepal Grindlays bank ltd) come into existence in 2043(1987) as a joint venture between ANG Grindlays and Nepal bank ltd. after acquiring of the Grind lays operation in the region by standard chartered in July 2001, it has become a subsidiary of standard chartered London, which hold 50% of shareholdings in the company. Now the bank has its partner of annexation of standard chartered, U.K. by standard chartered banking group. Then remaining 50% equity share of SCBNL bank ltd. are as follows:

16

   i. 50% of the shares are owned by the standard chartered London.

   ii. 33.34% shares are held by commercial banks.

   iii. 16.66% share hold by Nepalese public and other financial institution.

These shareholders pattern of standard chartered bank is also clearly shows in pie chart. Which is given. below.

Figure 1.2

Share of Partners of Standard Charter Bank
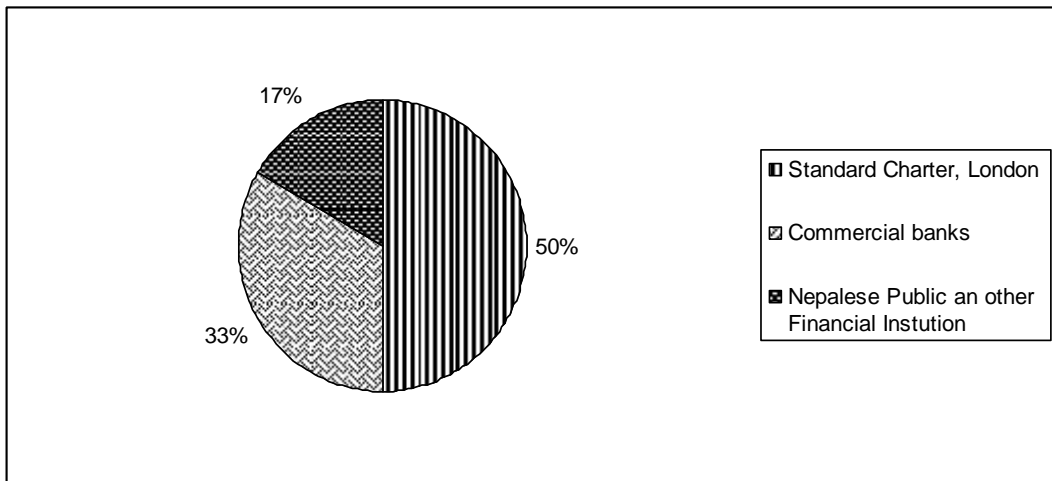
The bank has successfully completed 21 years of its operation in Nepal in January 2008. The global network of standard chartered group gives the bank of unique opportunity to provide truly international banking in Nepal with 15 points of representation and 16 ATMS across the kingdom and with around three hundred and fifty local staff, SCBNL is in a position to serve its customer through a large domestic network. The bank has been a pioneer in introducing customer focused products and service in the country and aspires to continue to be a leader of in introducing new products in delivering superior service. It is the first bank in Nepal that has implemented the anti-money laundering plotting and applied the know your customer procedure in all the customer accounts.

The main objective of the bank is to collect deposit and provide loans to agriculture commerce and industry apart from this it also provide modern banking services to the people. Its shares listing data in NEPSE in is 20th Ashad 2045(04-07-

1988).the bank has authorized capital Rs.620,800,000. And their number of share holders are 5037.

3) Everest bank Limited (EBL)

Everest bank limited was established in 1992 AD, under the company act. it is also a foreign joint venture bank and the foreign partner was united bank of India LTD and was managed from the very beginning till November 1996.Everst bank limited started its operation in 1994 with a view and objective of extending professionalized and efficient baking service to various segment of the society. The bank is providing friendly service through a network of 26 branches. They are scheduled to open 5 more branches soon. The bank was established as a joint venture bank with Punjab national Bank with 20% share holding .The Punjab national bank is one of the largest nationalized bank is India having 112 years of banking history. Punjab national bank is a technology driving bank servicing over 35 billion customers through a network of over 45 hundred braches spread all over the country with a total business of around INR 2178.74 billion. Other share holder partner of Everest bank is shown in Pie chart.

    i.   50% of the share are owned by the local promoters
   ii.   20% by our joint venture Punjab national bank India
  iii.   30% of the shares are owned by the general public.

Figure 1.3

Share of Partners of Everest Banks
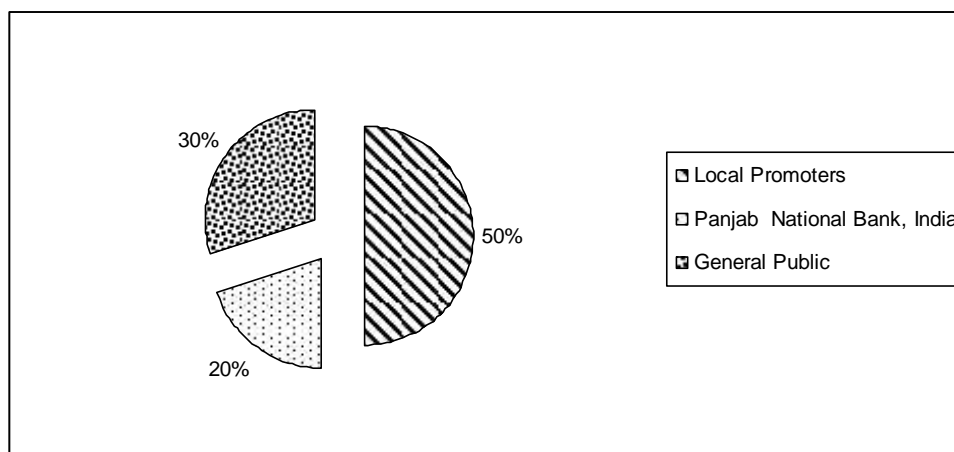
Everest Bank has recognized the value of offering a complete range of services and has pioneered in extending various customer friendly products such as home loan, education loan, EBL fixed loan, EBL property plus (future lease rental), home equity loan vehicles loan, loan against share, loan against life insurance policy and loan for professional.

Everest bank limited was the first bank to introduce 'Any Branch Banking System'(ABBS) in Nepal, All the branches of the bank are connected with ABBS which enables the customers to do all their transactions from any branch other than where they have their account. Everest bank has introduced the mobile vehicle banking system to see the segment deprives of proper banking facilities through birtamod branch, which is the first of its kind.

4) Himalayan Bank limited (HBL)

Himalayan bank limited was established in 1997 by the distinguished business personalities of Nepal in partnership with employees provident and Habib bank limited one of the largest commercial bank of Pakistan. It is the first commercial bank of Nepal with maximum shareholding by the Nepalese private sector. Himalayan Bank limited was register in 2049/2050 and stared its operation on the same date. Its authorized capital is RS.60 corers and issued capital is 30 cores. It has 7210 shareholders and issued Rs. 10,135 lakhs. The share is listed in Nepal stock exchange ltd on 2050/03/21 BS. It is the first bank to register after the democratic government of Girija Prasad koirala, which adopted liberally economic policy and called foreign investment in all sectors except defense and communication. 80% of the investment of this bank is made from Nepalese investors and 20% from foreign investors, which also shown pie chart which is given below:

Figures 1.4

Share of the Partners of Himalayan Bank
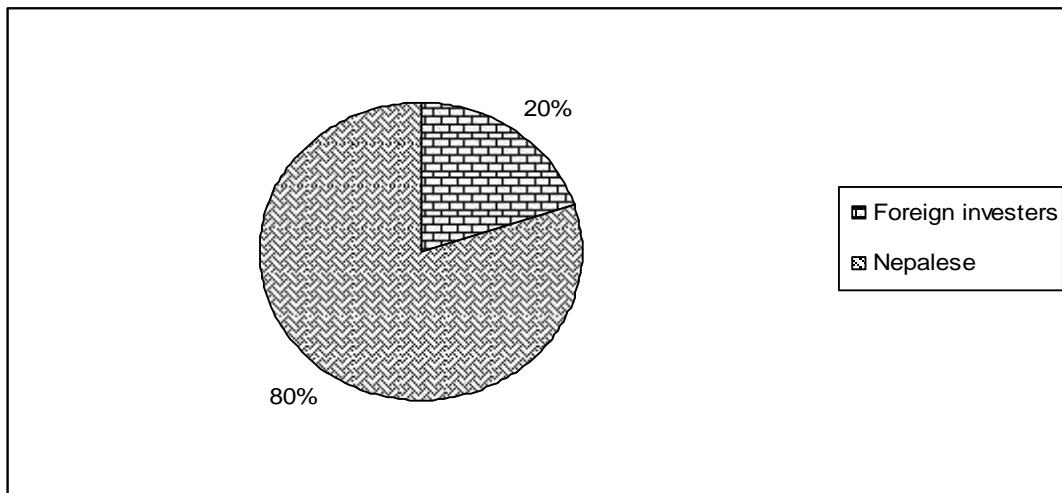
It has main aim of operation of collecting deposits under different accounts and granting loan needy persons. It has positive role to strengthening the financial sector of Nepal. Beside commercial activities, the bank also offers industrial and merchant banking. The bank has a very aggressive plan of establishing more branches in different parts of the kingdom in the near future. Himalayan bank's policy is to extend quality and personalized service to its customers as promptly as possible. All customers are treated with almost courtesy as valued clients. The banks as far as possible, offer, tailor. Mode facilities to its clients, based on the unique needs and requirements.

5) Nepal Bangladesh Bank Limited

Nepal Bangladesh bank limited is a joint venture commercial bank with international finance investment and commerce bank (IFIC) limited of Bangladesh. It was established in 6th June 1993 A.D. (2050/02/23 BS), Under company Act, 2021. It is managed in accordance with the technical and management agreement signed with IFIC bank ltd, Bangladesh. IFIC bank is a leader in serving the demand of domestic and international banking. The equity composition of NB bank ltd is as follows.

i.   IFIC bank, Bangladesh 50%
ii.   Nepali promoters 20%
iii.   General public 30%

This can be shown in pie chart.

Figure 1.5

Share of Partners of Nepal Bangladesh Bank
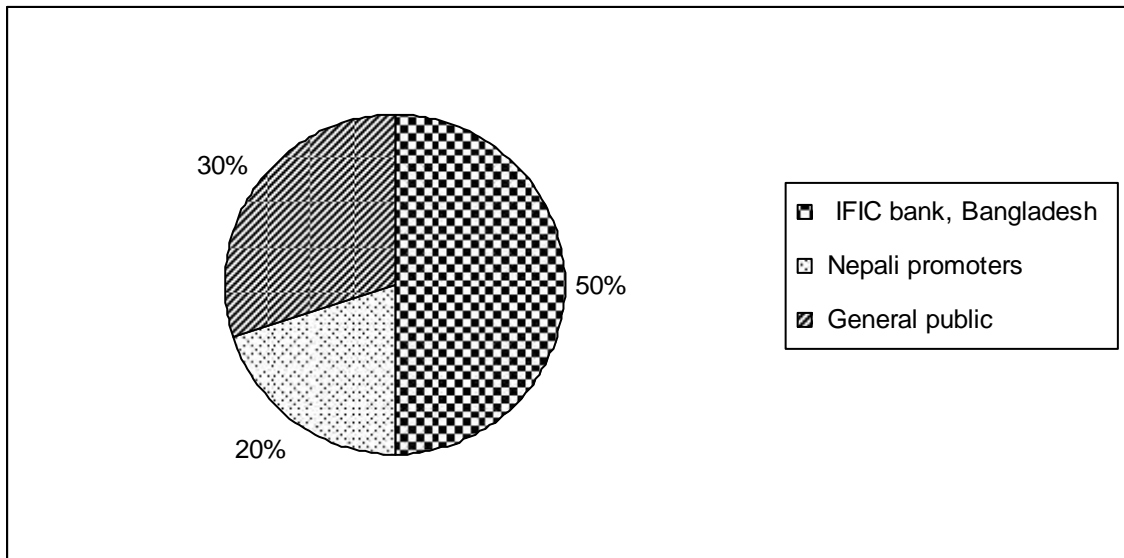
Paid up capital of Bangladesh bank up to mid June is 7441 lakhs. Prime objective of the bank is to render banking service to the different sectors like industries, traders, businessmen priority sectors, small entrepreneurs and weaker sectors of the society and every people who need banking services. It has been providing service through 16 branches and 1 million offices. NB bank limited engages in all commercial banking activities, including foreign exchange telebanking facilities, trade and industry finance, consumer banking, sate deposit lockers corporate banking with a wide network of agencies and correspondence banking with other major finance institutions in the world.

Nepal Bangladesh bank ltd is providing full fledged commercial banking service to its clients. Beside accepting deposits in various form, following facilities and service are made available by the bank:

1)consortium finance 2) working capital loan 3) Term loan 4) demand loan 5) Hire purchase loan 6) Education loan 7) letter of credit 10) Bank guarantee 11) bills purchase 12) remittance service all over the world 13) locker facilities 14)ATM (Automated teller machine facility) 15) ABBS (Any branch banking service facility)

16) SMS banking . It has also introduced free accidental insurance schema up to Rs. 5 lakhs and medical insurance benefits up to Rs. 10 thousand individual saving account holders.

Now, three troubled financial institutions Nepal Bangladesh bank, Nepal Sri-lanka merchant bank ltd (NSLMBL) and NB finance ltd(NBFL) are going to be merged soon. Nepal Rastra Bank (NRB) has already given a green signal for the amalgamation of these three 'technically insolvent' financial institutions promoted by NB Group.

6) Nepal SBI limited

Nepal SBL Bank ltd (NSBL) is the first Nepal- Indo joint venture commercial bank in the country. It is sponsored by three institutional promoters, namely, state bank of India, Karmachari Sanchaya Kosh (Employees provident fund) and agricultural development Bank of Nepal. Nepal SBL bank limited becomes operational on the 18th July 1993 AD. (2050/03/23 B.S.)

The Bank was registered on 2050/1/16 (28 April 1993) in the department of industry HMG/N under the company act, 2021 and commercial bank act, 2031. The formal inauguration of Nepal SBI bank limited took place on 7th July 1993. It commenced its operation on 2050/03/23 BS. (8th July, 1993 AD) The equity composition of the Bank is as follows:

1. State bank of india-50%
2. Employee provident fund-15%
3. agricultural development bank of Nepal-5%
4. general public-30%

This composition of the bank can also show flow pie chart.

Figure 1.6

Share of Partners of SBI Bank
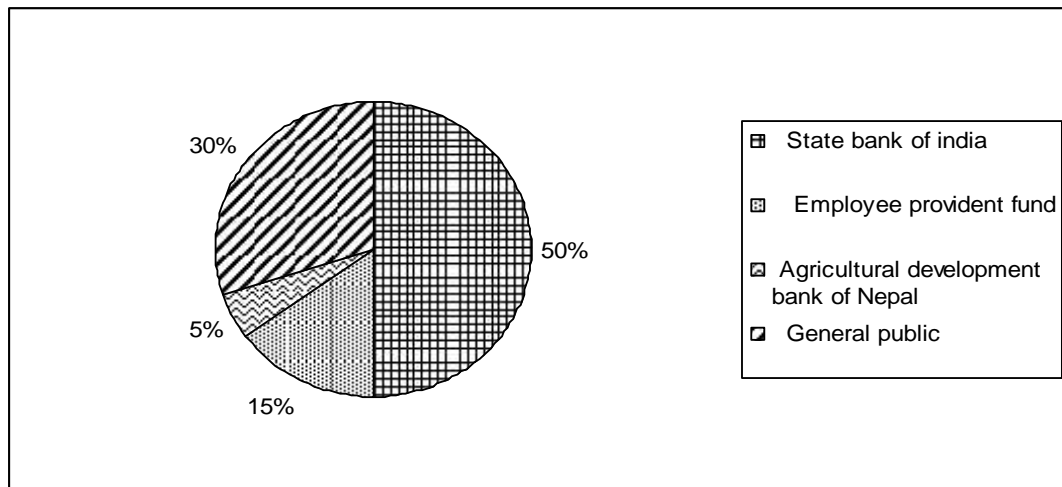
The authorized and issued capital has been increased to RS.400 cores and RS. 87.45 cores respectively Bank has been providing services through its 10 branches and 3 extension counters. The services provided by Nepal SBL bank limited include deposits, remittances, various types of loan facilities latter of credit, bank guarantees, retail financing (house loans, vehicle loans and education loans) etc. It has recently launched 365 days banking services and ATM facility from its new road branch. The main objective of the bank is to carryout modern banking on the country.

1.2 Statement of the Problem

Specifically, the research problems are:-

⟩ How does one know about the magnitude of Risk?

⟩ How can one make higher return through a lower risk?

⟩ How can investor diversify the risk?

⟩ How can one get favorable return through the holding of joint venture banking stock (shares)?

1.3 Objectives of the Study

The overall objectives of this study is to analyze risk and returns of selected joint venture commercial bank.

1. To examine the return associated with common stock investment in joint venture banks.

2.   To analyze the common stock of listed joint venture commercial banks in mispriced

3.   To examine systematic and unsystematic risk associated with common stock of joint venture banks.

4.   To analyze risk and return relationship of individual stock with market.

1.4 Importance of the Study

Banking sectors are more sensitive than other sectors like industries servicesetc. This sector is directly affected by the economic policy of the government and the Regulation of Central Bank (regularity Board of Banking Institution). So, stakeholders of the Banks are must know about the implementing facts of the banking activities and services.

This study mainly concern about the getting knowledge about the risk factors associated with the banking stock. This study will fruitful for diversification of the risk and get favorable return from the Banking sock. General Public is not able to analyze and interpret the real financial position of the company (Bank). So, On the basis of available data and information, they can reach at the right conclusion. So, due to that kind of reasons thus study may help those investors to know about restructuring their investment portfolio. Like this other potential investors among also get information about making right decision to invest or not a particular company.

1.5 Limitation of the Study

The Following are some limitation of the studies.

a)   This study is based on only nine years data.

b)   Only Listed Joint venture commercial banks are taken into consideration.

c)   Study based on common stock investment and its associated risk and return.

d)   This study only taken risk and return leaving other parts.

e)   Most of the data are in secondary nature so, the consistency of findings and reliability of the secondary data and information.

CHAPTER-II

REVIEW OF LITERATURE

2.1   Introduction

Main focus of the study is to analyze and recovered about the portfolio of investment to find increase return by diversify risk. The main purpose of the literature review is to develop some ideas for developing. Significant research design aspect of risk and return is explored in this chapter.

Risk and return analysis of the stock in the present days has been the focus point in the capital market area, in relation with the portfolio management. In the investment process, risk and return aspects and the formation of an optimal portfolio are the major two tasks. The basic requirements of the modern portfolio theory are to avoid risks and to calculate the risk premiums that investors need for involving in the risky investments. Eventually, the analysis helps the investors quantify their tradeoff between risk and return. Capital market is the venue for resource allocation and the source of capital accumulation.

2.2   Conceptual Framework

2.2.1   Common Stock (Equity shares)

Common stock (security) is an ownership of a company. It is a source of long term financing. It is a main source of company financing. Common stock is divided into as many shares 100 per share for the banking purpose. Owner of common stock get dividend when company become in profit. At the time of liquidation, common shareholders get lost change after setting all liabilities and preferred stock.

Common stock holders of a corporation are its residual owners, their claim to income and asset comes after creditors and preference share holders have been paid in full. As a result, a stockholders return on investment is less certain than the return to lender or to a preferred stockholder's. On the other hand, the share of the common stock can be authorized either with or without par value. The par value of the stock is merely a stated figure in the comported charter and is of little economic significance. A company should not issue stock at a price less than par value would be liable to

creditors for the difference between the below are price they paid and the par value.(Van Horne,1997: P. 196) But in Nepal, as per company act 2057, no common stock is allowed to issue less than par value i.e. Rs.100 per share. These common stocks are very much used for speculative motive. Mostly investors can get high price from the secondary market to their common shares by selling them.

2.2.2 Main Characteristics of Equity Shares:

1. Priority to assets and earnings.
2. Par value stocks no par value stock.
3. Authorized, issued and outstanding shares.
4. Voting rights
5. No maturity date repaid on the liquidation of the company if amount remaining for ordinary shareholders after settlement of all liabilities.
6. All the common stock shareholders get stock certificate for their ownership
7. Fully control power over the company.

The corporate character of a company specifies (memorandum of Association) the number of authorized shares of common stock that the company can issues maximum without the share that is issue is called issued shares.

2.2.3 The Return on Common Stock:

Return is the reward for uncertainty of risk. The concept of return has different meaning to different investor. Return is the main attraction for investors to invest in risky securities as stock accepting a varying degree of risk tolerance. Return is the total gain or loss experienced on investment over a given period of time.

Returns are defined as the dividend yield plus the capital gain or loss. The relationship between different levels of return on their relative frequencies is called a probability distribution. We can formulate a probability distribution for the relative frequency of a firm's annual return by analyzing its historical return over the previous period. But, we knew that history never repeats itself exactly. Hence after analyzing relative frequencies of historical return for the individual company, we can form & probability distribution based on the historical data plus the analysis for the outlook for the economy and the outlook for the industry, or firm and another factors.

If current price of a share is Po that the expected price at the end of the year is P1 and that the expected dividend per share is DiV1. The rate of return that investors expect from this share over the next year is defined as thee expected dividend per share DiV1 plus the expected price appreciation per share P1-Po. All dividends by the beginning price Po which can be shown as follows:

Expected Return R $\quad = \dfrac{P_1 - Po \, \Gamma \, D_1}{Po}$

Where,

P_1= Ending price of stock

P_0=Beginning price of stock

D_1=Dividend per share

The expected rate of return on a security is the sum of the products of possible rate of return and their probabilities, thus,

$E_R = R_1 P_1 + R_2 P_2 + \ldots + R_n P_n$

For common stock ,we can define single period return as:

$R = \dfrac{Dt \, \Gamma \, (Pt \, Z \, Pt \, Z1)}{Pt \, Z1}$

Where,

R	=	Expected return
Dt	=	Dividend received at the time t
Pt	=	Stock price at the time period t
Pt-1	=	Stock price at the time period t-1

Above formula can be used to determine both actual one period return as well as expected one period return. The term in the parenthesis in the numerator of above equation represents the capital gain or loss during the period. Holding period return is useful to measure an investment horizon of one year or less. For longer periods, it is better to calculate rate of return as an investment yield. The yield calculation is present value based and this considers the time value of money (Van Horne and Wachowicz, 1997: P.90)

Annualized rate of return over several periods can be calculated in two ways;

The first one is simply to take the arithmetic average of the annual holding period returns over a given period and the second one takes account of the compounding effects of cash receipts over different time intervals, is the geometric mean rate of return.

2.2.4 Risks on Common Stock

Risk is defined in Webster's dictionary as a hazard, a peril exposure or loss or injury, thus for most, risk refers to the chance that some unfavorable event will occur. If you invest in speculative stocks for really any stock, you are taking a risk in the hope making an appreciable return. (Weston, Beasley & Brigham, pp.182-183)

Uncertainty and risks are the facts of life to common stock holder. Different people interpret uncertainties and in different ways. For some uncertainties are simply a lack of definite outcome, it is anything that could happen any unknown event, which may be favorable or unfavorable. To other, it is the risk, many people consider risks as a chance of happening some unfavorable event or danger of losing some values. The trouble of uses them interchangeably.

Uncertainty and risks are treated separately in financial analysis. The practice is to convert uncertainty into the mathematical value, which represents the best estimate of all uncertainty, is taken care by calculating the expected value of all possible uncertain outcomes. But risk is treated differently. Although risk arises from uncertainty, its magnitude depends upon the degree of variability in the uncertain cash flows and it is measured in terms of standard deviation. In project evaluation risk in facts is an indicator of chance of losing investment values. The word chance here refers to the probability of loss in the investment project. In others words, the project risk indicates the probability of return being less the expected values. Higher the probability of such loss and less returns higher the project risk. Risk is complicated subject and needs to be properly analyzed. The relationship between risk and return is described by investor perception about that and their demand for compensation. No investor will like to invest in risky assets unless he is assumed of adequate compensation.

2.2.5 Relationship between Risk and Return

The figure represents the higher premium for higher risk in a linear fashion indicating a premium of R1 for r1 of risk, R2 for r2 and so on, backed by the assumption of linear relationship, the risk premium increases or decreases in proportion to the change in level of risk.

2.2.6   Areas for Investment Risk

i) Risk on market interest rate:

It is defined as the potential variability of return caused by changes in the market interest rates. If the market interest rate rises, present value of investment will fall and vice-versa. It can more clearly to say that the present value of the common stock moves inversely with changes in the market rate of interest. This interest rate often affects the prices of bonds, stocks, debentures, real state, gold & silver and other investment assets.

ii) Risk on purchasing power:

It is the variability of return an investor suffers because of inflation. Inflation (or a rise in general prices over time) seems to be the normal way of life in most countries today. However, when inflation takes place, financial assets i.e. cash, stocks and bonds may lo0se their ability to command the same amount of real goods and services they did in the past. To put this way, the real rate of return or financial assets may not adequately compensate the financial assets may not adequately compensate the financial assets holders for inflation.

iii) Risk on Bull-Bear trend of market:

The risk specially occurs when market is more flexible. Stock market is highly rising or falling. When a security index arises fairly consistently fro a aloe point, called a through, for a period of time, this upward trend is called bull market. The bull market ends when the market index reaches a peak and starts a downward trend. This type of market trend is called bear market.

iv) Default Risk:

It is the risk results from the changes in the financial integrity of the investment. The variability of return that investors experience as a result changes in the credit worthiness of a company in which they invested is their default risk. Due to the falling of financial integrity of a firm that weaken the security prices, the loss on security price called anticipatory losses

v) Liquidity Risk:

Liquidity risks are those risks which arises from the price discount given or sales commission paid in order to sell the assets without delay. This risk affects the return on assets. Liquid assets are often marketable and easy to sales them in a market but fixed and semi fixed assets are not easy to sell when needed. More the liquid asset is, the larger the price discount or commission in which must be given up by the seller in order to affect a quick sale.

vi) Callability Risk:

Due to the chance of repurchase of bonds and preferred stock which are issued with provision of giving authority to issuer for repurchase, callability risk will emerged. The portion of a security's total variability of return that derives from the possibility that the issue may be called is the callability risk.

vii) Convertibility Risk

Those stocks which are convertible in nature i.e. bonds or a preferred stock will have convertibility risk. This risk will make variability in return.

viii) Political Risk

Political risk arises from the exploitation of a politically weak group for the benefit of politically strong group with the effect of various groups to improve their relative positions increasing the variability of returns from the affected assets. Regardless of whether changes that cause political risk are sought by political or by economic interests, the resulting variability on return is called political risk if it is

accomplished through legislative, judicial or administrative branches of the government (Francis, 1997: pp.3-8).

2.3 Measuring Risk

2.3.1   The standard deviation

We have already discussed above that the risk is a different concept to grasp, and a great deal of controversy has surrounded attempts to define and measure it to be most useful, any measure of risk should have definite value. We need a measure of the lightness of the probability distribution, one such measure is the standard deviation, the symbol or it ( ) pronounced as sigma.

We can calculate standard deviation for them from the following formula;

$$j = \sqrt{\frac{(ri \, Z \bar{r})^2}{n}}$$

Where,

ri   = expected return at different time

$\bar{r}$ = mean of the expected return

ri- $\bar{r}$ = covariance of expected return with its mean

Another useful measure of risk is coefficient of variation which is calculate from the following ways,

$$\text{Coefficient of Variation (CV)} = \frac{\dagger}{\bar{R}}$$

Where,

= Standard deviation

$\bar{R}$ = Average of returns.

The degree of risk is highly influenced by the degree of returns higher the return leads higher risks. This implies that risky investment always offer higher expected returns than less risky investment for investment buy and hold them. In short, there is no free lunch when it comes to investment any claims for higher return produced by low risk investment should be viewed skeptically.

2.3.2 The Range

The range is known as one of the traditional way of measuring risk and return. It simply shows the difference between the best possible return and the worst possible return but does not provide information about the distribution of the rates of return between the extremes (John M. Cheney & A. Moses, p.4)

Range = Best possible rate of return – Worst possible rate of return.

2.3.3 Portfolio Performance Evaluation

The investment performance evaluation suggests that many invests who own or are considering buying company's share could concept higher rate of return and less risk if they invest their own funds by selecting securities randomly and then simply holding them. So, investment performance evaluation addresses the question of how to select the "best" company's management services. The tools introduced here are also useful to portfolio managers who wish to evaluate and improve their own money and, management skills. For this purpose three performance measures are introduced.

Sharpe's performance measure

Treynor's performance measure

Jensen's performance measure

Sharpe's Performance Measure

Defines a single parameter portfolio performance index that is calculated from both risk and return statistics which is denoted as follows:

$$Sp \; X \frac{R \; Z \, Rf}{}$$

Where,

R = Average return

Rf = Risk free rate of return

|∃ = Standard deviation of return

Treynor's Performance Measure

Jack Treynor conceived an index of portfolio performance that is base on systematic risk, measured by beta co-efficient

$$Tp\ X\frac{R\ ZRf}{}$$

Where,

$\wp$= Beta Co-efficient

Jensen's Performance Measure

The basic random variables in Jensen's Model are risk premium and denoted by

$$Jp\ X\frac{r}{}$$

Where,

$\Im = R - Rf + (Rm - Rf)\ \wp$

2.3.4 The efficient Frontier

The efficient portfolio theory produces the best possible return for a given return. An investor will choose his/her optimal portfolio from the set of portfolio that

1.   Offers higher return for same level of risk.

2.   Offer same level of return with low level of risk.

The set of portfolios meting these two conditions is known as the efficient set or efficient frontier.

Figure 2.1 The Efficient Frontier
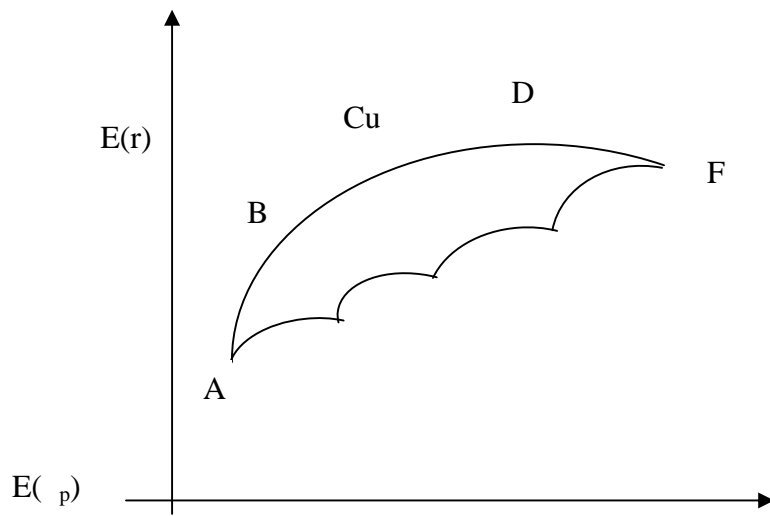
Source: Fransis, 1997

From the above table, the efficient frontier represents the line A, B, C, D and F also and there are many other assets available in this feasible set.

An investor has to select that portfolio which provides optimal return from large number of portfolio in market. For this purpose he/ she have to consider indifferent curves and efficient frontier. It is possible for an investor to determine the various combinations of return and risks to determine the various combinations of return and risks that provides a constant utility.

Figure 2.2: Optimum portfolio selection
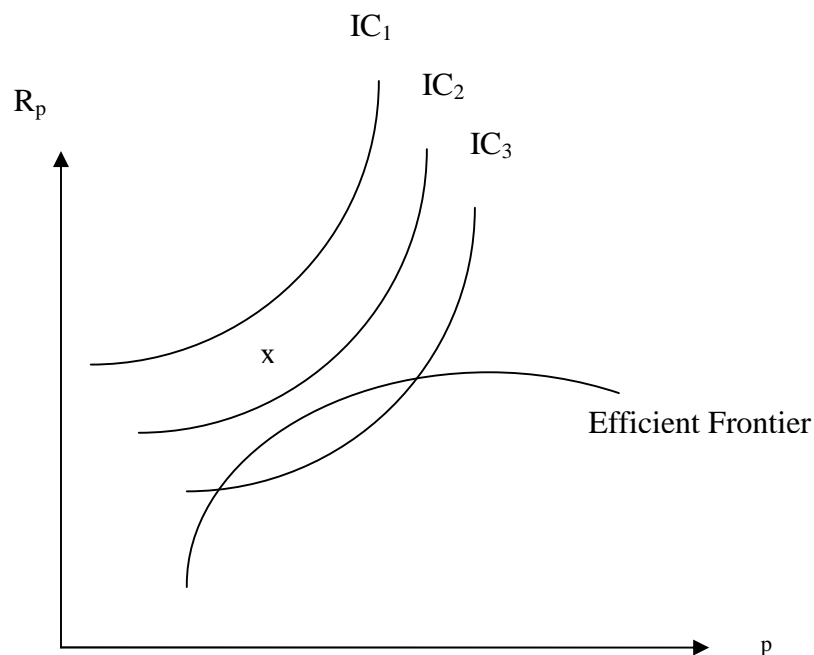
Source: Fransis 1997

In the above figure, point x is the optimal portfolio where the efficient frontier tangents with IC_2 curve. The investor may not select other alternative because minimum risk and optimal rate of return is impossible in those alternatives. Every investor has a set of indifference curves. The point of tangency between indifference curve and the efficient frontier maximize the investor's utility.

2.3.5 Systematic & Unsystematic Risk

Systematic risk is that part of the total risk that risk cannot be reduced through diversification and therefore called systematic risk, market risk or unavoidable risk. The examples of systematic risk are change in interest rate by the government, increase in corporate tax rate, increase in inflation rate, restrictive credit policy introduced by the custom duties on raw materials. The measure of systematic risk permits an investor to evaluate an asset's required rate of return relative to the systematic risk of the stock.

Systematic Risk = $Cov_{jm}/_m$

Other hand unsystematic risk is risk unique to a particular company or industry. It is independent of economic, political and other factor that affect all securities in systematic manner. A wild ear risk may affect only one company a new competitor may begin to produce essentially the same product. Others are increase in the custom duties on raw materials.

Unsystematic risk = $_j(1-r_{jm})$

Figure 2.3: Systematic & unsystematic Risk
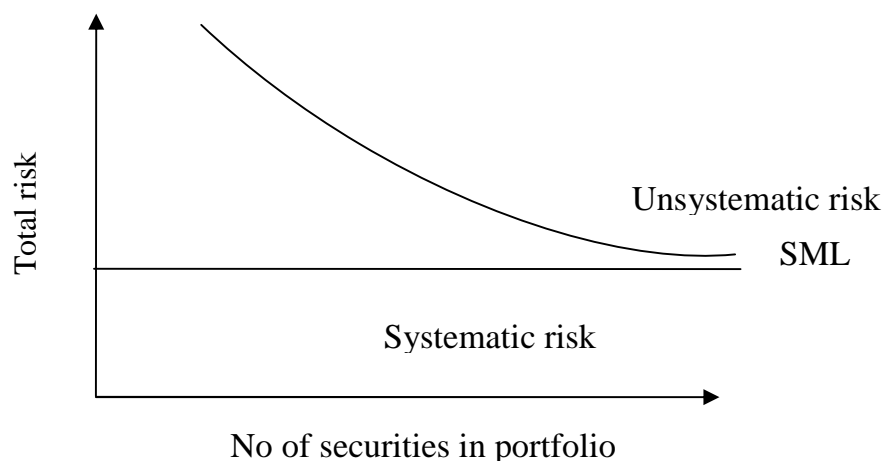
Source: Fransis, 1992:254

For most stocks, unsystematic risk accounts for between 60 to 75 percent of stocks total risk or standard deviation. (Van Horn and Wachowiez, 1997:91).

2.3.6 Capital Assets Pricing Model (CAPM)

The capital assets pricing model was developed by the sharp and linter in 1960. The model explains the relationship between the expected return, risk and valuation of securities. Capital assets pricing model express how the investors require premium for bearing the risk depending upon degree of risk. The required rate of return on all market assets depends in part on risk less rate of return.

"CAPM is the model that describes the relationship between risk and expected return. In this model, a security's expected return is the risk free rate plus a premium base on the systematic risk of the security.

This model is expressed as;

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

Where,

$E(R_j)$ = Expected rate of return

R_f = Risk free rate of return

R_m = Market rate of return

β_j = Beta coefficient (a measure of the un-diversifiable risk of the jth security)

Beta measures the sensitivity of a stock's return to change in the returns on the market portfolio. The beta of a portfolio is simply a weighted average of the individual stock betas in the portfolio. (Van Horne, 1997: p.100)

If beta is one then the required rate of return is simply the average return for all situation, that is the return on market portfolio, other wise, the higher the beta, higher the risk premium and the total required rate of return. However, a relatively high beta does not guarantee a relatively high return. The actual return depends partly on the behaviour of the market, which acts as a proxy for general economic factor.

The major implication of the CAPM is that the expected return of an asset will be related to a measure of risk for that asset known as beta. The exact manner in which expected return and beta are related is specified by the CAPM, the model which provides the intellectual basis for a number of the current practices in the investment industry. (Sharpe, William 2000: pp. 261-262)

In mid 1960s three economists William Sharpe, John Linter and Jack Trynor, created the CAPM, a theory which began a quest to identify the tendency portfolio. CAPM is the predominant model used for estimating equity risk and return. It is useful tool for the investment portfolio and for estimating expected rate of return. Comparison between the expected rate of return and required rate of return indicates whether the stock is under priced or overpriced. And when these two returns are equal then it is said to be market equilibrium i.e. all the stocks lay on the security market line (SML).

CAPM model is based on the following assumptions:

i)   The capital markets are efficient. The capital market efficiency implies that share price reflect all available information.
ii) Investors are risk adverse. They evaluate the securities risk and return in terms of the highest expected returns for a given level of risk.
iii) All the investors have the same expectations about the expected return and risk of time period.
iv) All investor decision is based on single time period.
v)   All investor can lead or borrow at a risk free rate of interest.

Comparison to all above definitions Sir Jack Clark Francis has gave the precise description about the CAPM model in his book Investment Analysis and Management Page 275.

An old axiom states there are no such things as free lunch. This means that you cannot expect to get something for nothing – a rule that certainty applies to investment returns. Investors who want to earn high rate of return must take high risks and endure the associated loss of sleep. The possibility of ulcers and the chance of bankruptcy, the question to which we now turn is should investors worried about total risk, un-diversifiable risk , diversifiable risk, or all three. (Francis, J.C, Page 275)

2.3.7 Security market line (SML)

The graphical version of CAPM is called the security market line (SML) which shows the relation between systematic risk and the required rate of return. The security market line clearly shows that stock A is the increasing function, in fact a linearly increasing function risk. Furthermore it is only market risk that affects return. The investor receives no added return for bearing diversifiable risk.

Figure 2.4: Security Market Line

E(R)

SML

M

R (M)

Rf   ß

b =1   Source: sharp at. all 2000
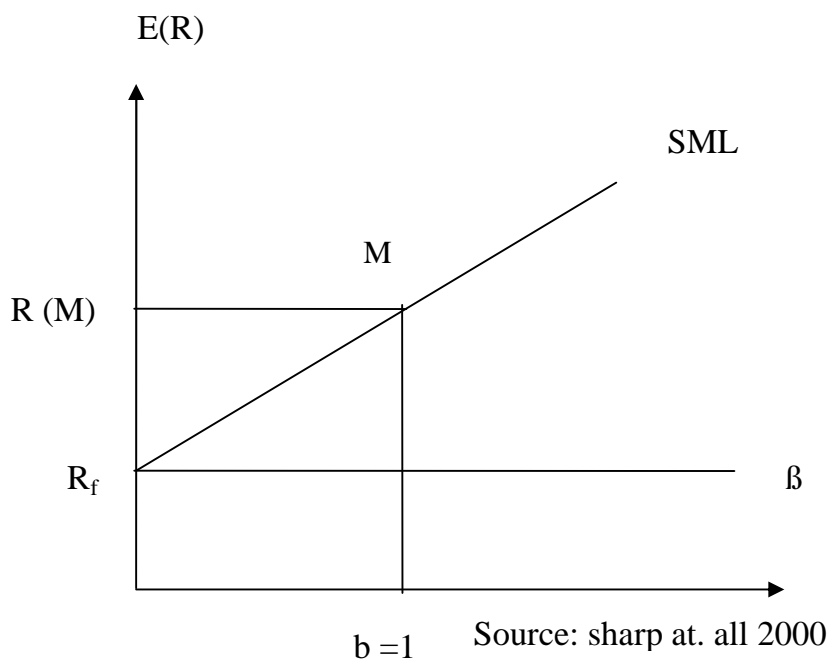
In above figure in equilibrium no stock can lie below the security market line. For instance, instead of buying stock investors would prefer to lend part of their money and put the balance in the market portfolio. And instead of buying stock they would prefer to borrow and invest in the market portfolio.

An investor can always obtain an expected risk premium of ß (Rm-Rf) by holding a mixture of the market portfolio and a risk free premium of less than ß (Rm-Rf) but, what about the other possibility?

The equation for the SML is;

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

Where, $E(R_j)$ = Expected rate of return

R_f = Risk free rate of return

R_m = Market rate of return

β_j = Beta coefficient

Test of the stability beta coefficient

According to the CAPM, the beta used to estimate a stock's market risk should reflect investor's estimates of the stock's future volatility is relation to that of the market. Robert Levy, Marshall Blame and others have studied the question of beta stability in depth. Levy calculated betas for individual security as well as for portfolio of securities. He concluded that:

i)   The betas of individual stocks are unstable; hence the past betas for individual securities are not good estimators of their future risk.

ii)   The betas of portfolio of ten or more randomly selected stocks are reasonably stable. Hence, the past portfolio betas are good estimators of future portfolio volatility.

2.3.8 Test of the CAPM based on the slope of the SML

From the figure above about security market line in CAPM model, the CAPM states that a linear relationship between a security's required rate of return and beta. Further when the SML is graphed, the vertical axis intercept should be Krf and the required rate of return for stock with bi= 1 should be Rm, the market rate of return. There are various researchers who have attempted to test the validity of the CAPM by calculating beta and realized rate of return. Following summary represent the validity of the CAPM by calculating beta and realized rate of return. Following summary represents the validity of the SML.

i)   The evidence generally shows a significant positive relationship between realized return and systematic risk. However slope of the relationship is usually less than predicted by CAPM.

ii) The relationship between risk and return appears to be linear. Empirical studies give no evidence of significant curvature in the risk/return relationship.

iii) The CAPM implies that company specific risk should not be relevant, yet both kinds of risks appear to be positively related to security return that is higher returns seem to be required to compensate for diversifiable as well as the market risk. However, it may be that the observed relationship reflect statistical problems rather than the true nature of capital markets.

iv) Richard Roll showed that linear relationship which prior researcher had observed from the mathematical properties of the models being tested. Hence that a linearity proved nothing whatsoever about the validity of the CAPM.

v) If the CAPM were completely valid, it should apply to all financial assets including bonds. In facts, when bonds are introduced into the analysis, they do not plot on SML.

2.3.9 Capital Market Line

The capital market line is the efficient frontier when borrowing and lending at the risk less are considered. The CML represents that line on graph where a risk return for trade off efficient portfolio is. The equation for CML is;

$E(R_p) = R_f + [R_m-R_f]/\sigma_m \times \sigma_p$

Where,

$E(R_p)$ = Expected rate of return on any efficient portfolio on the CML

σ_m = The s.d. of return on the market portfolio

σ_p = The s.d. of return on the efficient portfolio

Figure 2.5: Capital Market line

E(R)

CAPM/
CML

M   F

R_M

R_f ß

E

O   m   p
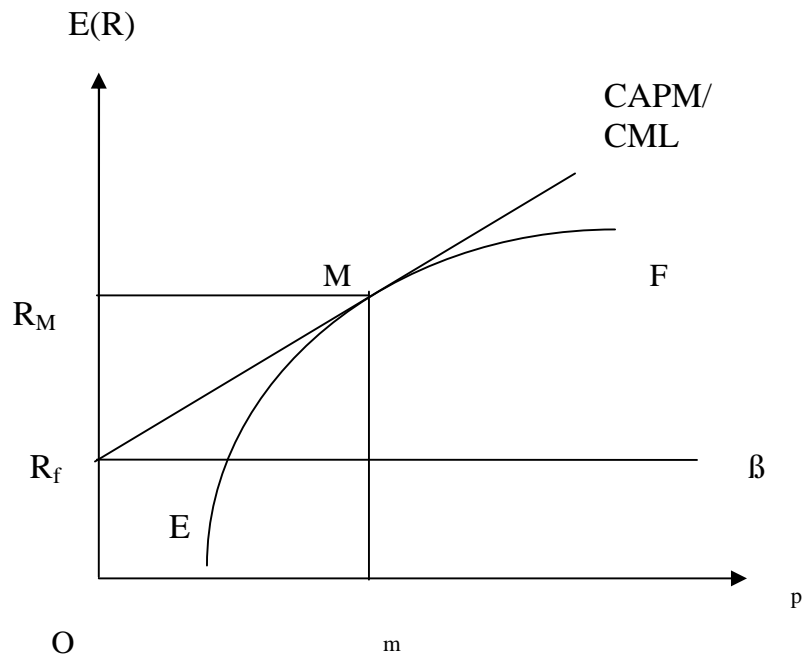
Source: sharp at. all 2000

The major point of difference between Capital Market line and Security Market line can be expressed as follows:

i) In CML, the risk include total risk while in SML, the risk includes only in diversifiable market related risk.

ii) Capital Market line shows the linear relationship between expected rate of return and total risk for efficient portfolios, while SML describes risk return relationship for both efficient and inefficient portfolio.

2.4 Review of Related Studies

The main focus of the study is about risk and return of common stock investment and its impact on share. There are different studies conducted on risk and return of common stock, so some studies are reviewed on this part of the study;

2.4.1 Sharpe (1964) Studied

William F. Sharpe studies a capital assets pricing model, under this study the total risk can be divided into two main parts; first systematic risk and second

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unsystematic risk. An asset with high systematic risk will experience price declines until the expected return is enough to induce investors to assume this un-diversifiable risk. This price level is the equilibrium price and the expected return is the equilibrium rate of return for that risk class.

He gives the following formula to test the performance of the portfolios.

$$Sp = \frac{Risk\ Premium}{Total\ Risk} = \frac{\overline{r_i}\ ZR_f}{\dagger_i}$$

Sp = Sharpe portfolio performance Evaluation

r_i = Average return from portfolio P

$\dagger_i$ = Standard Deviation of return for portfolio P

R_f = Risk free rate of return

2.4.2 Manohar Krishna Shrestha's Study

Prof. Manohar Krishna Shrestha makes a study on title 'Shareholders democracy an annual general meeting (AGM) feedback'. This study critically analyzed the situation of common stock investors. Shrestha argued the need of separate act regarding the protection of shareholders right.

Company and other financial and industrial sectors have provisioned rights of the shareholders as:

)   Participation in general meeting

)   Right of getting information

)   Electing as a board of director

)   Participation in the profit & loss of the company

)   Transferring shares

)   Proxy representations.

2.5 Review of Thesis

Ojha (2000) Studied, in his research paper titled 'Financial Performance and common Stock pricing', concludes that an investment in common stock of a corporate firm neither ensures annual nor ensures the return of principal. Therefore investment in common stock is very sensitive on the ground of risk. Study is focused on the financial performance where financial activity involves decision regarding;

i)   Forecasting and planning of financial requirement,

ii) Investment decision

iii) Financial Decision

Sapkota(2000)studied about "Risk and return analysis of Joint venture commercial banks in Nepal", he points out that risk and return analysis is important concept of investment decision process. It helps to make good investment opportunity in stock market as well as new issue market, basically, this study analyze risk and return of commercial bank, which are listed in NEPSE. The study period was 2049/50-2055/56. He utilized some historical tools of analysis like: market price of stock and dividend and expected return, standard deviation, co-variance, beta coefficient etc. the major findings of the study are:

Nepalese economy is in emerging stage but sue to the lack of proper knowledge and information, Nepalese private investor can not analyze the securities as well as market properly. Banking industry is the biggest one in terms of market capitalization and turnover and return for common stock of commercial banking sectors are more parallel with market return. The portfolio approach of investment is better way to win the stock market investment

Paudel(2001)studied, 'A study on share price movement of joint Venture Commercial Banks in Nepal', the major objective are to examine Nepal Stock Exchange Market and to judge whether the market shares of different banking indicators (book value per share and other major ratios) explain the price movements and to analyze the scenario why the shares of selected banks emerge as blue chips to the potential investors and to make a conclusion on the basis of financial analysis. His findings are; the market share and the market shares of these banks do not capture the

growth rates of different banking indicators used. The ordinary least square equation of book value per share on market value per share reveals that the independent variable does not fully explain the dependent variable on the basis of the above mentioned two points; Nepal Stock Exchange operates in a weak form of efficient market hypothesis. Indicating that the market prices move randomly the market value per share does not accommodate all the available historical information. Having good track record of the financial position, the market potential investors buy the shares of joint venture commercial banks.

Upadhyay (2001)studied, on 'Risk and return on common stock investment of commercial banks on Nepal'. He had been taking five commercial banks as sample.

According to his study, its main objects was to assess risk compensating return of listed commercial banks and their positions in the stock exchange and to analyze the volatility of common stocks and other relevant variables as affecting factor on investment portfolios.

He concluded that the Nepalese investors cannot analyze the securities and market properly due to the lack of information and proper knowledge. The common stock of Standard Chartered Bank Nepal Limited (former Nepal Grind lays Bank) bears the maximum realized rate of return and Nepal SBI Bank Limited the minimum. In terms of risk analysis Nepal Grind lays banks has highest risk and common stock of Nepal SBI Bank the lowest, as comparing beta coefficient, it shows common stock of Everest Bank was most volatile and Nepal Indosuez Bank was the least. As a whole common stock of commercial banks were overpriced than other sector.

Acharya (2002) studied, in his thesis paper "An analysis of risk and return associates with common stock investment of joint venture banks in Nepal." concluded that generally average investors are risk averse. They prefer to invest to such investment which provided higher return at the given level of risk. IT is widely known that investment on portfolio generates higher and constants return as compared to single assets. The reason is that the lower return on one assets off set the higher return from other assets. It is obvious that investors can avoid risk by adopting portfolio but the situation in Nepal is different. The evidence shows that most of the investors

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prefer to invest in single security rather than portfolio. Concept of portfolio should be developed in their mind. (Acharya, 2002:109) in addition acharya added "stock market investment is not easy naturally it is very risk job because return on stock investment is not swell chance of heavy loss and gain are fifty. It is more risk in short term than long term so investor must prepare their mentality accordingly.

Chhateri (2005), on the title of <u>"Risk and Return Analysis of listed companies in Nepal"</u> (with special reference to joint venture bank). The major objective of his study was to analyze the risk and returns of common stock investment companies i.e., joint venture Banks. His research has been based on recent historical data collected from NEPSE, securities board and other source from FY 1996/97 to 2061/62. Some discussion has been made to interpret the exiting secondary information which has been analyzed by using analytical tools and techniques. His study puts forward some finding which are follows:

Analysis and interpretation as to the industry wise NEPSE index shows that banking sector has higher returned that all other. Standard deviation seems in its midst position for this sector Most of all the banks have positive beta showing positive relationship with market return. The entire stocks under study are under priced. All of the banks under study have higher level of risk where as returns were relatively smaller.

Tiwari (2007) studied, on the title of <u>"Risk and Return Analysis of selected Finance companies listed in Nepal."</u> On the specifies objects to analysis the risk and return associated with the common stock of six finance companies.

They are Kathmandu finance co. Ltd, samjana finance co. Ltd, and National finance company ltd. citizen investment trust, Ace finance co. Ltd, and people finance co. ltd. His research has been an source. Nepal stock exchange (NEPSE) ltd, is the main organization which provides most of the data required for the study from year 1998 to2002. For analyzing the data he has use various statistical techniques of simple liner regression as well as other financial tools.

All the finance companies have positive expected return as must of the finance company have the return near to the average. All the investment involved certain amount of risk (i.e., standard deviation) as well masts of the finance company have

the risk less then the average .The value of best suggests majority is less than the market volatility and they are dekensive stock. Some finance companies securities have highest have of CV is less then the average companies CV is less than the average CV but not in acceptable level. In comparison of market porttalio and average return of selected companies shows that there is no different significantly. The total paid of value of the all sector expects trading is lively to decreasing in trends. The annual turn over of the all sector is increasing trends. Likewise the market capitalization of sector expected trading is likely to increasing trends.

2.6 Review of Journals

The journal of finance by American finanace associations for many decades is taken into account. In the volume 54, 4th June, 1999 an article 'the performance of hedge funds: risk return and incentives', by Carl Ackermann, Richard Mc Enally, and David Ravens craft has been reviewed here. Hedge funds may be enhancing returns by taking extra risk. Many hedge funds use tools designed to reduce systematic risk rather than total risk. Though this is obviously true for short sellers and market neutral funds technique such as short sales are employed by most hedge funds. Combination of incentives, alignment and investment flexibility keeps hedge fund a clear performance advantage over funds. Incentive funds are the most important and significant determinants of risk adjusted return. Using 2, 4, 6 & 8 years sample at all ending December 1995 with 547, 272, 150 & 79 respectively hedge fund observation. Main findings of this study are the average hedge fund sharp ratio is higher than comparable mutual fund sharp ratio. This performance advantage increases when we match fund by reign hedge funds achieved. This sharp ratio is superiority despite their higher total risk. In this study, the average total risk is higher for hedge funds. Thus some of the characterizes that enhance hedge funds performance may not be appropriate for mutual funds that attract undiversified, risk averse client.

In the same journal, an article named 'The Theoretical Relationship between Systematic risk and financial variable' by Robert G. Bowman. The purpose of this study was to examine the relationship between risk and financial variable. Systematic risk of livered firm is equal the systematic risk of the same firm without leverage. There is no direct relationship earning variability and market risk. Systematic risk is directly related to the accounting beta. There is no theoretical basis for relationship of

dividend payout and beta. There is not only theoretical relationship between dividend and systematic risk but also size and growth of the firm and systematic risk.

The article 'Characteristics of Risk and Return in Risk Arbitrage' by mark Mitchell and Todd Pulvion to determine weather the returns to risk arbitrage reflects market inefficiencies or rewards for bearing rear event risk over the 1963 to 1986 time period. Using a comprehensive sample of cash and stock for stock mergers, we examine returns generated from risk arbitrage. For constraint mergers, we examine returns generated from risk arbitrage. For constraint merger an investment in any merger can not exceed 10% of the total capital, sizes are limited by the liquidity of the underlined securities. The index fund must have an adequate amount of cash reserves to undertake the investment.

An article published on the business age Oct-Nov 1999 entitled 'Stock market doing pretty well' by Nawaraj Pokharel is reviewed here;

In this study, he has stated that the investment of the shares of manufacturing and processing was more attractive than of the banks. He found that the shares of individual companies showed very good performance from October 1998 to 1999. NEPSE index showed upward trend for all the shares in this period. He gave following reasons behind the appreciation of share price. Companies have rewarded shareholders. Reduction of interest rate of money market. Healthy speculation and loan has made the market interesting by providing loan to the stock investors their share as collateral. Investors are appearing more rational in their investment decision. Continuity maintained in the government policy is an added advantage to the market.

Finally he concludes that the capital market needs more infrastructure investment than institution investment once the required infrastructure can facilitate the market, the size of the market could be made even bigger by introducing new instruments such as government bonds.

An article entitled 'local return factors and turnover in emerging stock markets' by K Great Rouwenhourtst in the year 1999 is also relevant to this study. This paper examines the sources of return variation in emerging stock markets. Compared to the developed markets the correlation between most emerging market

and stock market has been historically low and until recently any emerging country restricted investment by foreign investor.

He attempts two sets of question to answer by his solution. Many emerging market have firms with multiple classes of shares carrying different ownership restrictions. Firms with multiple shares classes are treated as single value weighted portfolio of the outstanding equity securities. He concludes that the return factors in emerging markets are qualitatively similar to those in developed markets. The low correlation between the country return factors suggests that the premiums have a strong local character. Furthermore, global exposure can't explain the average factors returns of emerging markets there is little evidence that the correlation between the local factor portfolios have increased, which suggests that factors responsible for increase of emerging market country relation are separate from those that drive the differences between expected return within these markets. A Bayesian analysis of premium in developed and emerging market shows that, unless one has stronger prior beliefs to the contrary, the empirical evidence favors the hypothesis that size, momentum and value strategies are compensated for expected returns around the world. Finally the paper documents the relationship between expected return and share turnover examines the turnover characteristics of the local return factor portfolio. There is no evidence of a relation between expected return and turnover in emerging market. However, beta, size, momentum and value are positively cross section ally correlated with turnover in emerging markets. This suggests that the return premiums do not simply reflect compensation for liquidity.

2.7 Research Gap

The review of above relevant literature has contributed to enhance the fundamental understanding and knowledge, which is required to make study meaningful and purposive. Also there is not research about all joint venture commercial banks in Nepal. The researchers haven't sufficient comparison about risk and return of the banks. Also not clear about same issue related to risk and return. However there are various researches conducted on risk & return, their analysis only related to only one or two banks. So this study has tried to analysis the different banks risk and return in order to make fruitful analysis of risk as well as return between joint venture banks in Nepal.

The previous thesis covered only up to the fiscal year 2005/06 but this thesis also based on secondary data provided by concerned Nepalese commercial banks up to the fiscal year 2008/09. Hence this thesis attempts to fill this research gap by taking the reference to Nabil bank limited, Nepal SBI bank limited, standard chartered bank limited, Himalayan bank limited, Everest bank limited and Nepal Bangladesh bank limited.

This research will able to deliver some of the present issue, latest information and data relating to risk and return. So this study will be fruitful to those interested person, parties, and students professor, student businessman and government for academically as well as policy perspective. Hope this study will help to those investors who are interested to invest in joint venture banks in Nepal.

CHAPTER-III

RESEARCH METHODOLOGY

3.1 Introduction

Research Methodology refers to the various technical steps that are to be adopted by a researcher during the course of studying a problem with certain objectives. It is a systematic way of solving research problems. It refers to the overall research process from the theoretical foundation to the collection and analysis of the data. As most of the data are quantitative study is based on scientific models. It is the compilation of technical aspect and logical aspect on the basis of historical data. Research is systematic and organizational effort to investigate a specific problem that needs a solution. This process of investigation involves a series of well thought out activities of gathering, recording and analyzing and interpreting the data with the purpose of finding answer to the problem. Hence, the entire process by which we attempt to solve the problem is called research.

Research can be conducted on the basis of primary and secondary data. In this study, all the data are secondary and those data are analyzed using appropriate financial as well as statistical tools. Outcomes are presented in simple way. In this chapter the following aspects of research will be discussed.

3.2 Research Design

"Research design is the plan structure and obtains answer to the questions and to collect variance."

The study is based on the recent historical data, so simply it is a historical research, which covers nine years period 2000/2001 to 2008/2009. It deals with the common stock of the commercial banks on the basis of available information .So the main objectives of this study is to find out how the return can be maximize in term of investment of common stocks of the selected companies. To achieve these objectives, both the analytical and descriptive research designs have been adopted.

3.3 Population and Sample

The study is conducted on listed joint venture commercial banks in Nepal. So, population of the total listed commercial banks is 28, they are:

i)   Nepal Bank Limited

ii)   Rastriya Banijya Bank Limited

iii)   Nabil Bank Limited

iv)   Nepal Investment Bank limited

v)   Standard Chartered Bank Nepal Limited

vi)   Himalayan Bank Limited

vii)   Nepal SBI Bank Limited

viii)   Nepal Bangladesh Bank Limited

ix)   Everest Bank Limited

x)   Bank of Kathmandu Limited

xi)   Nepal Credit and Commerce Bank Limited

xii)   Lumbini Bank Limited

xiii)   Nepal Industrial and Commercial Bank Limited

xiv)   Machapuchhre Bank Limited

xv)   Kumari Bank Limited

xvi)   Laxmi Bank Limited

xvii)   Siddhartha Bank Limited

xviii) Agricultural Development Bank Limited

xix)   Global Bank Limited

xx)   Sunrise Bank Limited

xxi)   Bank of Asia Nepal Limited

xxii)   Prime Commercial Bank Limited

xxiii) Citizens Bank International Limited

xxiv)   NMB Bank Limited

xxv)   Development Credit Bank Limited

xxvi)   Kist Bank Limited

xxvii) Janta Bank Nepal Limited

xxviii) Megha Bank Limited

Out of these 28 commercial banks, there are 6 joint venture bank are currently operating in Nepal. They are:

a.	Nepal Arab Bank Limited (NABIL Bank)
b.	Standard Chartered Bank Nepal Limited
c.	Himalayan Bank Limited
d.	Nepal SBI Bank Limited
e.	Nepal Bangladesh Bank Limited
f.	Everest Bank Limited

3.4 Nature and Sources of Data

This study has been conducted on the basis of secondary data and information. The secondary data are obtained from:

⌡ Information those are relevant to the study available in various websites (especially websites of NEPSE, SEBON, NRB, Ministry of finance, and other related companies (www.nepalstock.com, www.nrb.org.np, www.mof.com.np , www.nabilbank.com.np etc)

⌡ Relevant books, journals, magazines, reports bulletins etc.

⌡ Annual reports provided by the related commercial banks.

3.5 Data Collection Procedures

The problem of the study lies in the fact that to what extent the MPS of selected listed joint venture commercial banks is correlated with various financial indicators like EPS, DPS etc and what the degree of risk is that involves in the investment in the selected joint venture commercial banks from the view points of investors. In order to achieve concrete answers to these questions, it needs various information.

Data related to the market prices of stocks, market capitalization, movement of NEPSE index etc. is taken from the report provided by NEPSE. Annual reports of commercial banks are also taken into consideration.

The data collecting procedures used for the study are as follows: -

1. Selecting and making the topic and finally making the bibliography from the available literatures, Journals and other books.

2.   Reviewing these Literature, Journals, and books.

3.   For collecting the required data, different types data, unpublished financial statements, records have been collected.

Data so obtained have no meaning unless they are arranged and presented in a systematic way, further they need to be verified and simplified for the purpose of analysis. Moreover, data and information so gathered are to be checked, edited and tabulated in such a ways that provide convenience for computation of required financial indicators and for interpretation of the financial indicators.

The meaningful tables and chart have been formatted from the different relevant data and presented them in the tabular from in the understandable way and unnecessary data have been excluded. It is attempted to find out the conclusion from the available data with the help of various financial as well as statistical tools.

3.6 Analytical Tools Used

3.6.1 Market Price of Stock (P)

Main indicator of the financial strengths of the company is its market price. Of stock aw we follow the market price of the shares of banking companies; it may be three types: high, low and closing price. Among these prices, each year closing price has been taken as the market price of the stock which has specific time of span of one year and the study has been focused in annual basis. To find out real price of the market, it is necessary to take average closing price of the year or by year, but it is tedious and impossible to consider the data availability and maintenance. Hence, the market price of stock, which has specific time span of one year and the study, has focused in annual basis.

3.6.2 Dividend

Dividend is relevant during the computation of rate of return, which is a reward to the shareholders for their investment. If a company declares only the cash dividend, there are no problems to take the dividend amount. But if the company declares stock dividend, there are no problems to take the dividend amount. But if the company declares stock dividend (Bonus share), it is difficult to obtain the real

amount of total earning to the shareholders. To find out actual gain to shareholders, the following formula is appropriate for that purpose;

Total Dividend amount = Cash dividend + stock dividend % X next year's market price per share.

3.6.3 Return on Common Stock Investment (R)

Return is the income received from the investment. It is also included those changes in the price of common stock at the beginning and the transaction time. It is represented by the percentage.

Symbolically,

$$R = \frac{Dt \, \Gamma \, (Pt \, Z \, Pt \, Z1)}{Pt \, Z1}$$

Where,

R	=	Expected return
Dt	=	Dividend received at the time t
Pt	=	Stock price at the time period t
Pt-1	=	Stock price at the time period t-1

3.6.4 Expected Rate of Return on Common Stock ($\overline{R_j}$)

Expected return on common stock aims to find out the average returns on common stock in the different periods that means it is obtained by the arithmetic mean of the past years returns.

In formula,

$$\text{Expected Return } (\overline{R_j}) = \frac{R_j}{n}$$

Where,

$\overline{R_j}$ = Expected rate of return of common stock j

n = Number of years that the return is taken.

R_j = Return of stock j.

3.6.5 Standard Deviation (S.D.)

Standard deviation is used for the measurement of the variability of a distribution of returns. It is measured from the average return. It is the square root of the variances of the returns. So, it measures the total risk of the assets. Standard deviation is calculated from the following formula,

$$\text{Standard deviation } (\sigma_j) = \sqrt{\sum_{j=1}^{n} \frac{(R_j - \overline{R_j})^2}{n}}$$

Where,

Standard deviation (σ_j) = Standard Deviation of the returns on stocks j

during the time period n.

$(R_j - \overline{R_j})^2$ = covariance of the returns from the average return

n = number of years

When probability distribution is given,

Then,

$$\text{Standard deviation } (\sigma_j) = \sqrt{\sum_{j=1}^{n} P_j (R_j - \overline{R_j})^2}$$

Where,

Standard deviation (σ_j) = Standard Deviation of the returns on stocks j

during time period n.

P_j = probability distribution of the returns j

3.6.6 Coefficient of Variation (C.V.)

It is applicable to determine the risk per unit of the expected return. It is the ratio of standard deviation of returns to the mean of the distribution. It measured the percentage of variability of the risk. Co-efficient of variation can be computed from the following formula;

$$CV_J = \frac{\sigma_J}{\overline{R_J}}$$

Where, CV_J = Coefficient of variation of stock j

$\overline{R_J}$ = mean of the returns of the stock j

55

3.6.7 Beta coefficient

The term beta coefficient is the indicator for the sensitivity of the market risk. It is an ides of systematic risk. It may used for ranking the systematic risk of different assets. Logically, the systematic risk is the covariance between the returns of an individual asset or portfolio and the returns of the market portfolio. If beta is less than 1 then the assets is considered defensive assets as its price fluctuations are less volatile than the market. On the other hand, if the beta is equal to 1 then the assets is said to be average as its price move proportionate to the market changes. Beta is calculated by the following formula,

$$\beta_j = \frac{COV(R_j R_m)^2}{\sigma^2_m}$$

Where,

β_j = Beta coefficient of stock j

$COV(R_j R_m)$ = covariance between returns on stock j

$$COV(R_j R_m) = \sqrt{\sum_{j=1}^{n} (R_j - \overline{R_j})(R_m - \overline{R_m})}$$

σ^2_m = Variance of market return

Market beta serves as a benchmark or a measuring scale for the evaluation of risk of individual stocks; if that is less than 1 it is considered to be defensive (less risky), greater than 1, then it is considered to be aggressive , Beta coefficient must be equal to 1.

3.6.8 Portfolio Analysis

CAPM Model

CAPM suggests that any investor can create a portfolio of assets that will eliminate virtually all diversifiable risk the only relevant risk is non diversifiable risk; therefore the investment decision and the pricing of capital assets should be based on undiversifiable risk. The CAPM further suggest that the price of capital asset should determine in a way that to compensate the systematic risk.

The required rate of return to bear certain level of systematic risk can be determined by using following equation:

Required rate of return $(K_j) = R_f + (R_m - R_f) \ \beta_j$

Where,

R_f= Risk free rate of return

R_m= expected return on market portfolio

β_j = beta or systematic risk index of assets j

Analysis of Total Risk

Total variability of returns of an asset or portfolio is measured by variance and standard deviation. This total risk can be divided into two parts i.e. diversifiable and undiversifiable risk.

Total risk = Diversifiable risk + Undiversifiable risk

Diversifiable Risk

Diversifiable risk is also known as unsystematic risk. This types of risk id unique to an organization and can be largely eliminated by holding a diversified portfolio of investment. It is caused through the event like, labor strikes, management errors, invention, advertising campaign, and shifts in consumer test, availability of raw materials. It can be stated as:

Unsystematic risk = total risk-systematic risk

$$Var (e) = \sigma_j^2 \ Z\varsigma_{jm}^2 \sigma_m^2$$

Where,

var (e) = variance of standard error

Undiversifiable Risk

Undiversifiable risk is known as the systematic risk. This risk is those portions of total variability in return caused by market factor (also called market risk) that simultaneously affect the price of all securities. This risk creates due to the changes in macro economic factor like, interest rate, inflation, investors' expectations; gross

domestic product (GDP) etc. Undiversifiable risk is that part of total risk that can not be eliminated by allocating capital to a diversified portfolio of investment. It can be stated as:

$$\text{Systematic risk} = s^2_{jm}\dagger^2_m$$

Proportion or percentage of systematic risk is also measured by coefficient of determination. Coefficient of determination is the square of correlation coefficient.

$$\text{Percentage of systematic risk} = \frac{Systematic\,risk}{Total\,risk} \mid 100$$

$$= \frac{s^2_{jm}\dagger^2_m}{\dagger^2_j} \mid 100$$

$$\text{So, Coefficient of determination} = \frac{Systematic\,risk}{Total\,risk} \mid 100$$

$$= \frac{s^2_{jm}\dagger^2_m}{\dagger^2_j} \mid 100$$

Portfolio Performance Measure

Sharpe's performance measure

Treynor's performance measure

Jensen's performance measure

Sharpe's Performance Measure

Defines a single parameter portfolio performance index that is calculated from both risk and return statistics which is denoted as follows:

$$\text{Sp X} \frac{R \ Z \ Rf}{}$$

Where,

R = Average return

Rf = Risk free rate of return

$\mid \exists$ = Standard deviation of return

Treynor's Performance Measure

Jack Treynor conceived an index of portfolio performance that is base on systematic risk, measured by beta co-efficient

$$Tp \; X \frac{R \; ZRf}{}$$

Where,

$\wp$= Beta Co-efficient

Jensen's Performance Measure

The basic random variables in Jensen's Model are risk premium and denoted by

$$Jp \; X \frac{r}{}$$

Where,

$\Im = R - Rf + (Rm - Rf) \; \wp$

CHAPTER - IV

PRESENTATION AND ANALYSIS OF DATA

This chapter includes analysis of data collected and their presentation with interpretation. This chapter presents main body of the study. The analysis of data consists of organizing tabulation and assessing financial and statistical result. This chapter also describes the detail data of stock price and dividend of each bank and NEPSE index of joint venture bank and the market is presented an their analysis are included. The basis objective of the chapter is to analyze and elucidate the collected data following the conversion of unprocessed data to and understandable presentation. Thus, this chapter is devoted to the presentation, analysis, interpretation and scoring the empirical findings out the study through definite course of research methodology. Various financial and statistical tools have been used in this of the study of achieve objective of study.

In this chapter effort has been made to analyze the various portfolios by find out the optimal weight of each stock that give minimum portfolio risk of joint venture banks of Nepal.

First data summarized and presented in tabulated form and there after they are analyzed in terms of risk, return, and coefficient of variation, beta calculation, correlation and covariance. Finally, the minimum risk portfolio weight is calculated by various correlated assets and tries to find out the optimum solution of the study as to constructing portfolio that will result in maximum return at its same level of risk or minimum risk at its same level or return. This chapter is sub-divided into nine parts and each part gives the clear presentation and analysis figure and facts of the calculation.

4.1 Presentation of Data

Table 4.1: Closing Price of Stock and Cash Dividend of Listed Joint Venture Banks

FY	SCBNL		NABIL		NSBIBL		HBL		EBL		NBBL		*NEPSE*
	Stock Price	Cash Dividend	Stock Price	Cash Dividend	Stock Price	Cash Dividend	Stock Price	Cash Dividend	Stock Price	Cash Dividend	Stock Price	Cash Dividend	
2000/01	2144	100	1500	40	1500	0	1500	27.50	650	0	1100	5.04	348.13
2001/02	1575	100	700	30	401	0	1000	25	405	0	510	0	227.54
2002/03	1640	110	740	50	255	8	836	1.32	445	20	360	0	204.84
2003/04	1745	110	1000	65	307	0	840	0	680	20	290	0	222.04
2004/05	2345	120	1505	70	420	0	920	11.58	870	0	270	0	287.67
2005/06	3775	130	2240	85	612	5	1100	30	1379	25	199	0	386.83
2006/07	5900	80	5050	100	1176	12.59	1760	15	2430	10	550	0	683.95
2007/08	6830	80	5275	100	1511	0	1980	15	3132	10	1001	0	963.36
2008/09	6010	50	4899	35	1900	2.1	1760	12	2455	30	280	0	548.61

Source: NEPSE website www.nepalstock.com and Annual Report of Banks to mid July 2008- 2009..

The above table shows that the stock price of Standard Chartered Bank Nepal Ltd (SCBNL) has increasing trend since 2002/03. It has the highest stock price in 2008/09. But stock price of NABIL has been fluctuating by various years. However, stock price of HBL has fluctuating with highest of Rs.1980 in the Fiscal year 2008/09. EBL and NBBL have smallest figure of stock price comparing to other joint venture banks.

Other-side statement of dividend payout shows that, SCBNL has paid cash dividend above 100% in every fiscal years. Like that, NABIL bank is rated as second position in dividend payer. Everest bank is also sound to the payment of dividend to its shareholders. It paid 30% cash dividend in Fiscal year 2008/09. HBL has fourth position in dividend payout and NSBIBL and NBBL are both in fifth and sixth position in this regards.

Table 4.2: Analysis of Market Risk, Return and Coefficient of Variation

Fiscal Year	NEPSE Index	r_m Xnepse Z nepse$_{tZl}$/nepse$_{tZl}$	r_m $ZE(r_{m)}$	$[r_m$ $ZE(r_{m)}]^2$
2000/01	348.13	NA	NA	NA
2001/02	227.54	-0.3464	-0.4743	0.2249
2002/03	204.84	-0.0998	-0.2277	0.0518
2003/04	222.84	0.0840	-0.0439	0.0019
2004/05	287.67	0.2956	0.1632	0.0266
2005/06	386.83	0.3447	0.2215	0.0491
2006/07	683.95	0.7681	0.6402	0.4098
2007/08	963.36	0.4085	0.2806	0.0787
2008/09		-0.4305	-0.5584	0.3118
	Total (N=8)	r_m X1.0234		$[(r_m$ $ZE(r_m)]^2$ =1.1546

Source: NEPSE website www.nepalstock.com and Annual Report of Banks.

Calculation of Market Risk and Return and Coefficient of Variation

Expected Return $E(r_m)$ $\quad = \dfrac{r_m}{N} = \dfrac{1.0234}{8} = 0.1279 = 12.79\%$

Standard Deviation $(\dagger_m)$ $\quad = \sqrt{\dfrac{[(r_m \, Z \, E(r_m)]^2}{N \, Z1}} = \sqrt{\dfrac{1.1546}{8 \, Z1}} = \sqrt{0.1109}$

$$= 0.4061 \text{ or, } 40.61\%$$

Coefficient of Variation $(C.V.)_m = \dfrac{(\dagger_m)}{E(r_m)} \mid 100 = \dfrac{0.4061}{0.1279} \mid 100 = 3.175 \text{ or } 317.5\%$

From the above calculation, markets return decrease with negative return since FY 2001/02 to 2008/09, where the standard deviation of market return is 40.61 % and Coefficient of Variation is 317.5% and the return is 12.79%.

4.2 Analysis of Individual Assets of Joint Venture Bank

4.2.1 Standard Chartered Bank Nepal Limited (SCBNL)

Market price and dividend records of common stock of SCBNL are shows in table 4.3; Market Price per Share (MPS) was found extra high in FY 2008/09. Closing price figure movement is shown in figure 4.2 and expected rate of return, S.D. and C.V. are calculated in table 4.4 below and Covariance, beta coefficient are shown in table 4.5 in the next pages.

Table 4.3: MPS and Dividend Distribution of SCBNL

Fiscal Years	Market Price per share (Rs.)			Cash Dividend
	High	**Low**	**Closing**	
2000/01	3111	1860	2144	100
2001/02	2100	1000	1575	100
2002/03	1760	1380	1640	110
2003/04	1780	1553	1745	110
2004/05	2350	1730	2345	120
2005/06	3775	2200	3775	130
2006/07	5900	3058	5900	80
2007/08	9025	4505	6830	80
2008/09	9200	4100	6010	50

Source: NEPSE website www.nepalstock.com and Annual Report of Banks.

Graphical analysis of the share price and dividend payout is presented in the next page.

Figure 4.1: Closing Price & dividend Movement of SCBNL
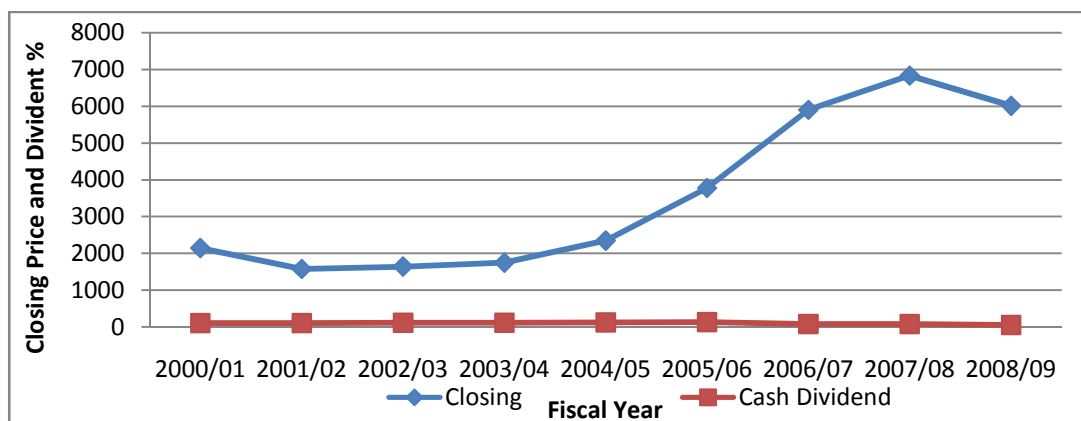
From the above figure shows that market price of the bank is lowest in FY 2001/02 and that is going to slightly increasing trend and it was highest in FY 2007/08 with Rs.6830. Dividend payout is also constant by FYs, i.e. 100% in FY2000/01 and 2001/02 i.e. 100% in FY 2006/07 and 2007/08 i.e. 80%.

Table 4.4: Calculation of Expected Rate of Return, Standard Deviation and C.V. of SCBNL

Fiscal Year	Closing MPs	Cash Dividend	$r_0 \; X \dfrac{p_1 \; Z \, p_{tZ1} \; \Gamma \, D_1}{p_{tZ1}}$	$r_0 \; Z E(r_{0)}$	$[\, r_0 \; Z E(r_{0)}\,]^2$
2000/01	2144	100	-	-	-
2001/02	1575	100	-0.2188	-0.4368	0.1908
2002/03	1640	110	0.1111	-0.1069	0.0114
2003/04	1745	110	0.1311	-0.0869	0.0076
2004/05	2345	120	.4126	0.1946	0.0379
2005/06	3775	130	0.6652	0.4472	0.1910
2006/07	5900	80	0.5841	0.3661	0.1340
2007/08	6830	80	0.1712	- 0.0468	0.0022
2008/09	6010	50	-0.1127	-0.3307	0.1094
Total(N=8)			$r_0 \; X1.7438$		$[(r_0 \; Z E(r_0)]^2 = 0.6843$

Source: NEPSE website www.nepalstock.com and Annual Report of Banks.

Expected Return $E(r) = \dfrac{r_0}{N} = \dfrac{1.7438}{8} = 0.2180$ or 21.80%

Standard Deviation $(†) = \sqrt{\dfrac{[(r_0 \, Z E(r_0)]^2}{N \, Z1}} = \sqrt{\dfrac{0.6843}{8 \, Z1}} = \sqrt{0.0978}$

$= 0.3129$ or, 31.29 %

Coefficient of Variation (C.V.) $= \dfrac{(†)}{E(r)} \,|\, 100 = \dfrac{0.3129}{0.2180} \,|\, 100 = 143.53\%$

From the calculation of the standard deviation, Expected return & C.V. of SCBNL, it is 31.80% as Expected return 31.29% as Standard deviation and 143.53% as C.V.

Table 4.5: Calculation of Co-variance, Beta Coefficient of SCBNL

Fiscal Year	$[r_{SCBNL} \, Z E(r_{SCBNL})]$	$r_m \, Z E(r_{m)}$	$[r_{SCBNL} \, Z E(r_{SCBNL})]^2$	$[r_m \, Z E(r_{m)}]^2$	$[r_{SCBNL} \, Z E(r_{SCBNL})] \,|\, [r_m \, Z E(r_{m)}]$
2000/01	-	-	-	-	-
2001/02	-0.4368	-0.4743	0.1908	0.2249	0.2072
2002/03	-0.1069	-0.2277	0.0114	0.0518	0.0243
2003/04	-0.0869	-0.0439	0.0076	0.0019	0.0038
2004/05	0.1946	0.1632	0.0379	0.0266	0.0318
2005/06	0.4472	0.2215	0.1910	0.0491	0.0991
2006/07	0.3661	0.6402	0.1340	0.4098	0.2344
2007/08	- 0.0468	0.2806	0.0022	0.0787	-0.0131
2008/09	-0.3307	-0.5584	0.1094	0.3118	0.1847
	Total (N=8)				$[r_{SCBNL} \, Z E(r_{SC}$ x$[r_m \, Z E(r_{m)}]$ =0.7722

Source: NEPSE website www.nepalstock.com and Annual Report of Banks.

Covariance $[r_{SCBNL} \cdot r_m] = \dfrac{[r_{SCBNL} \, Z E(r_{SCBNL})][r_m \, Z E(r_{m)}]}{N \, Z1} \,, = \dfrac{0.7722}{8 \, Z1} \,, = 0.1103$

Beta Coefficient (ß) $= \dfrac{Cov(r_{SCBNL}, r_m)}{\dagger^2{}_m}, = \dfrac{0.1103}{(0.4061)^2}, = \dfrac{0.1103}{0.149} = 0.6689$

Correlation coefficient between SCBNL and Market [Cor(P $_{SCBN}$,m)]

$$= \dfrac{Cov(r_{SCBNL}, r_m)}{_{SCBNL} \mid {}_m} = \dfrac{0.1103}{0.4061 \mid 0.3129} = 0.8678$$

As we know that beta is the index of systematic risk, which normally arouses by market forces and cannot be diversified. SCBNL has beta coefficient of 0.6689, which indicates that it is a defensive type of assets, which seems to less volatile than the market. Correlation coefficient is 0.8678 indicates the lower than perfectly positively correlation of SCBNL with market and therefore it is a less risky assets.

Other side, trend analysis of the return on common stock of SCBNL also conducted to analyze the future trends of the returns which are calculated through least square methods as follows.

Table 4.6: Calculation of Year-wise Trend Values of SCBNL

Fiscal Year	Coded Year	Rate of Return (Y)	X (Y-4)	XY	X^2	Estimated Value
2001/02	1	-0.2188	-3	0.6564	9	0.083
2002/03	2	0.1111	-2	-0.2222	4	0.128
2003/04	3	0.1311	-1	-0.1311	1	0.173
2004/05	4	0.4126	0	0	0	0.2180
2005/06	5	0.6652	1	0.6652	1	0.263
2006/07	6	0.5841	2	1.1682	4	0.308
2007/08	7	0.1712	3	0.5136	9	0.353
2008/09	8	-0.1127	4	-0.4508	16	0.398
	N=8	y X1.7438	x X4	xy X2.1993	x^2 X44	

Source: NEPSE website www.nepalstock.com and Annual Report of Banks.

From above table,

As $x\,X0$, $\quad a = \dfrac{y}{N} = \dfrac{1.7438}{8} = 0.2180$

$$b = \dfrac{xy}{x^2} = \dfrac{2.1993}{44} = 0.0450 \text{ (i.e. +ve increasing trend)}$$

Figure 4.2: Trend Analysis of Return of SCBNL
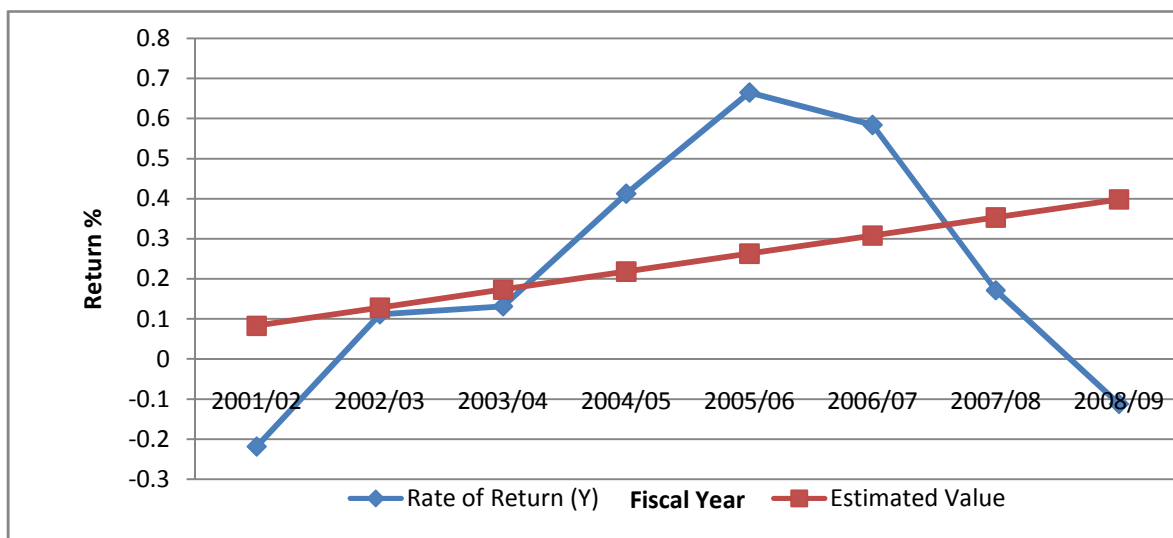
The above figure shows that the movement of common stock of SCBNL's original rate of return and trend line of return. In fiscal year 2001/02, the rate of return is negative i.e. -0.2188 and again in FY 2008/09 the rate of return is negative i.e. -01127 so it was started to move downward in to negative figure in FY 2008/09.

4.2.2 Nepal Arab Bank Ltd. (NABIL)

Market price and cash dividend records of common stock of NABIL are shown in the table 4.7 market price of shares in 2008/09 were to much high as compared to other FYs. Closing price movement is shown in the figure 4.3.

Table 4.7: MPS and Dividend Distribution of NABIL

Fiscal Years	Market Price Per Share (Rs.)			Cash Dividend
	High	**Low**	**Closing**	
2000/01	2301	1310	1500	40
2001/02	1500	465	700	30
2002/03	875	700	740	50
2003/04	1005	715	1000	65
2004/05	1515	985	1505	70
2005/06	2300	1500	2240	85
2006/07	5050	2025	5050	100
2007/08	6700	3410	5275	100
2008/09	6400	3050	4899	35

Source: NEPSE website www.nepalstock.com and Annual Report of Bank.

Figure 4.3: Closing Price and Dividend Movement of NABIL
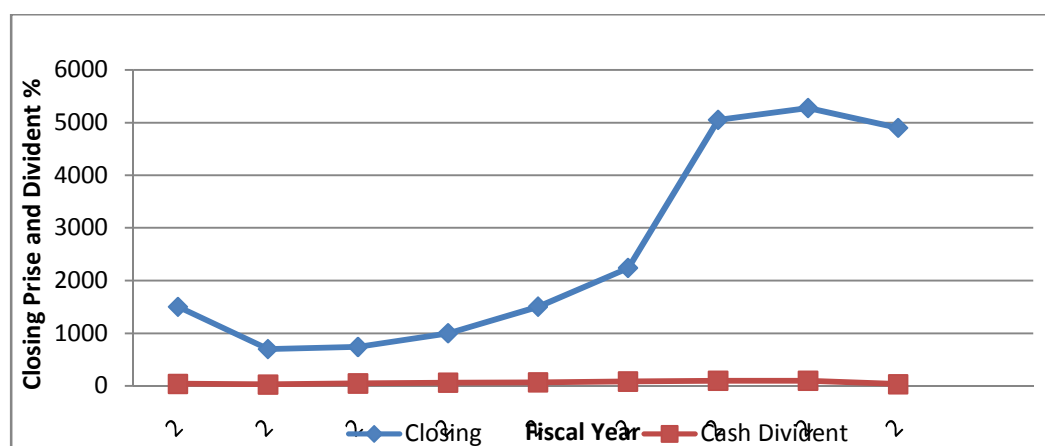
From the above analysis, closing prices of the NABIL is 1500 and 700 in FY 2000/01 to 2001/02 then increasing from 2002/03 to 2007/08 and decreased in last FY 2008/09. Where as dividend payout also increasing from 40% to 85% in FY 2005/06 and 100% in 2006/07 it shows outstanding cash dividend payout.

Table 4.8: Calculation of Expected Rate of Return, Standard Deviation and C.V of NABIL

Fiscal Year	Closing MPs	Cash Dividend	$r_0 \ X \dfrac{p_1 \ Zp_{tZl} \ \Gamma D_1}{p_{tZl}}$	$r \ ZE(r)$	$[r \ ZE(r)]^2$
2000/01	1500	40	-	-	-
2001/02	700	30	-0.5133	-0.8248	0.6803
2002/03	740	50	0.1286	-0.1829	0.0335
2003/04	1000	65	0.4662	0.1547	0.0239
2004/05	1505	70	0.575	0.2635	0.0694
2005/06	2240	85	0.5448	0.2333	0.0544
2006/07	5050	100	1.2991	0.9876	0.9754
2007/08	5275	100	0.0558	-0.2557	0.0654
2008/09	4899	35	-0.0641	-0.3756	0.1411
	Total (N=8)		$r_0 \ X2.4921$		$[(r_0 \ ZE(r_0)]^2$ = 2.0434

Source: NEPSE website www.nepalstock.com and Annual Report of Bank.

Expected Return $E(r) \ = \ \dfrac{r_0}{N} \ = \ \dfrac{2.4921}{8} = 0.3115$ or 31.15%

Standard Deviation $(\dagger) \ = \ \sqrt{\dfrac{[(r_0 \ ZE(r_0)]^2}{N \ Z1}} \ = \ \sqrt{\dfrac{2.0439}{8 \ Z1}} \ = \ \sqrt{0.2919}$

$= 0.5403$ or, 54.03 %

Coefficient of Variation (C.V.) $\ = \ \dfrac{(}{E(r)} \ | 100 \ = \ \dfrac{0.5403}{0.3115} \ | 100 = 173.45\%$

From the calculation of the Standard deviation, Expected return & C.V. of NABIL, it was 54.03% as Expected return, 31.15% & 173.45% as Standard Deviation and C.V.

Table 4.9: Calculation of Co-variance, Beta Coefficient of NABIL

Fiscal Year	$[r_{NABIL} ΖE(r_{NABIL})]$	$r_m ΖE(r_m)$	$[r_{NABIL} ΖE(r_{NABIL})]^2$	$[r_m ΖE(r_m)]^2$	$[r_{NABIL} ΖE(r_{NABIL})] \times [r_m ΖE(r_m)]$
2000/01	-	-	-	-	-
2001/02	-0.8248	-0.4743	0.6803	0.2249	0.3912
2002/03	-0.1829	-0.2277	0.0335	0.0518	0.0416
2003/04	0.1547	-0.0439	0.0239	0.0019	-0.0068
2004/05	0.2635	0.1632	0.0694	0.0266	0.0430
2005/06	0.2333	0.2215	0.0544	0.0491	0.0517
2006/07	0.9876	0.6402	0.9754	0.4098	0.6323
2007/08	-0.2557	0.2806	0.0654	0.0787	-0.0717
2008/09	-0.3756	-0.5584	0.1411	0.3118	-0.2097
	Total (N=8)				$[r_{NABIL}ΖE(r_{NABIL})] \times [r_m ΖE(r_m)]$ = 0.8716

Source: NEPSE website www.nepalstock.com and Annual Report of Bank.

Co-variance $[r_{NABIL} . r_m] = \dfrac{[r_{NABIL} ΖE(r_{NABIL})][r_m ΖE(r_m)]}{N Ζ1} = \dfrac{0.8716}{8 Ζ1} = 0.1245$

Beta Coefficient (ß) $= \dfrac{Cov(r_{NABIL}, r_m)}{†^2_m} = \dfrac{0.1245}{0.1649} = 0.7550$

Correlation coefficient between NABIL and Market [Cor (P $_{NABIL}$, market)]

$$= \dfrac{Cov(r_{NABIL}, r_m)}{†_{NABIL} x †_m} = \dfrac{0.1245}{0.5403 x 0.4061} = 0.5674$$

From the above calculation, beta coefficient of NABIL is 0.7550 which is less than 1. Beta greater than 1, shows that the stock of NABIL is less volatile that of market. So it is defensive types of assets and found to be less risky.

Other-side, trend analysis of the return on common stock of NABIL also conducted to analyze the future trends of the returns which are calculated through least square methods as follows.

Table 4.10: Calculation of Year wise Trend Values of NABIL

Fiscal Year	Coded Year	Rate of Return (Y)	X (Y-4)	XY	X^2	Estimated Value
2001/02	1	-0.5133	-3	1.5399	9	-0.0161
2002/03	2	0.1286	-2	-0.2572	4	0.0931
2003/04	3	0.4662	-1	0.4662	1	0.2023
2004/05	4	0.575	0	0	0	0.3115
2005/06	5	0.5448	1	0.5448	1	0.4207
2006/07	6	1.2991	2	2.5982	4	0.5599
2007/08	7	0.0558	3	0.1675	9	0.6391
2008/09	8	-0.0641	4	-0.2564	16	0.7483
	N=8	y X2.4921	x X4	xy X4.803	x^2 X44	

Source: NEPSE website www.nepalstock.com and Annual Report of Bank.

As x X0, $a = \dfrac{y}{N} = \dfrac{2.4921}{8} = 0.3115$

$b = \dfrac{xy}{x^2} = \dfrac{4.803}{44} = 0.1292$ (i.e. +ve increasing trend)

Figure 4.4: Trend Analysis of Return of NABIL
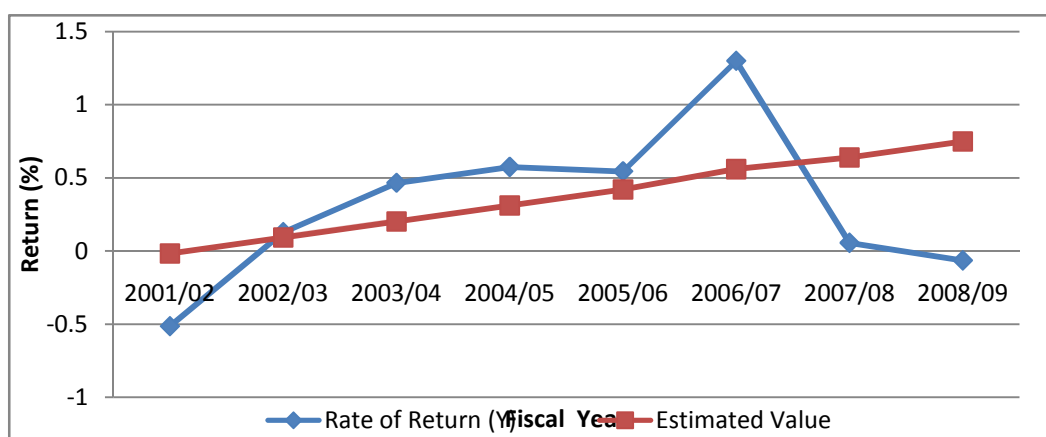
The above figure shows the movement of stock of NABIL's original rate of return and trend line rate of return. it start to move downward In FY 2001/02 is -0.5133 And then the rate of return movement is going upward and is top in 2006/07 as

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129.91%.Then, again that decrease into 0.0558 in 2007/08.Again the rate of return to move downward in FY2008/09.

4.2.3 Nepal SBI Bank Ltd. (NSBIBL)

Market price and cash dividend records of common stock of Nepal SBI Bank Ltd. Are shown in table below which are much flexible than NABIL & SCBNL.

Table 4.11: MPS and Dividend distribution of NSBIBL

Fiscal Years	Market Price Per Share (Rs.)			Cash Dividend
	High	Low	Closing	
2000/01	2699	1150	1500	0
2001/02	1600	300	401	0
2002/03	410	255	255	8
2003/04	500	400	307	0
2004/05	590	410	420	0
2005/06	689	335	612	5
2006/07	1176	505	1176	12.59
2007/08	2660	1000	1511	0
2008/09	1938	1050	1900	2.1

Source: NEPSE website www.nepalstock.com and Annual Report of Bank.

Figure 4.5: Closing Price and Dividend Movement of NSBIBL
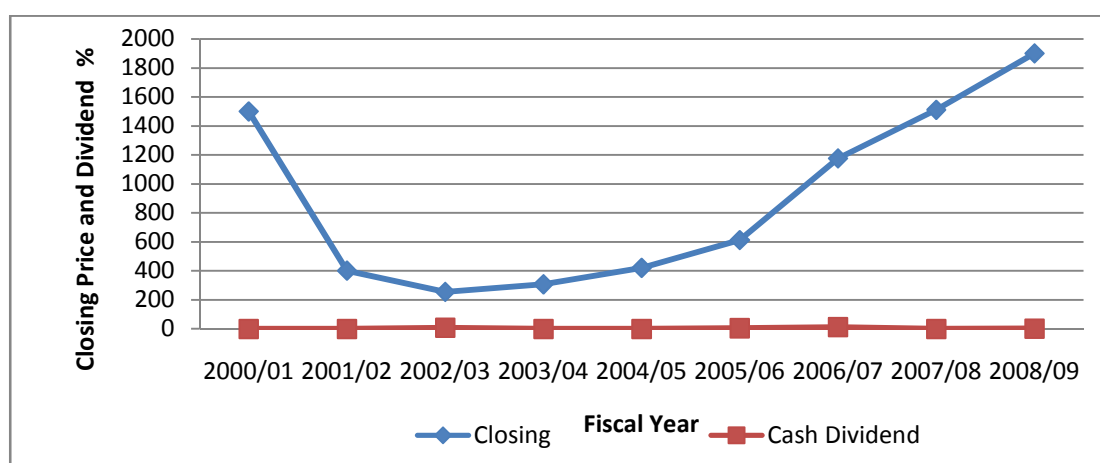
From the above table, MPS was lowest in FY 2002/03 and then stock price were upward trend as gain to Rs.1900 in FY 2002/09 that also be shown figure 4.6 shown

in figure 4.6. Likewise dividend payout also minor as maximum payout is 12.59% in 2006/2007.

Table 4.12: Calculation of Expected Rate of Return, Standard Deviation and C.V of NSBIBL

Fiscal Year	Closing MPs	Cash Dividend	$r_0 \ X\dfrac{p_1 \ Z\, p_{tZ1} \ \Gamma \ D_1}{p_{tZ1}}$	$r \ ZE(r)$	$[r \ ZE(r)]^2$
2000/01	1500	0	-	-	-
2001/02	401	0	-0.7327	-0.9140	0.8354
2002/03	255	8	-0.3441	-0.5254	0.2760
2003/04	307	0	0.2039	0.0227	0.0005
2004/05	420	0	0.3681	0.1869	0.0349
2005/06	612	5	0.4690	0.2878	0.0828
2006/07	1176	12.59	0.9421	0.7609	0.5790
2007/08	1511	0	0.2849	0.1037	0.0108
2008/09	1900	2.1	0.2588	0.0776	0.0060
	Total (N=8)		$r_0 \ X1.45$		$[(r \ ZE(r) \\ = 1.8254$

Source: NEPSE website www.nepalstock.com and Annual Report of Bank.

Expected Return $E(r) = \dfrac{r_0}{N} = \dfrac{1.45}{8} = 0.1813$ or 18.13%

Standard Deviation $(\dagger) = \sqrt{\dfrac{[(r \ ZE(r)]^2}{N \ Z1}} = \sqrt{\dfrac{1.8254}{8 \ Z1}} = \sqrt{0.2607}$

$= 0.5106$ or, 51.06 %

Coefficient of Variation (C.V.) $= \dfrac{(\dagger)}{E(r)} \, | \, 100 = \dfrac{0.5106}{0.1813} \, | \, 100 = 281.66\%$

From the calculation of the Standard deviation, Expected return & C.V. of NSBIBL, it was 18.125% as Expected return, 51.06% & 281.66% as Standard Deviation and C.V.

Table 4.13: Calculation of Co-variance, Beta Coefficient of NSBIBL

Fiscal Year	$[r_{NSBIBL} ZE(r_{NSBIBL})]$	$r_m ZE(r_{m)}$	$[r_{NSBIBL} ZE(r_{NSBIBL})]^2$	$[r_m ZE(r_{m)}]^2$	$[r_{NSBIBL} ZE(r_{NSBIBL})]$ $\mid [r_m ZE(r_{m)}]$
2000/01	-	-	-	-	-
2001/02	-0.9140	-0.4743	0.8354	0.2249	0.4288
2002/03	-0.5254	-0.2277	0.2760	0.0518	0.1196
2003/04	0.0227	-0.0439	0.0005	0.0019	-0.0010
2004/05	0.1869	0.1632	0.0349	0.0266	0.0305
2005/06	0.2878	0.2215	0.0828	0.0491	0.0637
2006/07	0.7609	0.6402	0.5790	0.4098	0.4871
2007/08	0.1037	0.2806	0.0108	0.0787	0.0291
2008/09	0.0776	-0.5584	0.0060	0.3118	-0.04330
	Total (N=8)				$[r_{NSBIBL}ZE(r_{NSBIBL})]$ $\text{x}[r_m ZE(r_{m)}]$ $= 1.1145$

$$\text{Co-variance } [r_{NSBIBL} \cdot r_m] = \frac{[r_{NSBIBL} ZE(r_{NSBIBL})][r_m ZE(r_{m)}]}{N Z1}, = \frac{1.1145}{8 Z1}, = 0.1592$$

$$\text{Beta Coefficient (ß)} = \frac{Cov(r_{NSBIBL}, r_m)}{\dagger^2_m}, = \frac{0.1592}{0.1649}, = 0.9654$$

Correlation coefficient between NSBIBL and Market [Cor (P $_{NSBIBL}$, Market)]

$$= \frac{Cov(r_{NSBIBL}, r_m)}{\dagger_{NSBIBL} x \dagger_m} = \frac{0.1592}{0.5106 \mid 0.4061} = 0.7678$$

From the above calculation, beta coefficient of SBI is 0.9654 which is lower than 1. Which indicates that it is a defensive types of assets, which seem to less volatile that the market. Rate of return(trend values) for each year are calculated on the basis of rate of return on common stock of NSBIBL respective year it using least square method as follows.

Table shows the calculation of year wise rate of returns or trend value.

Table 4.14: Year wise Rate of Return of NSBIBL

Fiscal Year	Coded Year	Rate of Return (Y)	X(Y-4)	XY	X^2	Estimated Value
2001/02	1	-0.7327	-3	2.1981	9	-0.2903
2002/03	2	-0.3441	-2	0.6882	4	-0.1335
2003/04	3	0.2039	-1	0.2039	1	0.0239
2004/05	4	0.3681	0	0	0	0.1813
2005/06	5	0.4690	1	0.4690	1	0.3387
2006/07	6	0.9421	2	1.8842	4	0.4961
2007/08	7	0.2849	3	0.8547	9	0.6535
2008/09	8	0.2588	4	1.0352	16	0.8109
	N=8	y X1.45	x X4	xy X6.9255	x^2 X44	

As $\quad x$ X0, $\quad a = \dfrac{y}{N} = \dfrac{1.45}{8} = 0.18125$

$b = \dfrac{xy}{x^2} = \dfrac{6.9255}{44} = 0.1574$ (i.e. +ve increasing trend)

Figure 4.6: Trend Analysis of Return of NSBIBL
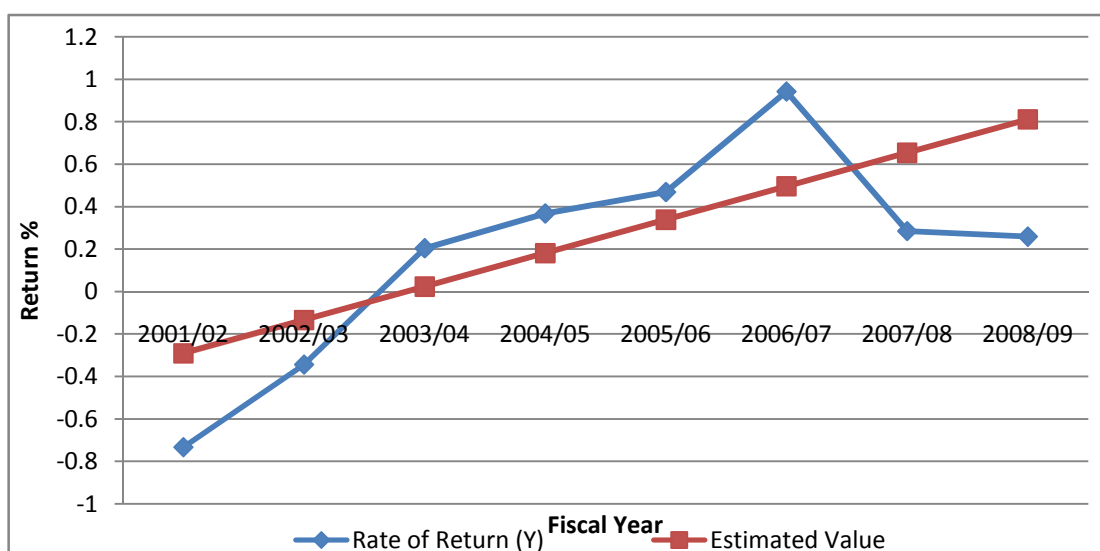
In figure above shows that the movements of common stock of NSBIBL's original rate of returns and trend line rate of return. In FY 2006/07 the return is highest and FY 2001/02 the rate of return most negative and after that the movement

of rate of return is upward sloping up to fiscal year 2006/07 again decline in FY 2007/08 and FY 2008/09 then it was downward in FY 2007/08 and 2008/09. Similarly the trend line started downward from left to right in decreasing trend with FY 2007/08 and 2008/09.

4.2.4 Himalayan Bank Ltd. (HBL)

Market price and dividend records of common stock of HBL are shown in table 4.15 MPS of HBL is very high at 2008/09. Closing price movement and dividend payout are shown in the figure 4.7.

Table 4.15: MPS and Dividend Distribution of HBL

Fiscal Years	Market Price Per Share (Rs.)			Cash Dividend
	High	Low	Closing	
2000/01	2726	1325	1500	27.50
2001/02	1530	610	1000	25
2002/03	950	750	836	1.32
2003/04	1010	630	840	0
2004/05	1150	907	920	11.58
2005/06	1200	900	1100	30
2006/07	1760	950	1760	15
2007/08	2856	1340	1980	15
2008/09	2730	1119	1760	12

Source: NEPSE [www.nepalsotck.com.]

Figure 4.7: Closing Price & Dividend Movement of HBL
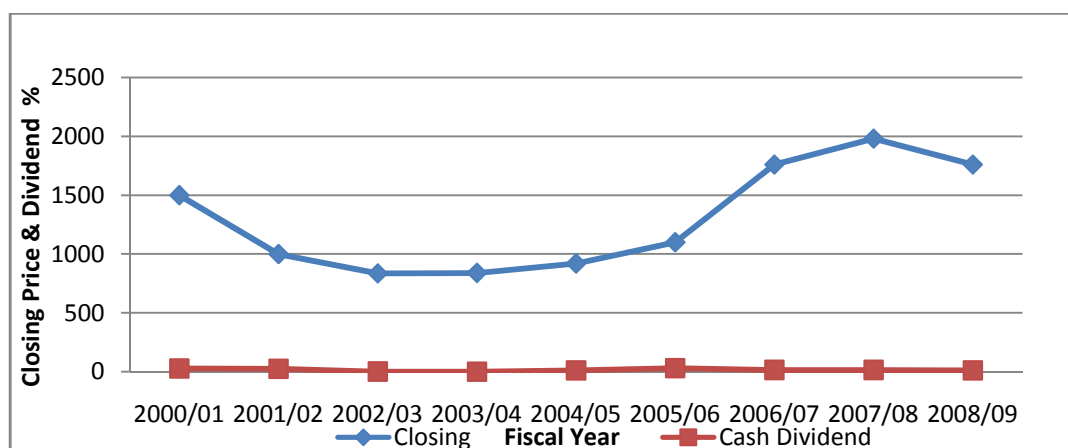
From the above figure, it shows that the MPS of HBL has decreasing trends from FY 2000/2001 to 2003/04 but thereafter slowly increasing from 2004/05 up to 2007/08, again decreasing MPS is 1760 at FY 2008/09.

Table 4.16: Calculation of Expected Rate of Return, Standard Deviation and C.V. of HBL

Fiscal Year	Closing MPs	Cash Dividend	$r_0 \ X\dfrac{p_1 \ Zp_{tZl} \ \Gamma D_1}{p_{tZl}}$	$r \ ZE(r)$	$[r \ ZE(r)]^2$
2000/01	1500	27.50	-	-	-
2001/02	1000	25.00	-0.315	-0.3813	0.1454
2002/03	836	1.32	-0.139	-0.2053	0.0421
2003/04	840	0.00	0.0048	-0.0615	0.0038
2004/05	920	11.58	0.1090	0.0427	0.0018
2005/06	1100	30.00	0.2283	0.162	0.0262
2006/07	1760	15.00	0.636	0.5473	0.2995
2007/08	1980	15.00	0.1335	0.0672	0.0045
2008/09	1760	12.00	-0.1051	0.1714	0.0294
	Total (N=8)		$r_0 \ X0.5301$		$[(r \ ZE(r)]^2$ $= 0.5526$

Expected Return $E(r) \ = \ \dfrac{r_0}{N} \ = \ \dfrac{0.5083}{8} , = 0.0635$ or 6.35%

Standard Deviation $(\sigma) = \sqrt{\dfrac{[(r - E(r)]^2}{N-1}}$, $= \sqrt{\dfrac{0.5526}{8-1}}$,

$$= 0.2809 \text{ or, } 28.09\ \%$$

Coefficient of Variation (C.V.) $\quad = \dfrac{(\sigma)}{E(r)} \times 100$, $= \dfrac{0.2809}{0.0663} \times 100$, $= 423.68\%$

The above calculation shows that the return of HBL is 6.63% and standard deviation is 28.09% and coefficient of variation 423.68%.

Table 4.17: Calculation of Co-variance, Beta Coefficient of HBL

Fiscal Year	$[r_{HBL} - E(r_{HBL})]$	$r_m - E(r_{m)}$	$[r_{HBL} - E(r_{HBL})]^2$	$[r_m - E(r_{m)}]^2$	$[r_{HBL} - E(r_{HBL})]$ $\times [r_m - E(r_{m)}]$
2000/01	-	-	-	-	-
2001/02	-0.3813	-0.4743	0.8354	0.2249	0.1809
2002/03	-0.2053	-0.2277	0.2760	0.0518	0.0467
2003/04	-0.0615	-0.0439	0.0005	0.0019	0.0027
2004/05	0.0427	0.1632	0.0349	0.0266	0.0070
2005/06	0.162	0.2215	0.0828	0.0491	0.0359
2006/07	0.5373	0.6402	0.5790	0.4098	0.3470
2007/08	0.0672	0.2806	0.0108	0.0787	0.0189
2008/09	-0.1714	-0.5584	0.0060		0.957
					$[r_{HBL} - E(r_{HB}$ $\times [r_m - E(r_{m)}]$ $= 0.7318$

Co-variance $[r_{HBL} \cdot r_m] = \dfrac{[r_{HBL} - E(r_{HBL})][r_m - E(r_{m)}]}{N-1} = \dfrac{0.7318}{8-1} = 0.1045$

Beta Coefficient (ß) $\quad = \dfrac{Cov(r_{HBL}, r_m)}{\sigma^2_m} \quad = \dfrac{0.1045}{0.1649} = 0.6337$

Correlation coefficient between HBL and Market [Cor (P_{HBL} , Market)]

$$= \dfrac{Cov(r_{HBL}, r_m)}{\sigma_{HBL} \times \sigma_m} = \dfrac{0.1045}{0.2809 \times 0.4061} = 0.9161$$

Here, beta coefficient of HBL is found 0.8127, i.e. <1, so, this is a defensive type of assets, correlation between the HBL and market is 0.9161. So, it is less volatile than the market return. Beta is an index of systematic risk and that is found to be minimum. So, this is a defensive type of assets and found to be less risky.

Rate of return expected through different years of HBL are presented in trend line below. Estimated values are getting under the method of least square.

Table 4.18: Year wise Rate of Return of HBL

Fiscal Year	Coded Year	Rate of Return (Y)	X (Y-4)	XY	X^2	Estimated Value
2001/02	1	-0.315	-3	0.945	9	-0.1725
2002/03	2	-0.139	-2	0.278	4	-0.0929
2003/04	3	0.0048	-1	-0.0048	1	-0.0133
2004/05	4	0.1090	0	0	0	0.0663
2005/06	5	0.2283	1	0.2283	1	0.1459
2006/07	6	0.6136	2	1.2272	4	0.2255
2007/08	7	0.1335	3	0.4005	9	0.3051
2008/09	8	-0.1051	4	-0.4204	16	0.3847
	N=8	y X0.53301	x X4	xy X3.5042	x^2 X44	

As, x X0, $a = \dfrac{y}{N} = \dfrac{0.5301}{8} = 0.0663$

$b = \dfrac{xy}{x^2} = \dfrac{3.5042}{44} = 0.0796$ (i.e. +ve increasing trend)

Figure 4.8: Trend Analysis of Return of HBL
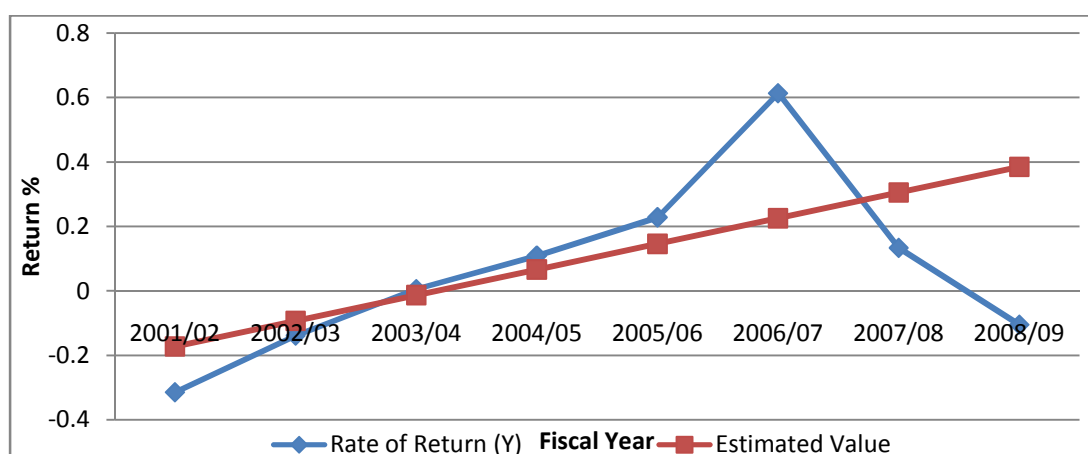
The above figure shows the movement of common stock of HBL's actual rate of return and its estimated values. In FY 2006/07, it was high with rate of return 61.36%. In Fiscal Years 2001/02, 2002/03, return was negative, there after it was improved to FY 2006/07 and then after it decreased in FY 2007/08 and in FY 2008/09 return was negative. Similarly the trend line downward slopping from 2001/02 to 2002/03, after that it is upward till 2007/08 and downward 2008/09.

4.2.5 Everest Bank Limited (EBL)

Since, EBL was listed in NEPSE on 1196-04-07, market price and cash dividend data of EBL are given in table 4.19.

Table 4.19: MPS and Dividend Distribution of EBL

Fiscal Years	Market Price Per Share (Rs.)			Cash Dividend
	High	Low	Closing	
2000/01	1850	670	650	0
2001/02	740	325	405	0
2002/03	490	349	445	20
2003/04	723	400	680	20
2004/05	905	625	876	0
2005/06	1410	800	1379	25
2006/07	2430	1100	2430	10
2007/08	3195	1804	3132	10
2008/09	3672	1855	2455	30

Source: NEPSE [www.nepalsotck.com.]

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Figure 4.9: MPS and Dividend Distribution of EBL
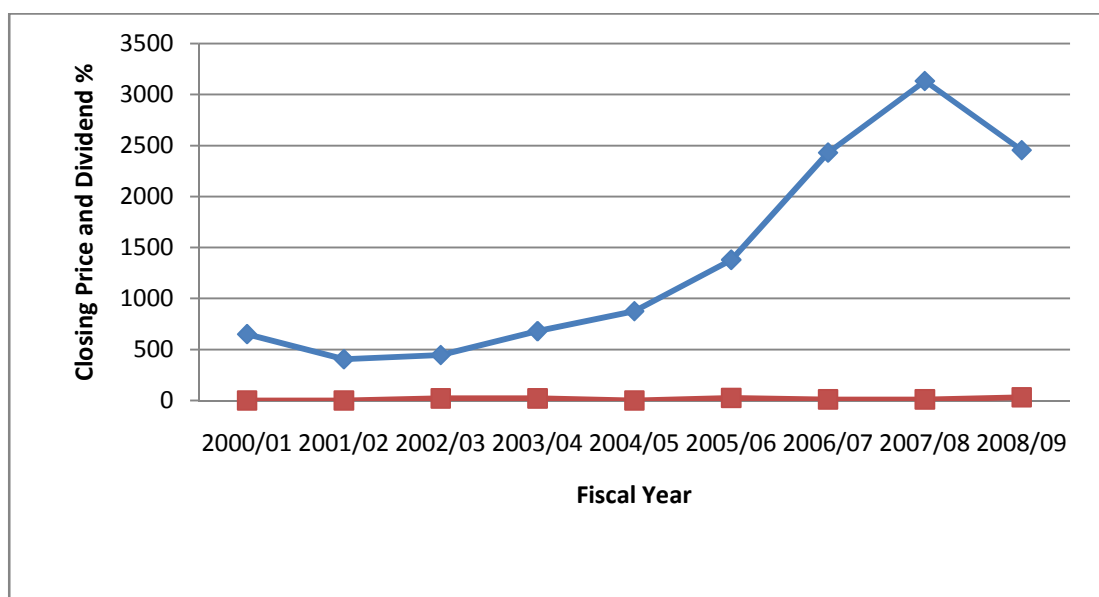
From the above table and figure, it is clear that EBL paid high dividend in FY 2000/01 and had high market price in FY 2008/09 with 3132. Minimum closing price was on FY 2002/03 with Rs.405 with zero dividend payout.

Table 4.20: Calculation of Expected Rate of Return, Standard Deviation and C.V. of HBL

Fiscal Year	Closing MPs	Cash Dividend	$r_0 \; X \dfrac{p_1 \; Z \; p_{tZ1} \; \Gamma \; D_1}{p_{tZ1}}$	$r \; ZE(r)$	$[r \; ZE(r)]^2$
2000/01	650	0	-	-	-
2001/02	405	0	-0.3769	-0.6388	0.4081
2002/03	445	20	0.1481	-0.1138	0.0129
2003/04	680	20	0.5730	0.3111	0.0968
2004/05	876	-	0.2882	0.0263	0.0007
2005/06	1379	25	0.6027	0.3408	0.1161
2006/07	2430	10	0.7694	0.5075	0.2576
2007/08	3120	10	0.2930	0.0311	0.0010
2008/09	2455	30	-0.2035	-0.4654	0.2166
	Total (N=8)		$r_{EBL} \; X 2.095$		$[(r_{EBL} \; ZE(r_{EBL})]^2$ = 1.1098

Expected Return $E(r) = \dfrac{r_{EBL}}{N} = \dfrac{2.095}{8} = 0.2629 = 26.29\%$

Standard Deviation $(\dagger) = \sqrt{\dfrac{[(r_{EBL} - E(r_{EBL})]^2}{N-1}} = \sqrt{\dfrac{1.1098}{8-1}} = \sqrt{0.3982}$

$= 0.3982 = 39.82\%$

Coefficient of Variation (C.V.) $= \dfrac{(\dagger)}{E(r)} \mid 100 = \dfrac{0.3982}{0.2619} \mid 100 = 152.04\%$

The result shows that the expected rate of return of EBL is26.29% which is the sum of single rate of return dividend by no of observation, where standard deviation of EBL is39.82% which is due to the variation in single period rate of return, where coefficient of variation of EBL is 152.04%.

Table 4.21: Calculation of Co-variance, Beta Coefficient of EBL

Fiscal Year	$[r_{EBL} - E(r_{EBL})]$	$r_m - E(r_m)$	$[r_{EBL} - E(r_{EBL})]^2$	$[r_m - E(r_m)]^2$	$[r_{EBL} - E(r_{EBL})]$ x $[r_m - E(r_m)]$
2000/01	-	-	-	-	-
2001/02	-0.6388	-0.4743	0.4081	0.2249	0.3029
2002/03	-0.1138	-0.2277	0.0129	0.0518	0.0259
2003/04	0.3111	-0.0439	0.0968	0.0019	0.0137
2004/05	0.0263	0.1632	0.0007	0.0266	0.0043
2005/06	0.3408	0.2215	0.1161	0.0491	0.0755
2006/07	0.5075	0.6402	0.2576	0.4098	0.3249
2007/08	0.0311	0.2806	0.0010	0.0787	0.0087
2008/09	-0.4654	-0.5584	0.2166	0.3118	0.2598
	Total (N=8)				$[r_{HBL} - E(r_{HBL})]$ x $[r_m - E(r_m)]$ =1.0157

Co-variance $[r_{EBL} . r_m] = \dfrac{[r_{EBL} - E(r_{EBL})][r_m - E(r_m)]}{N-1} = \dfrac{1.0157}{8-1} = 0.1451$

Beta Coefficient (ß) $= \dfrac{Cov(r_{EBL}, r_m)}{\dagger^2{}_m}, = \dfrac{0.1451}{0.1649} = 0.8798$

Correlation coefficient between HBL and Market [Cor (P_{EBL}, m)]

$$= \dfrac{Cov(r_{EBL}, r_m)}{\dagger_{EBL} \mid \dagger_m} = \dfrac{0.1451}{0.3982 \mid 0.4061} = 0.8973$$

From the above calculation beta coefficient of EBL is 0.8798 i.e B<1 so this is defensive type of assets, correlation between the EBL and market is 0.8973.so, it is less volatile than the market return. Beta is an index of systematic risk and that is found to be minimize. so, this is a defensive type of assets and found to be less risky.

Rate of return (trend values) for each year are calculated on the basis of rate of return on common stock of EBL respective year by using least square method as follows. Table no. 4.22 shows the calculations of year wise rate of return or trend value.

Table 4.22: Year wise Rate of Return on EBL

Fiscal Year	Coded Year	Rate of Return (Y)	X (Y-4)	XY	X^2	Estimated Value
2001/02	1	-0.3769	-3	1.1307	9	0.0936
2002/03	2	0.1481	-2	-0.2962	4	0.1497
2003/04	3	0.5730	-1	-0.573	1	0.2058
2004/05	4	0.2882	0	0	0	0.2619
2005/06	5	0.6027	1	0.6027	1	0.318
2006/07	6	0.7694	2	1.5388	4	0.3741
2007/08	7	0.2930	3	0.879	9	0.4302
2008/09	8	-0.2035	4	-0.814	16	0.4863
	N=7	y X2.095	x X4	xy X2.468	x^2 X44	

As, x X0, $a = \dfrac{y}{N} = \dfrac{2.095}{8} = 0.2619$

$b = \dfrac{xy}{x^2} = \dfrac{2.468}{44} = 0.0.0561$ (i.e. +ve increasing trend

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Figure 4.10: Trend Analysis of Return of EBL
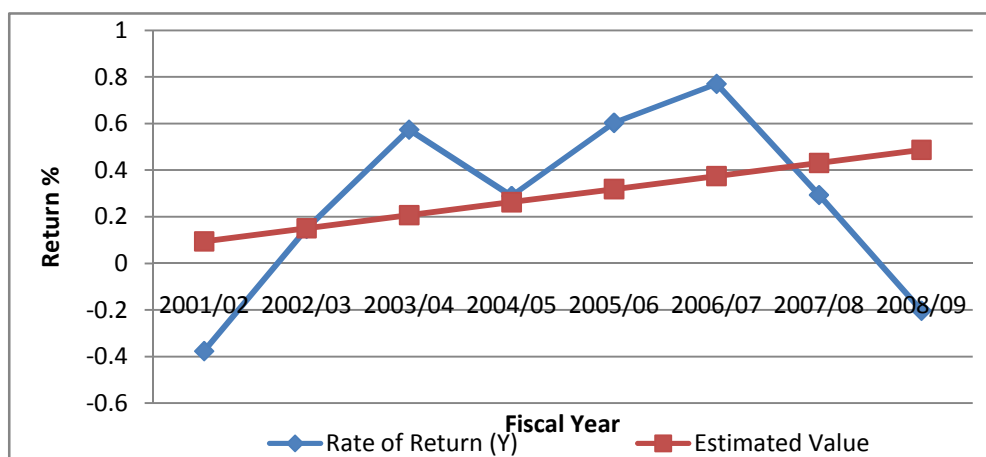
The above figure shows the movement of common stock of EBL's original rate of return and trend line rate of return in FY 2006/07 rate of return in very high. In FY 2001/02 is negative. After that the return is upward in increasing trend up to FY 2003/04.Again decrease in FY 2004/05.The trend line is slowly upward in FY 2001/02 . After that it is increasing up to FY 2007/08 and trend line is down ward in FY2008/09 .

4.2.6 Nepal Bangladesh Bank Limited (NBBL)

Since, NBBL was listed in NEPSE only on 24/12/1995. Market price and dividend records of common stock of NBBL are shown in Table 4.23. MPS of NBBL is very high at 2000/2001. Closing price movement is shown in the figure 4.11.

Table 4.23: MPS and Cash Dividend Data of NBBL

Fiscal Years	Market Price per share (Rs.)			Cash Dividend
	High	**Low**	**Closing**	
2000/01	2430	950	1100	5.04
2001/02	1200	340	510	-
2002/03	535	341	360	-
2003/04	475	290	290	-
2004/05	324	215	270	-
2005/06	300	152	199	-
2006/07	550	198	550	-
2007/08	1640	445	1001	-
2008/09	1020	216	280	-

Source: NEPSE [www.nepalsotck.com.]

Figure 4.11: Closing Price and Dividend Movement of NBBL
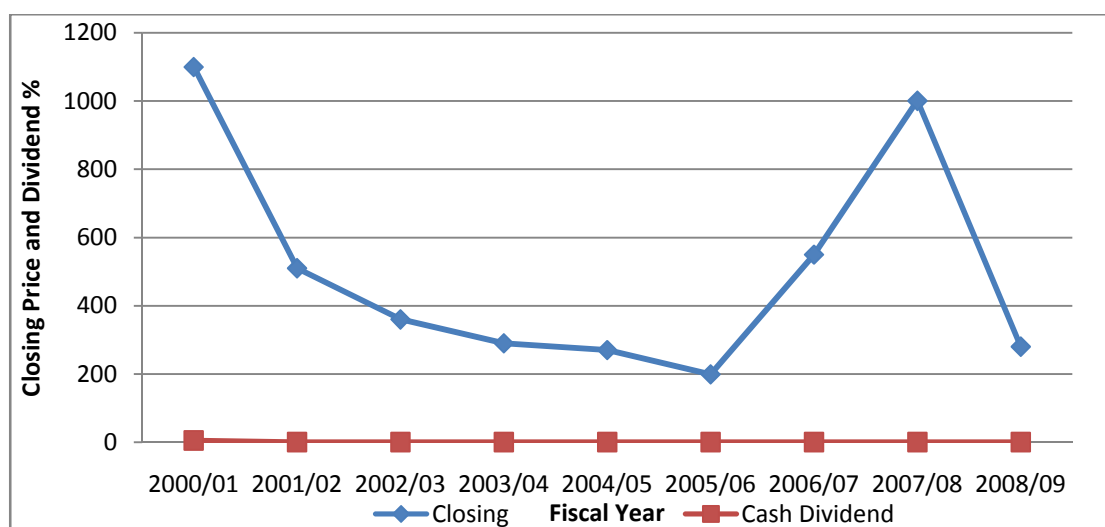
From, the above figure and table, we can see that the MPS of NBBL has increase up to FY 2000/01, but thereafter decreasing trend, NBBL has declared cash dividend to its shareholders in the year 2002. Among the other joint venture banks NBBL has smallest figure of MPS.

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Table 4.24: Calculation of Expected Rate of Return, Standard Deviation and C.V. of NBBL

Fiscal Year	Closing MPs	Cash Dividend	$r_0 = \dfrac{p_1 - p_{t-1} + D_1}{p_{t-1}}$	$r - E(r)$	$[r - E(r)]^2$
2000/01	1100	5.04	-	-	-
2001/02	510	-	-0.5364	-0.5997	0.3596
2002/03	360	-	-0.2941	-0.3574	0.1277
2003/04	290	-	-0.1944	-0.2577	0.0664
2004/05	270	-	-0.0690	-0.1323	0.0175
2005/06	199	-	-0.2630	-0.3263	0.1065
2006/07	550	-	1.7638	1.7005	2.8917
2007/08	1001	-	0.82	0.7567	0.5726
2008/09	280	-	-0.7203	-0.7836	0.6140
	Total (N=8)		$r_{NBBL} = 0.5066$		$[(r_{NBBL} - E(r_{NBBL})]^2 = 4.756$

Expected Return $E(r) = \dfrac{r_{NBBL}}{N} = \dfrac{0.5066}{8} = 0.0633$ or 6.33%

Standard Deviation $(\sigma) = \sqrt{\dfrac{[(r_{NBBL} - E(r_{NBBL})]^2}{N-1}} = \sqrt{\dfrac{4.756}{8-1}} = \sqrt{0.6794}$

$= 0.8243$ or, 82.43 %

Coefficient of Variation (C.V.) $= \dfrac{(\sigma)}{E(r)} \times 100 = \dfrac{0.8243}{0.0633} \times 100 = 1302.3\%$

The result shows that mean return of NBBL is 0.0633% which is sum total of single return dividend no of observation. The variation of return i.e. standard deviation of NBBL is 82.43% and consequently C.V. is 1302.3%.

Table 4.25: Calculation of Co-variance, Beta Coefficient of NBBL

Fiscal Year	$[r_{NBBL} ZE(r_{NBBL})]$	$r_m ZE(r_m)$	$[r_{NBBL} ZE(r_{NBBL})]^2$	$[r_m ZE(r_m)]^2$	$[r_{NBBL} ZE(r_{NBBL})]x$ $[r_m ZE(r_m)]$
2000/01	-	-	-	-	-
2001/02	-0.5997	-0.4743	0.3596	0.2249	0.2544
2002/03	-0.3574	-0.2277	0.1277	0.0518	0.0670
2003/04	-0.2577	-0.0439	0.0664	0.0019	0.0085
2004/05	-0.1323	0.1632	0.0175	0.0266	-0.0113
2005/06	-0.3263	0.2215	0.1065	0.0491	-0.0583
2006/07	1.7005	0.6402	2.8917	0.4098	1.1292
2007/08	0.7567	0.2806	0.5726	0.0787	0.2301
2008/09	-0.7836	-0.5584	0.6140	0.3118	0.4022
Total (N=8)					$[r_{NBBL} ZE(r_{NBBL})]$ $[r_m ZE(r_m)]= 2.0218$

$$\text{Co-variance}[r_{NBBL} \cdot r_m] \quad = \frac{[r_{NBBL} ZE(r_{NBBL})][r_m ZE(r_m)]}{N\,Z1} \quad = \frac{2.0218}{8\,Z1} = 0.2888$$

$$\text{Beta Coefficient (ß)} \quad = \frac{Cov(r_{NBBL}, r_m)}{\dagger^2{}_m} \quad = \frac{0.2888}{0.1649} \quad = 1.7514$$

Correlation coefficient between HBL and Market [Cor(P_{NBBL} , m)]

$$= \frac{Cov(r_{NBBL}, r_m)}{\dagger_{NBBL} \mid \dagger_m} = \frac{0.2888}{0.8243 \mid 0.4061} = 0.8627$$

The result shows that the correlation of NBBL with the market is positive i.e. 0.8627 less than perfectly correlated. NBBL has beta of 1.7514 which is greater than beta 1. It indicates that is an aggressive type of assets of NBBL, which is more volatile than the market. So, it is risky type of assets.

Table 4.26: Year wise rate of return on NBBL

Fiscal Year	Coded Year	Rate of Return (Y)	X (Y-4)	XY	X^2	Estimated Value
2001/02	1	-0.5364	-3	1.0692	9	-0.2937
2002/03	2	-0.2941	-2	0.5882	4	-0.1747
2003/04	3	-0.1944	-1	0.1944	1	-0.0557
2004/05	4	-0.0690	0	0	0	0.0633
2005/06	5	-0.2630	1	-0.2630	1	0.1823
2006/07	6	1.7638	2	3.5276	4	0.3013
2007/08	7	0.82	3	2.46	9	0.4203
2008/09	8	-0.7203	4	-2.8812	16	0.5393
	N=8	y X0.5066	x X4	xy X5.2352	x^2 X44	

As, x X0, $\quad a = \dfrac{y}{N} = \dfrac{0.5066}{8} = 0.0633$

$$b = \dfrac{xy}{x^2} = \dfrac{5.2353}{44} = 0.1190 \text{ (i.e. +ve increasing trend)}$$

Figure 4.12: Movement of Stock Rate of Return and Trend Line of NBBL
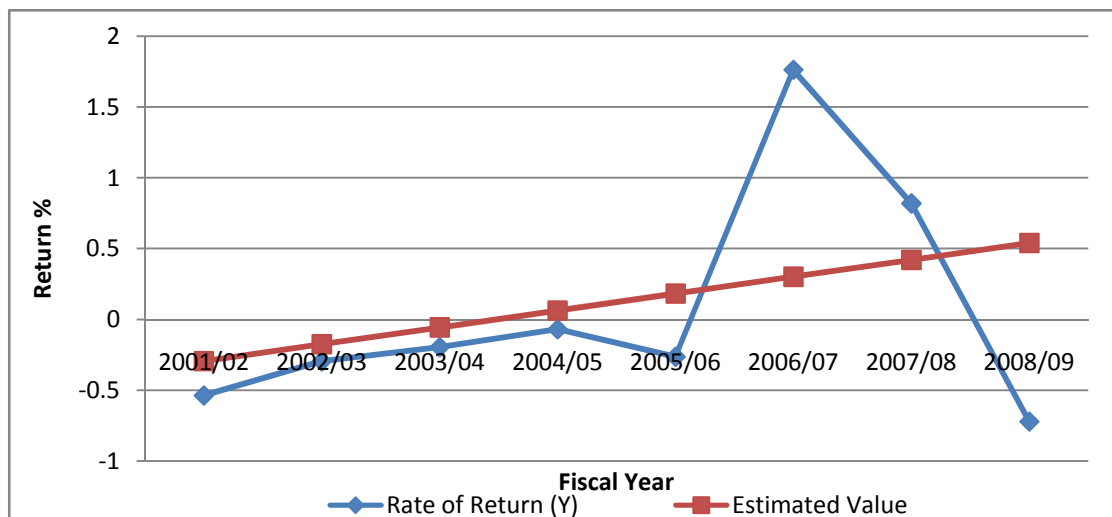
The above figure shows that the movement of common stock of NBBL's original rate of return and trend line rate of return. The rate of return is negative up to

FY 2005/06 and the estimated value is negative FY 2001/02 to 2003/04 and thereafter it moves increasing trend up to 2007/08.

4.3 Inter Bank Comparison of Risk and Return

From the all above tables and calculations, the expected return, standard deviation and C.V. of inter Banks are given in table 4.27.

Table 4.27: Expected Rate of Return, Standard and C.V. of each Bank

Bank	Expected Return	S.D.	C.V. %	Correlation Coefficient with Market
SCBNL	21.80	31.29	143.53	0.8678
NABIL	31.15	54.03	173.45	0.5674
NSBIBL	18.125	51.06	281.66	0.7678
HBL	6.63	28.09	423.66	0.9161
EBL	26.19	39.82	152.04	0.8973
NBBL	6.33	82.43	1302.3	0.8627
NEPSE (Market)	12.79	40.61	317.5	

From the above result, expected return is highest of NABIL Bank and then EBL ,SCBNL, NSBIBL respectively. Because of changing closing price of the stocks expected return of NBBL & HBL are low. Further researches know that the expected return and standard deviation from any security is the objects of choice for any investor. Ultimately most investor is risk averter and they prefer highest return low risk. So, therefore investor should concentrate about both risk and return but it is difficult to say that which security is best for investment point of view C.V. gives the clear idea about risk for any security per unit or return

4.4 Partitioning the Total Risk

Total risk can be measured by the variance of return; denoted by Var (r) total risk can be partition into systematic risk and unsystematic risk. Systematic risk can not be eliminated through diversification. Beta coefficient is the index of systematic risk in other word market sensitivity of stock can be defined by term "beta coefficient".

Var (r)   = Total risk of the assets

$$= \beta^2 \, Var(R_m) + Var(e)$$

= Systematic risk + Unsystematic risk.

The unsystematic risk measure, Var (e) is called the residual variance (or standard error squared) in regression terms.

4.4.1 Un-diversifiable Proportion

The percentage of total risk, systematic risk can be measured by the coefficient of determination (p2) i.e. the characteristics lines squared correlation coefficient.

$$\text{Un-diversifiable Proportion} \quad = \quad \frac{\text{Systematic Risk}}{\text{Total Risk}}$$

$$= \quad \frac{\text{s}_j^{\,2} Var(R_m)}{Var(R_j)} = P^2$$

4.4.2 Diversifiable Proportion

The percentage of total risk that is unsystematic risk can be measured by the coefficient of non-determination is equals $(1\text{-}p^2)$

$$\text{Diversifiable proportion} \quad = \quad \frac{\text{Un - Systematic Risk}}{\text{Total Risk}} \quad = \quad \frac{Var(R_m)}{Var(R_j)} = (1\text{-}P^2)$$

Table 4.28: Beta Coefficient of Each Bank

Bank	Beta
SCBNL	0.6689
NABIL	0.7550
SBI Bank	0.6111
HBL	0.6337
EBL	0.8798
NBBL	1.7514

4.4.3 Summary of Beta Calculation

Above table shows that beta of Nepal Bangladesh Bank Limited has greater than one beta i.e. ß>1. Therefore this assets indicate aggressive type of assets. This banks's stocks are more volatile than market. In other hand SCBNL,NABIL, NSBIBL and HBL,EBL has less than one beta i.e. ß<1, which indicates the defensive type of assets and these assets volatile less than the market.

4.4.4 Partitioning of total Risk into Systematic and Unsystematic Risk

a. Standard Chartered Bank Nepal

Total Risk $\quad$ = Systematic Risk + Unsystematic Risk

$\text{Var}(r_{SCBNL}) \quad = (S_{SCBNL})^2 \mid Var(r_m) \Gamma Var(e)$

$(0.3129)^2 \quad X(0.6689)^2 \mid (0.04061)^2 \Gamma Var(e)$

$0.0979 \quad = 0.4474 \mid 0.1649 \Gamma Var(e)$

$0.0979 - 0.0738 \quad = Var(e))$

$0.0241 \quad = Var(e)$

…Unsystematic Risk Var (e) = 0.0241

Systematic Risk = 0.0738

$\text{Un-diversifiable Proportion} \quad = \dfrac{\text{Systematic Risk}}{\text{Total Risk}} \quad = P^2$

$$= \dfrac{0.0738}{0.0979} \quad = 0.7538 = 75.38\%$$

$\text{Diversifiable Portion} = \dfrac{\text{Un - Systematic Risk}}{\text{Total Risk}}$

$$= \dfrac{0.0241}{0.0979} = 0.2462 \text{ or, } 24.62\%$$

b. NABIL Bank Limited

Total Risk $\quad$ = Systematic Risk + Unsystematic Risk

$\text{Variance}(r_{NABIL}) \quad = (S_{NABIL})^2 \mid Var(r_m) \Gamma Var(e)$

$$0.2919 = (0.7550)^2 \times \int 0.4061 Å + Var(e)$$

$$0.2919 \quad = 0.5700 \text{ x } 0.1649 + Var(e)$$

$$Var(e) \quad = 0.2919 - 0.0.0940$$

$$Var fe Å \quad = 0.1973$$

$$\therefore \text{ Unsystematic Risk, } Var(e) \quad = 0.1979$$

$$\quad \text{Systematic Risk} \quad = 0.0940$$

$$\text{Un-diversifiable Proportion} = \frac{\text{Systematic Risk}}{\text{Total Risk}} = \frac{0.0940}{0.0.2919}, = 0.3222 \text{ or, } 32.22\%$$

$$\text{Diversifiable Portion} = \frac{\text{Un - Systematic Risk}}{\text{Total Risk}} = \frac{0.1979}{0.2919} = 0.6780 \text{ or, } 67.08\%$$

c. Nepal SBI Bank Limited

Total Risk $\quad = $ Systematic Risk + Unsystematic Risk

$$\text{Variance}(r_{NSBIBL}) \quad = (s_{NSBIBL})^2 \, | Var(r_m) \, \Gamma Var(e)$$

$$0.2607 \quad = (0.6111)^2 \text{ x } 0.4061 + Var(e)$$

$$0.2607 \quad = 0.3734 \text{ x } 0.1649 + Var(e)$$

$$Var(e) = 0.2607 - 0.0616$$

$$Var(e) = 0.1991$$

$$\therefore \text{ Unsystematic Risk, } Var(e) \quad = 0.1991$$

$$\quad \text{Systematic Risk} \quad = 0.0616$$

$$\text{Un-diversifiable Proportion} = \frac{\text{Systematic Risk}}{\text{Total Risk}}, = \frac{0.0616}{0.2607}, = 0.2363 \text{ or, } 23.63\%$$

$$\text{Diversifiable Portion} = \frac{\text{Un - Systematic Risk}}{\text{Total Risk}}, = \frac{0.1991}{0.2607} = 0.7637 \text{ or, } 76.37\%$$

d. Himalayan Bank Limited

Total Risk $\quad = $ Systematic Risk + Unsystematic Risk

$$\text{Variance}(r_{HBL}) \quad = (s_{HBL})^2 \, | Var(r_m) \, \Gamma Var(e)$$

$$0.0789 \quad = (0.6337)^2 \text{ x } (0.4061)^2 + Var(e)$$

$$0.0789 \quad = 0.4016 \times 0.1649 + Var(e)$$

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0.0789 = 0.0789 -0.0662 Var (e)

Var (e) = 0.0127

... Unsystematic Risk, Var (e) = 0.0127

Systematic Risk = 0.0662

Un-diversifiable Proportion $= \dfrac{\text{Systematic Risk}}{\text{Total Risk}}, \ = \dfrac{0.0662}{0.0789}, = 0.8391$ or, 83.91%

Diversifiable Portion $= \dfrac{\text{Un - Systematic Risk}}{\text{Total Risk}} = \dfrac{0.0789}{0.0789} = 0.1609$ or, 16.09%

e. Everest Bank Limited

Total Risk = Systematic Risk + Unsystematic Risk

$Variance\,(r_{EBL}) = (s_{EBL})^2 \ | Var(r_m) \ \Gamma Var(e)$

$0.1585 = (0.8798)^2 \ \text{x} \ (0.4061)^2 + \text{Var (e)}$

$0.1585 = 0.7740 \times 0.1649 + \text{Var (e)}$

$0.0.1585 = 0.1276 + \text{Var (e)}$

Var (e) $= 0.1585 - 0.1276$

Var (e) $= 0.0309$

... Unsystematic Risk, Var (e) = 0.0309

Systematic Risk = 0.1276

Un-diversifiable Proportion $= \dfrac{\text{Systematic Risk}}{\text{Total Risk}}, \ = \dfrac{0.1276}{0.1585}, = 0.8050$ or, 80.50%

Diversifiable Portion $= \dfrac{\text{Un - Systematic Risk}}{\text{Total Risk}}, \ = \dfrac{0.0309}{0.1585}, = 0.1950$ or, 19.50%

f. Nepal Bangladesh Bank Limited

Total Risk = Systematic Risk + Unsystematic Risk

$Variance\,(r_{NBBL}) = (s_{NBBL})^2 \ | Var(r_m) \ \Gamma Var(e)$

$(0.8243)^2 = (1.7514)^2 \times (0.4061)^2 + \text{Ver (e)}$

$0.6794 = 3.0674 \ \text{x} \ 0.1649 + \text{Var (e)}$

$0.6794 = 0.5058 \ \text{x Var (e)}$

Var (e)   = 0.6794-05058

Var (e)   = 0.1736

… Unsystematic Risk, Var (e)   = 0.1736

   Systematic Risk   = 0.5058

Un-diversifiable Proportion $= \dfrac{\text{Systematic Risk}}{\text{Total Risk}}, = \dfrac{0.5058}{0.6794}, = 0.7444$ or, 74.44%

Diversifiable Portion $= \dfrac{\text{Un - Systematic Risk}}{\text{Total Risk}} = \dfrac{0.1736}{0.0794} = 0.2555$ or, 25.55%

Table 4.29: Total Risk and Its Partition

Banks	Total Risk	Systematic Risk	Un-systematic Risk	Coefficient of Determination	Coefficient of non-Determination
SCBNL	0.0979	0.0738	0.0241	0.7539	0.2462
NABIL	0.2919	0.0940	0.2979	0.3222	0.6780
NSBIBL	0.2607	0.0616	0.1991	0.2363	0.7637
HBL	0.0789	0.0662	0.0127	0.0127	0.0662
EBL	0.1585	0.1276	0.0309	0.8050	0.1950
NBBL	0.6794	0.5058	0.1736	0.7444	0.2555

The above table 4.29 shows that the total risk of NBBL is highest i.e. 0.6794 and total risk of HBL is lowest i.e. 0.0789 among six joint venture banks. Systematic risk is market risk and that can't eliminate through diversification. EBL and SCBNL has highest coefficient of determination, which indicates that the total risk of them has consist with systematic risk that can't be eliminated unsystematic risk of SCBNL and EBL can be diversified away. In other hand NBBL has highest total risk and lower coefficient of determination, which shows that there is huge part of unsystematic risk on total risk.

4.5 The Security Market Line

The capital assets pricing model is also called security market line (SML). SML is an equilibrium which gives the idea about how to set price and measure risk. The logic of the security market line equation is that the required return on any

investment is the risk free return plus a risk-adjusted factor. The risk adjusted factor is obtained by multiplying the risk premium required for the market rate of return to the individual investment.

Here, $E(R) = R_f + [R_m - R_f] \beta$

Thus, the required rate of return for joint venture bank could be calculated by SML equation. Where risk free rate of return is taken as weighted average return of Treasury bill rate published by Nepal Rastra Bank (NRB).

So, $R_f = 5$ (According to NRB treasury bills rate)

β = Beta coefficient of different banks

Market Rate of Return $E(r_m) = 12.79\%$

Table 4.30: Comparative Analysis of ERR and RRR of Different Joint Venture Banks

Banks	R_f	$E(r_m)$	β	RRR = $R_f + [R_m-R_f] \beta$	ERR	Remarks
SCBNL	5%	12.79%	0.6689	10.21%	21.80%	Under-priced
NABIL	5%	12.79%	0.7550	10.88%	31.15%	Under-priced
NSBIBL	5%	12.79%	0.9654	12.52%	18.13%	Under-priced
HBL	5%	12.79%	0.6337	9.94%	6.63%	Over-priced
EBL	5%	12.79%	0.8798	11.85%	26.29%	Under-priced
NBBL	5%	12.79%	1.7514	18.64%	6.33%	Over-priced

Figure 4.13: Security Market Line
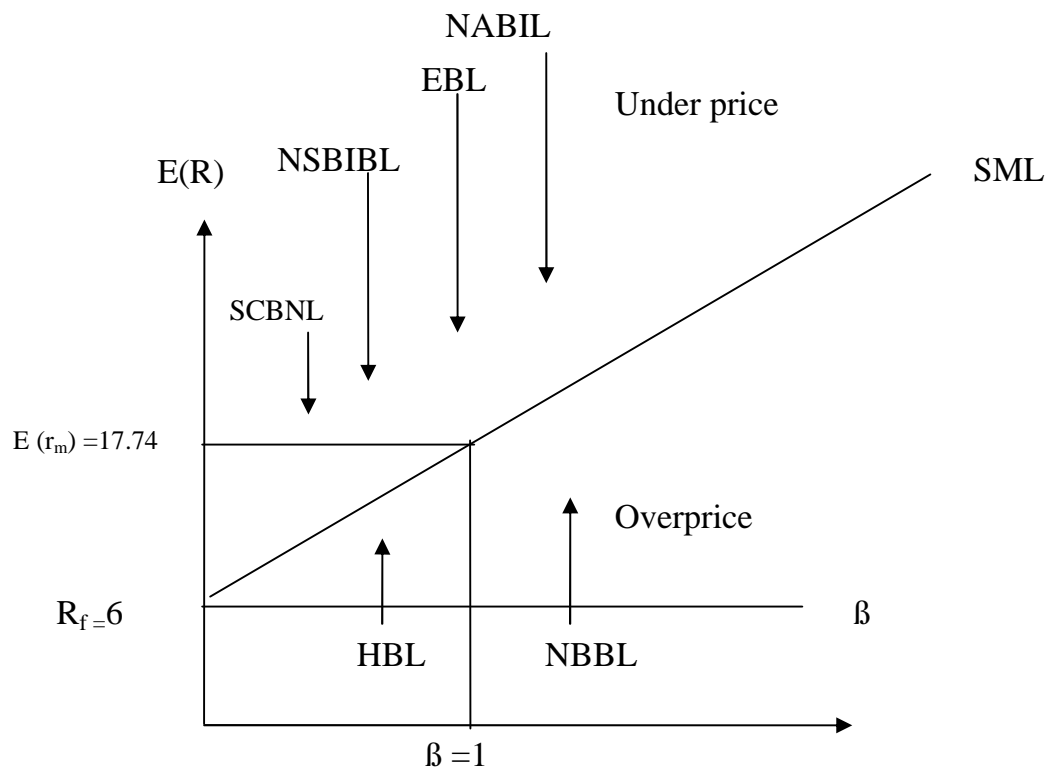
Above table and figure shows that the stocks of joint venture bank are not equilibrium on the CAPM. Assets are undervalued and, therefore, a very desirable assets to own. Above banks price will rise in the market as more investors purchase it. However, as assets price goes up, their return falls. The return consistent with its beta on the SML, equilibrium is attained.

4.6 Investment Performance Evaluation

The investment performance evaluation suggests that many invests who own or are considering buying company's share could concept higher rate of return and less risk if they invest their own funds by selecting securities randomly and then simply holding them. So, investment performance evaluation addresses the question of how to select the "best" company's management services. The tools introduced here are also useful to portfolio managers who wish to evaluate and improve their own money and, management skills. For this purpose three performance measures are introduced.

Sharpe's performance measure

Treynor's performance measure

Jensen's performance measure

Sharpe's Performance Measure

Defines a single parameter portfolio performance index that is calculated from both risk and return statistics which is denoted as follows:

$$Sp\ X \frac{\overline{ri}\ ZRf}{i}$$

Where,

$\overline{ri}(\%)$ = Average return

Rf = Risk free rate of return

$|\exists$ = Standard deviation of return

Table 4.31: Sharpe Performance Evaluation Showing with Ranking of Portfolio

Portfolio	$\overline{ri}$ (%)	i %	Rf %	$Sp\ X \dfrac{\overline{ri}\ ZRf}{i}$	Result	Ranking
A	21.80	31.29	5%	$\dfrac{0.2180\ Z0.05}{0.3129}$	0.5393	1st
B	31.15	54.03	5%	$\dfrac{0.3115\ Z0.05}{0.403}$	0.4840	3rd
C	18.13	51.06	5%	$\dfrac{0.1813\ Z0.05}{0.5106}$	0.2571	4th
D	6.63	28.09	5%	$\dfrac{0.0663\ Z0.05}{0.2809}$	0.0380	5th
E	26.19	39.82	5%	$\dfrac{0.2619\ Z0.05}{0.3982}$	0.5321	2nd
F	6.3	82.43	5%	$\dfrac{0.063\ Z0.05}{0.8243}$	0.0158	6th

As seen from above table show that Sharpe performance measure, at 5% risk free rate of return, the portfolio SCBNL (A) has the best performance as it has the highest risk premium at per unit of total risk i.e. 0.5393 so it ranked 1st position. The portfolio EBL (E) has 2nd position, which have risk premium is 0.5321. The portfolio NABIL (B) ranked as third because of 0.4840 as risk premium portfolio NSBIBL (C)

has fourth position i.e. risk premium is 0.2571 portfolio HBL (D) has fifth position i.e. risk premium is 0.0580. Portfolio NBBL (F) has worst performance as it has lowest risk premium at per units of total risk i.e. 0.015 so it ranked 6th position.

Treynor's Performance Measure

Jack Treynor conceived an index of portfolio performance that is base on systematic risk, measured by beta co-efficient

$$Tp\ X \frac{\overline{ri}\ ZRf}{}$$

Where,

$\wp$= Beta Co-efficient

Table 4.32: Treynor's performance measure showing with ranking of portfolio

Portfolio	$\overline{ri}$ (%)	$\wp$	Rf %	$Tp\ X \dfrac{\overline{ri}\ ZRf}{}$	Result	Ranking
A	21.80	0.6689	5%	$\dfrac{0.2180\ Z0.05}{0.6689}$	0.2512	2nd
B	31.15	0.7550	5%	$\dfrac{0.3115\ Z0.05}{0.7550}$	0.3464	1st
C	18.13	0.9654	5%	$\dfrac{0.1813\ Z0.05}{0.9654}$	0.1360	4th
D	6.63	0.6337	5%	$\dfrac{0.0663\ Z0.05}{0.6337}$	0.0257	5th
E	26.19	0.8798	5%	$\dfrac{0.2619\ Z0.05}{0.8798}$	0.2409	3rd
F	6.3	1.7514	5%	$\dfrac{0.063\ Z0.05}{1.7514}$	0.0074	6th

From the above calculation show that Treynor's performance measure use beta (systematic risk coefficient). Here, portfolio NABIL (B) has best performance i.e. 0.6689 beta coefficient and risk premium is highest i.e. 0.3464 and portfolio NBBL (F) has worst it has lowest risk premium i.e. 0.0074 and 1.7514 beta coefficient. Portfolio SCBNL (A) (EBL) E, NSBIB (C) and HBL (D) has better performance i.e. 0.2512, 0.2409, 0.1360.

Jensen's Performance Measure

The basic random variables in Jensen's Model are risk premium and denoted by

$$Jp \; X \overline{r}$$

Where,

$\Im = R - Rf + (Rm - Rf) \; \wp$

SCBNL: $\Im =$ 0.2180-0.05(0.1279-0.05) 0.6689=0.1159

NABIL: $\Im =$ 0.3115-0.05 (0.1279-0.05) 0.7550=0.2027

NSBIBL: $\Im =$ 0.1813-0.05 (0.1279-0.05) 0.9654 = 0.0561

HBL: $\Im =$ 0.0663-0.05 (0.1279-0.05) 0.6337 = -0.0331

EBL: $\Im =$ 0.2619-0.05 (0.1279-0.05) 0.8798= 0.1434

NBBL: $\Im =$ 0.0633--0.05 (0.1279-0.05) 1.7514 = -0.1231

Table No. 4.33: Jensen's performance measure showing with ranking of portfolio

Portfolio	Rf %	$\wp$		$\overline{}$	Ranking
A	5%	0.6689	0.1159	$\dfrac{0.1159}{0.6689}$ X0.1733	2nd
B	5%	0.7550	0.2027	$\dfrac{0.2027}{0.7550}$ X0.2685	1st
C	5%	0.9654	0.0561	$\dfrac{0.0561}{0.9654}$ X0.0581	4th
D	5%	0.6337	-0.0331	$\dfrac{-0.0331}{0.6337}$ X Z0.0522	5th
E	5%	0.8798	0.1434	$\dfrac{0.1434}{0.8798}$ X0.1630	3rd
F	5%	1.7514	-0.1231	$\dfrac{-0.1231}{1.7514}$ X Z0.0703	6th

From the above table show that portfolio NABIL (B) has best performance it has highest risk premium i.e. 0.2685 and Alpha coefficient is 0.1159. Portfolio SCBNL (A) ranked 2nd because of 0.1783 risk premium and 0.2027 Alpha

Coefficient portfolio EBL (E) and portfolio NSBIBL (C) ranked as third and fourth it has 0.1630 and 0.0581 risk premium with 0.1434 and 0.0561 Alpha coefficient portfolio HBL (D) and portfolio NBBL (F) has worst performance because of negative risk premium i.e. -0.0522 and -0.0703 so it has 5th and 6th position.

4.7 Major Findings of the Study

a. Expected return of NABIL is highest i.e. 33.31% and NBBL has lowest expected rate of return i.e. 6.33%. EBL has second position in expected rate of return i.e.26.19%.

b. SCBNL has 21.80% expected rate of return and 31.29% as standard deviation. NBBL also has maximum standard deviation of 82.43%. NABIL has second rank in terms of standard deviation of 54.03%.

c. Expected rate of return and standard deviation cannot give the appropriate comparison. So, we have to consider Coefficient of Variation.

d. Coefficient of variation of NBBL is highest i.e. 1302.3 concludes as most risky assets. Similarly HBL has also CV of 423.68 and resulted as risky assets.

e. Expected rate of return of market 12.79% and standard deviation is 40.61% with C.V. of 317.5. Standard deviation is the segregate the total risk and here NBBL has variance of 0.6794 where systematic risk is 0.5038 and unsystematic portion is 0.1736. Similarly, NABIL has second large portion of total risk where systematic risk is 0.0940 and unsystematic risk is 0.1979. As we know that unsystematic risk is diversifiable risk and could be eliminated through diversification.

f. Coefficient of determination is the proportion of systematic risk to the total risk. Coefficient of determination of EBL and SCBNL, have highest portion of that risk.

g. Beta is the index of systematic risk NBBL has beta greater than one ($ß>1$).So, these are the aggressive type of assets. SCBNL, NABIL NSBIBL, HBL and EBLare defensive type of assets with beta of less than one ($ß<1$).

h.   Sharpe's portfolio performance measures use the standard deviation of return as the measure of total risk. Here, portfolio SCBNL (A) has best performance measure as it has highest risk premium i.e. 0.5393 and portfolio NBBL (F) has worth performance as it has lowest risk premium i.e. 0.0158.

i.   Treynor's and Jensen's performance measure use beta (Systematic risk coefficient). According to both performance measure portfolio NABIL (B) has best performance it has highest risk premium portfolio NBBL (F) has worst it has lowest risk premium.

CHAPTER – V

SUMMARY, CONCLUSION AND RECOMMENDATION

In this section an attempt has been made to summarize some of the major accomplishment of the study this chapter is complete conclusive and suggestive package, which contains summary, conclusion of the findings and actionable plans i.e. suggestion for further improvement its planed goal conclusion for the bank to perform daily action and achieve the planed goal conclusion of the findings are based on the consequences of the analysis of relevant data by using various financial as well as statistical tools which presents the strengthens, weakness, opportunities and threats of JVBs. The recommendations are presented in terms of suggestions which are prepared on the basis of findings and conclusion.

5.1 Summary

The shares of commercial banks in Nepal are heavily traded in the stock exchange. Share plays a vital role in the determination of stock exchange indicators. Institutional set up of securities market began along with the establishment of security exchange enter in 1977. Rational investor must be motivated providing investment related and good knowledge to analysis risk and return behavior of stock and portfolio to develop stock market in Nepal. All these activities ultimately help them to be confidence and to improve stock investment and efficiency.

Common stock is most risky security and lifeblood of an organization. Investor dreams capital gain and dividend from an investment but they are not always able to fulfill their expectation because there is risk too. So, risk and return is the objects of choice for any individual investor. In the context of Nepal, investor is not able to determine risk-return-trade-off in investment. They use to invest their funds randomly or by their personal preferences. Some investor invests their funds in only one security but some of them invest in more than two assets without having the knowledge about portfolio selection or diversification. Investors are unknown about the correlated stocks.

The main objectives of this study was to analyze the risk and return characteristics of stocks and find out the investment performance evaluation on

common stock of joint venture banks. The data used in this study are mainly secondary in nature. For analysis financial tools such as portfolio performance evaluation and statistical tools such as mean, standard deviation, coefficient of variation, covariance, correlation and coefficient of determination are used. The data and results are tabulated and presented in figures as the requirement of the study.

5.2 Conclusion

From all above calculation, tables and graphs figures the researcher comes to conclude the following points. But, these all conclusion and recommendation is completely based on sample study.

a.   Expected rate of return of maximum joint venture banks which are taken as sample have higher return than market expected rate of return.

b.   NABIL bank has the highest expected rate of return and NBBL has the lowest expected rate of return. So, investor can get the highest rate of return in NABIL bank which is little point above than the expected rate of return of EBL and return of SCBNL is behind the EBL. Only expected rate of return can not gives appropriate comparison between the assets for that investors have to consider both risk and return and C.V. So, investor must be decided to invest by observing coefficient of variation where NBBL and HBL have highest C.V. and concluded as most risky assets.

c.   Correlation coefficient measures the degree of relationship between two stocks correlation coefficient always lie between -1 to +1. A value +1 represents of perfectly correlation and -1 represents the perfectly negatively correlated with the market and it is beneficial to diversify the risk.

d.   The beta itself measures the index of systematic risk of stock and it is found that the stock of NBBL are aggressive type of assets and SCBNL,NABIL, NSBIBL,HBL and EBLare defensive type of assets.

e.   Coefficient of determination reveals the proportion of systematic risk to the total risk. So this study shows that NIBIBL has high proportion of unsystematic risk i.e. 76.37% and EBL has high proportion of systematic risk

i.e. 80.50% which can not be minimized from internal factor. Common stock of EBL is best among these bank.

f. All joint venture banks have less required rate of return than the expected rate of return except NBBL and HBL concluded as overvalue and investor will be beneficial by investing their stocks.

g. According to Sharpe portfolio performance measure. Portfolio SCBML (A) has best performance and according to Treynor's and Jensen's portfolio performance measure, portfolio MABIL (B) has best performance.

5.3 Recommendation

Based on the above study and conclusion, the researcher prescribed the following recommendations and suggestion.

a. Expected rate of return from NSBIBL and NABIL is highest among the joint venture bank, which are greater than required rate of return. So, it is suggested to purchase the stock of JVB's that will beneficial in future.

b. NSBIBL and NBBL may have some internal risk factor such as management errors, inventions, advertising campaigns, and shift in consumer taste etc. So, to reduce the unsystematic risk NSBIBL have to improve their management to increase their stock prices.

c. NEPSE need to modernize the trading system and effective information channel to enhance to investor attraction towards the investment.

d. To expand and growth of capital market there should effective information channel to enhance to investor attraction towards the investment.

e. To expand and growth of capital market there should effective consumer awareness programs towards the investment and its opportunities.

f. Stock exchange facilities should be expanded in each development region based on feasibility to participate and attract the unproductive funds of the country.

g. No, electronic system has been used yet that could help the investor to participate in the transaction electronically from different parts of the nation. So, further step of improvements should be implementing to expand the capital market.

h. It is now time that the concept of stock split is introduced in Nepali market too. It is beneficial to develop the capital market. To attract the small investors towards capital market and to increase the liquidity of the market.

i. Without proper analysis of individual security and overall market investment on common stock will not beneficial. So, investor should concentrate the risk and return characteristics of individual security before investment.

j. Investment on common stock has both risk and return, so investor should be acquainted with associated risk and work out their attitude towards the risk ness of various investment strategies.

k. Now, it is right time to expand the economy of Nepal by its own resources and capital, so for that there should exercise of political stability and good governance.

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