

Chapter-One

Introduction

1.1. Background of the study.

Intergraded and speedy development of the country is possible only when competitive banking services reaches the nooks and corners of the country. Commercial banks occupy an important place in the framework of every economy because it provides capital for the development of industry, trade and business investing the saving collected as deposits. Besides commercial banks render a numerous services to their customer on view of facilitating their economic and social life.

Banks are an essential part of the business activity which are established to safeguard people's money and thereby using the money in making loans and investments. There are several commercial banks operating inside and outside the valley. Every bank invests its money in some profitable financial sector, which may result in profitable business in the long run. An investment is the commitment of money that is expected to generate additional money. Human nature doesn't satisfy for whatever he/she has at present he/she tends to have more than whatever he/she has. So expecting the additional return, he/she tend to sacrifice the current resources. Whenever we talk about the return risk too must not be avoided, because in every type of return, risk is involved. "Every investment entails some degree of risk, it requires at present certain sacrifice for a future uncertain benefits."¹

The growth of an individual's or firm's resources is not possible until and unless we invest it in some profitable sector.

Thus investment is the sacrifice of existing resources to generate return in future involving risk. It can be real as well as financial investment. Real

¹ Jack Clark Francis (1998) Investment Analysis and Management 5th edition, Mc. Graw Hill International

investment involves kinds of tangible assets such as land, machinery, factories, building, etc. whereas financial investment involves contracts written in a piece of paper such as common stock, bond, etc.

1.2. Investment Portfolio

A Portfolio is usually defined as a combination of assets. It is a collection of securities. Portfolio means the lists of holdings in securities owned by an investor or institution.² A portfolio is a collection of investment securities. For example If you owned some of Nepal Bangladesh Ltd. stock, some United Insurance Co. Ltd. stock, some Yak & Yeti Hotel Ltd. stock, some Nepal Liver Ltd. Stock, some Bottlers Nepal Co. stock, some Nepal Housing and Merchant Finance Ltd. Stock, you would be holding six stock portfolios. Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities. Portfolio expected return is a weighed average of the expected return of the individual securities.

Portfolio theory deals with the selection of optimal portfolio; portfolio that provides the highest possible return for any specified degree of risk or the lowest possible risk for any specified rate of return. Portfolio theory has been developed for the financial assets. Thus making investment from the selected optimal portfolio i.e. the portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio.

According to Weston & Brigham, “A portfolio simply represents the practice among the investors of having their funds in more than one asset. The combination of investment assets is called a portfolio.”³

According to Lawrence J. Gitman, “Portfolio means a collection or group of assets.”⁴

² Oxford dictionary of Finance and Banking new edition, 1997

² J.F. Weston & E.F. Brigham, Managerial Finance 8th edition (Chicago: The Dryden Press, 1982) p245

³ Gitman, Lawrence, principal of Managerial Finance, 5th edition (San Diego State University, Harper Cillins Publishers, 1988) p243

According to Raymond Brockington, “The term ‘portfolio’ simply means collection of investments. For an investor through the stock exchanges the portfolio will be a collection of shareholdings in different companies .For a property investor portfolio will be collection of buildings. To a financial manager with in an industrial company portfolio will be a collection of real capital projects .It will be apparent that the actual nature of the components of a portfolio depends on the population of opportunities from which the selection has been made.”⁵

Portfolio is a collection of securities .An investors, who has been paying someone to actively manage his or her portfolio, has every right to insist on knowing what sort of performance was obtained. Such information can be used to alter either the constraint placed on the manager, the investment objective given to the manager or the amount of money allocated to the manager. Perhaps more importantly, by evaluating performance in specified ways, a client can forcefully communicate his or her interest to the investment manager, and, in all likelihood, affect the way in which his or her portfolio is managed in the future. Moreover, an investment manager, by evaluating his or her own performance, can identify sources of strengths or weaknesses.

1.3 Portfolio Management

Portfolio management is basically concerned with efficient management of portfolio investment in financial assets; including shares and debentures of companies. Portfolio management assumes periodic supervision of the security in the portfolio. Buy and hold philosophy, in present competitive society and in view of the fluctuations of the stock market is not a very prudent, conservative or rational plant of action for sound portfolio management. The management may be by professionals, by others, or by individuals themselves. A portfolio of an individuals or a corporate unit is the holding of securities and investment in financial assets. These holdings

⁵ Brockington Raymond, Financial Management (London, DP Publication Ltd. 5th edition, 1998, 148.

are the results of individual's preferences and decision regarding risk and return. The process of portfolio management is closely and directly linked with the process of decision –making the correctness of which cannot be ensured in all cases.

The basic problem of portfolio management is to establish an investment objective or goal and then decide the best to reach the goal with the securities available. This has been stated as an attempt by the investor to obtain the maximum return with minimum risk.

The process of portfolio management involves a logical set of steps common to any decision: plan, implement and monitor.

According to Cohen, Zingbarg & Zeikel, "Portfolio management is the art of handing a pool of funds so that it not only preserves its original worth but also overtime appreciates in value and yields an adequate return consistent with the level of risk assumed."⁶

1.3.1 Objective of the Portfolio Management

Often most objectives turn out to be closely related to the theoretical objective of maximizing return for the level of risk inherent in the portfolio.

The objectives of portfolio management are as follows:

- J Capital
- J Safety or security of an investment
- J Income by way of dividends and investments
- J Liquidity
- J Marketability
- J Tax Planning –capital gain tax, income tax and wealth tax
- J Risk diversification or minimization of risk

⁶ George B. Cohen Edward. D. Zinbarg Arthur Zeikel Investment Analysis and Portfolio 3rd Ed. London, 1978, p.59

1.4 Portfolio Risk and Return

Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities. Portfolio expected return is the weighted average of the expected return of individual securities. An investor can sometimes reduce portfolio risk by adding another security with greater individual risk than any other security in the portfolio. There are two kinds of risk, which are as follows

- a) Market risk or Systematic risk measured by its Beta and
- b) Company risk or Unsystematic risk

Total risk, measured by its standard deviation. The total risk is the combination of systematic risk and unsystematic risk.

1.4.1 Portfolio Return

The expected return of a portfolio should depend on the expected return of each the security contained in the portfolio. It also seems logical that the amounts invested in each security should be important. The portfolio return is the weighted average expected return of the individual stocks in the portfolio, with weights being the function of the total portfolio invested in each stock. The portfolios expected return be defined in equation as follows:

$$K_p = W_1K_1 + W_2K_2 + \dots + W_nK_n$$

Where,

K_p = Portfolio expected return

W_1 = Weight for Stock 1

W_2 = Weight for Stock 2

K_1 = Expected Return for Stock 1

K_2 = Expected Return for Stock 2

1.4.2 Portfolio Risk

Either the Variance or the Standard Deviation of Return measures Portfolio risk. The Variance of Return from a Portfolio made up of an asset is defined as follows:

$$\begin{aligned} \text{Variance } \{\sigma_P^2\} &= W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2W_AW_B \text{Cov}(r_A, r_B) \\ \{\sigma_P\} &= \sqrt{W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2W_AW_B \text{Cov}(r_A, r_B)} \\ \{\sigma_P\} &= \sqrt{W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2W_AW_B \rho_{AB}\sigma_A\sigma_B} \end{aligned}$$

(p = W_A²(σ_A² + W_B²(σ_B² + 2.W_A.W_B (ρ_{AB} (σ_A .σ_B).

Where,

- σ_P = Standard Deviation of Portfolio's rate of return
- $\text{Cov}(r_A, r_B)$ = Covariance of Returns between assets A and B
- ρ_{AB} = Correlation Co-efficient between A and B
- σ_A = Standard Deviation of A
- σ_B = Standard Deviation of B

The covariance is related to the correlation coefficient as shown in equation,

$$\text{Cov}(r_A, r_B) = \rho_{AB} \sigma_A \sigma_B$$

1.5 Capital Asset Pricing Model (CAPM)

CAPM is a model based on the presentation that any stock's required rate of return is equal to the risk free rate of return plus its risk premium, where risk is measured by the beta coefficient.

The CAPM is a relationship in which the expected rate of return of the asset is a linear function of that asset's systematic risk.

The CAPM represents the trade-off of systematic risk for the returns that investors expect and are fabled to receive. The CAPM explain the behavior of security prices. It further explains how the prices and interest rates on risky financial assets are determined in the capital market. CAPM combines the principles of portfolio theory with certain assumption regarding investor's expectations and market characteristics.

Assumption:

1. Individuals are risk-averse
2. Individuals can borrow and lend free at risk free rate of interest.

3. Individuals have homogeneous expectations regarding risk and return of securities.
4. The market is perfect and competitive.
5. There are no transaction costs and taxes.
6. Securities are divisible.

The CAPM equation is written as follows:

(R_j) = Expected return on assets.

R_F = Risk free rate of return

R_M = Market return

β = Coefficient of Beta

1.6 Meaning of Commercial Bank

“A bank is a business organization that receives and holds deposits funds from other, makes loans and extends credits and transfers fund by written order deposits.”⁷

According to Nepal Commercial Bank Act 2031 B.S. “A commercial bank refers to such type of bank other than specified banks related to cooperative, agricultural, industrial and other which deals in money exchange, accepting deposits and advancing loans, etc.”⁸

The commercial banks are those banks, which pool together the saving of the community and arrange them for the productive use. Commercial banks transfer monetary sources from the savers to the users. They accept deposits from the public on the condition that they will be repayable. They provide loans and advances from the money, which they receive through deposits. A part from financing they also render services like collection of bills and checks, safekeeping of the valuable, financial advising etc. to their customer.

Commercial banks are organized on a joint stock company system, primarily

⁷ The Encyclopedia Americana, Vol.111 Grotier Incorporated. 1984.

⁸ Commercial Bank Act, Nepal 2031 B.S.

for the purpose of earning profit. They can be either of the branch banking type, with a large network of branches or of the unit banking type as we see in the United States, where a bank's operation is confined to a single office or to a few branches within a strictly limited area.

1.7 Functions of Commercial Banks

There are many functions performed by commercial banks, which may be summarized as follows:

1.7.1. Accepting Deposits

Commercial banks accept all kinds of deposit, especially under three main headings:

Current Deposit

This is also known as demand deposits whereby the banker incurs the obligations of paying legal tender on demand. Thus the does not pay any interest for the deposits.

Saving Deposits:

Saving deposit is the deposit, which will be opened by the general savers and middle-class people. The usually pays small interest to the depositors against their deposits.

Fixed deposits:

Fixed deposit is one of those in which the customer money is deposited for a fixed period of time; generally by those who do not need money for a stipulated time period. Thus banks pays higher rate of interest to the depositor.

1.7.1.1 Advancing Loans

A Commercial bank first mobilizes the saving of the society by taking all kinds of deposits. Then it provides the money to those who are in need of it by granting overdrafts or fixed loans or by discounting bills of exchange or promissory notes in the form of loans and advances.

1.7.1.2 Agency Services

A commercial bank provides a range of investment services. Customers can arrange for dividend to be sent to their bank and paid directly into their bank account.

A commercial bank undertakes the payment of subscriptions, premium, rents and collections of checks, bills, promissory notes, etc, on behalf of its customers. It also acts as correspondent or representative of its customers, other banks and financial institution.

1.7.1.3 Credit Creation

Credit creation is the very important function of the commercial banks. They accepts deposits and advance loans. When the bank advances loans, it opens an account to draw the money by check according to the need.

1.7.2 Other Functions

Other functions of the banks are as follows:

) **Assist in foreign trade:**

Commercial bank discounts the bills of exchange drawn by Nepalese exporters on the foreign importers and enables the exporters to receive money in the native currency.

) **Offers security brokerage services:**

Many commercial banks have begun to market security brokerage services offering customers the opportunity to buy the stocks, bonds and other securities without having to go a security dealer or broker.

) **Financial advising:**

Many banks offer a wide range of financial advisory services for helping in financial planning and consulting business mangers.

1.8 Development of Commercial Banks in Nepal

Nepal's banking history had begun with the establishment of Nepal Bank

Ltd in 1937. At that time, the bank had an authorized capital of Rs. 10 million and paid up capital of Rs. 843 thousands. Nepal Bank Ltd. was the first commercial bank with 51% government equity and 49% owned by general public. It was established under the special Banking Act 1936 having elementary functions of a commercial bank. Because of the non-existence of a central bank in the country, the commercial bank had to act as its own central bank, and keep enough resources in hand for meeting emergencies.

Later on, the first Central bank was established, with an objective of supervising, protecting and directing the functions of commercial banking activities. Rastriya Banijya Bank came into existence in 1966, fully government ownership with the authorized capital of Rs. 10 million and paid up capital of Rs. 2.5 million.

Similarly with the establishment of a cooperative bank, which was, later on converted into Agricultural Development Bank in 1967 added more bricks in the construction of the banking sector of Nepal. Agricultural Development Bank was established as the main financing institution for small rural agro-industries and cooperative sectors. It has started depository functions of a commercial bank from 1986 with similar deposit rates.

In 1980 the government introduced 'Financial Sectors Reforms'. Nepal allowed the entry of foreign bank as joint venture with up to a maximum of 50% equity participation. Now there are altogether nine joint venture banks operating in Nepal aiming to contribute to trade and commercial sector of the nation. " When government decided to establish banks with joint venture two benefits were expected. First, that competition would force the domestic banks, Nepal Bank Ltd. and Rastriya Banijya Bank to improve their services and efficiency. Second that introduction of new banking procedures,

methods and technology would occur”⁹. The first joint venture bank was Nepal Arab Bank Ltd (NABIL). It was established in 1984. Later the following joint venture banks were established respectively.

Nepal Arab Bank Ltd. in	1984
Nepal Investment Bank in	1986
Standard Chartered Bank in	1987
Himalayan Bank in	1993
Nepal SBI Bank in	1993
Nepal Bangladesh Bank in	1994
Everest Bank in	1994
Bank of Kathmandu	1995
Nepal Industrial and Commercial Bank in	2054(B.S.)

1.9 Joint Venture Bank–Concept/A brief Review

The concept of joint venture bank is a new innovation in finance and it is on growing stage, mostly in developing countries. Joint venture means “A business contract of management effort between two persons, companies or organizations involving risk and benefit sharing.”¹⁰ Joint venture is the process of sharing risk and return from a specific venturing.

In global perspective, joint venture are the modes of trading through partnership among nations and also a form of negotiation between various groups of industries and traders to achieve mutual exchange of goods and services for sharing competitive advantages. A joint venture is the joining of forces between two or more enterprises for the purpose of carrying out a specific operation (industrial or commercial investment, production or trade).¹¹

Joint venturing in banking is the same as the definition mentioned above. It

⁹ Christain Madilin and Harm Snok, Evaluation of Banking Supervision in the Nepal Rastra Bank.

¹⁰ BN Ahuja, Dictionary of Management 2nd edition (New Delhi Academic (India) publisher, 1992, p 174

¹¹ D.P. Gupta. The Banking System Role in Export Development. The Financing of export from developing countries International Trade Centre, UNCTAD/GATT Geneva, 1984, p15-24

is an initial step in the process of economic liberalization policy of Nepal. There has been substantial growth in the number of joint venture banks in Nepal since 1985. The main reason behind this is the government's liberal policy of allowing foreign joint venture banks to operate in Nepal. Government's liberalization policy also encourages the traditionally run domestic commercial banks to enhance their efficiency and competitiveness through modernization, mechanization, via computerization and prompt customers' services by setting them to the exposure of the joint venture banks."¹² The existence of foreign joint venture banks has brought an environment of healthy competition in front of the existing commercial banks. The increased competition forces the existing banks to improve their quality and extend their services by simplifying procedures and by training, motivating their own staff to respond to the new challenges."¹³

The joint venture banks are in a better position than local commercial banks in profit making. On an average no foreign banks have suffered loss till now, but local banks have owned negative profits.¹⁴

Despite of an increment in the number of joint venture banks they are concentrated in urban centers, especially in major cities of the country, with all their headquarters in Kathmandu alone except that of Nepal Srilanka Bank, which is based in Rupandehi This trend has resulted in two-way effects on the operation of the government owned commercial bank in Nepal. First ,the comparatively attractive interest rates and services promptness of these private banks have drawn the public deposit to their side thereby reducing financial liabilities of the former. Second, as a result of reduction in financial bank have been forced to shut down some of their branches in the remote area of the country. Finally, the joint venture banks

¹² M.K Shrestha "Commercial Bank" Comparative Performance Evaluation", Kosh, year 16, (Kathmandu Karmachari Sanchay Koish Publication 1990)

¹³ 13 Chopra. S. Role of Foreign Banks in Nepal", NRB Samachar, 34th anniversary, Kathmandu, NRB April 1990a

¹⁴ Pradhan, "Nepal MaBanijaya Upalabdhi tatha Chunauti", Kathmandu, 1991 p13

have been instrumental in mobilizing capital more effectively and to a large extent. Especially, they have been more helpful in funding the private sector.¹⁵

1.10 Role of Joint Venture Banks

In the year 1980, when the government introduced 'Financial Sector Reforms', Nepal allowed the entry of foreign banks as joint ventures with up to a maximum of 50% equity participation. A meaningful step towards financial liberalization was undertaken in the fiscal year 1987-88, with the objective of expediting the process of economic development under structural adjustments program and major reforms including liberalization of interest rate strengthening of banking operation of a shift from direct to indirect monetary control instruments.

The main roles of Joint Venture Banks of Nepal are pointed out below:

- J **Healthy Competition:** - The induction of joint venture banks also brings the benefit of healthy competition. The competition would force the domestic banks, Nepal Bank Ltd. and Rastriya Banijya Bank to include their services and efficiency.
- J **Foreign Investment:** - Foreign Investment is one of the important aspects for the economic development of the country. When looking at the possibility of investing in Nepal, multinational companies are unfamiliar with the local rules, regulations, and practices. The joint venture banks help the multinational companies to build up their confidence for investment by providing necessary information and financial support.
- J **New Banking Technique:** - Modern Banking services are being provided to Nepalese financial system by new joint ventures banks. New banking techniques such as tale banking, computerization, fee best

¹⁵ Facts about Nepalese Economy, 1998, " Jojnt Banks in Nepal," Nepal Society for applied Economics July, 1998, P22

activities, hypothecation etc are the important contribution of Nepalese joint venture banks to the gradually changing commercial banking scenario.

1.11. Statement of the Problem

The investment planning of the commercial Bank in Nepal heavily depends upon the rules and regulation provided by the central Bank. The composition of the assets portfolio of the Banks is influence, by the policy of the Central Bank. This is the main problem of portfolio management of Joint Venture Banks in Nepal.

The competition is the burning issue at this time, in the country due to emergence of 48 finance companies and about the dozen of the rural Banks and corporate societies in the sort span of time. It has threatened in the entire banking system. It has also warned the Commercial Banks to improve and manager their productivity. The credit policy, the discount rate policy, the interest rate ceiling and certain percentage of deposits to be lent to productive sectors, all these policy affect investment decisions of the Commercial Banks.

With the prevailing economic recession in the country, there has been lower investment in the agriculture, manufacturing, Industrial and financial sectors. Lower volume of investment is causing lower growth of gross domestic product and hence foreign trade deficit is increasing day by day.

Joint venture Banks are also directly affected by this economic turmoil and are facing difficulties in furnishing their loans and advances toward the profitable sector. More ever as a result of economic recession, only few entrepreneurs are able to survive and others who are less competitive are backing out from the marker. In this kind of situation banks to be owner safer side, invest their surplus funds in the government back investments such as treasury bills or government securities, which yield lower rate of

interest in comparison to credit.

Many of Nepalese people are deprived from Modern Banking facilities around 90% of population live out of urban area but all the joint venture Banks tend to concentrate only in urban area like Kathmandu, Birgunj and Biratnagar and other major cities.

The study seeks to find out of the investment of Joint Venture Banks with the analysis of these Banks market return and financial statements. The attempt has been made to sort out the answer to the following research questions:-

- a) How does the bank portfolio variables behave?
- b) What are the existing situations of financial position of Joint Venture Banks in Nepal?
- c) How far have Commercial Bank succeeded to transfer monetary resources from saver to users?
- d) Which Bank has the largest degree of financial risk measured in terms of portfolio risk?
- e) How does the portfolio investment manage by the joint venture Banks?
- f) Is the portfolio investment management efficient?

1.12. Objective of the Study

The general objective of their study is to identify the situation of portfolio management of Nepalese Joint Venture Banks. The specific objective of the study are as follows:-

- 1) To examine the existing situation of portfolio management of Nepalese Joint Venture Banks.
- 2) To evaluate the investment and advance portfolio of Joint Venture Banks.
- 3) To analyze the risk and return of Banks.
- 4) To give suggestion based on the analysis of the data.

1.13. Area of the Study

Nepal's modern Banking history began from the establishment of Nepal Bank Ltd. in 1936. In 1956 Nepal Rastra Bank came in existence as central Bank of our country. Rastriya Banijya Bank was established in 1966 under fully government ownership. After the introduction of Banking reformation policy 1980, government took step toward economic liberalization. Government allowed foreign bank to operate banking activities as a joint venture with domestic investors up to 50% equity participation. In the span of two decades nine joint venture Banks came in existence. These Banks have done much to open new frontier of economics development of our country. These Banks have introduced new Banking technologies, mechanism and methodology.

In the light of competitive modern banking environment our area of study is to measure of performance of sample banks, their risk and return, trend and portfolio patens etc. it includes the sectors of investment by these institutions.

1.14. Research Design

In order to make any type of research a well set of research design is necessary, which fulfills the objective of the study.

“Generally research design is the plan structure and strategy of investigation conceived so as to obtain answer to research question and to control the actual variance.”¹⁶ Basically research design helps the research to control the experimental extraneous and error variance of the particular research problem under the study topic. It is invented to enable the researcher to answer research questions as variedly, objectively, accurately and economically as possible. It set up the framework to test the relation among variables.

¹⁶ Kerlinger, F.M. Research Design Meaning Purpose and Principles " Foundation of behavioural Research 2nd ed. (Holt, Rinehart and winston Inc.) p30

These are so many question in our statement of problems to be answered and to answer these questions and to fulfill the objectives of the study topic, a will research design will be done accordingly. In this respect the present study is designed under descriptive and quantitative methods. The present research specially deals with secondary data.

“A research design is the arrangement of condition for collection and analysis of the data in a manner that aims to combine relevance to the research purpose with economy in procedure.”¹⁷

1.15 Limitation of the Study

In the context of Nepal, data problem is major problem for study. Every works have restriction and limitation without limitation work is not done sweet and taste . This study has been made by using certain methodology and based on available data which is related with the study.

This study is simply a partial requirement of M.B.S. programme so this study is limited by the following factors.

1. The sample taken for study may not represent the whole population .
2. Only secondary data will be analyzed to interpret result emerging from decision consequently the result depend on the reliability of secondary data.
3. For the study required document is not available by certain place.
4. This study is only for suggestion not for direction .
5. The data used in the study are modified as per need of the study
6. The utilization tools have assuming and limitation which is not satisfied to us.
7. The time factor is major limitation of this study because this study is completed within a short span of time. This study is covered the past

¹⁷ Cothari C.R. Quantitative Technique" (New Delhi V.P.H. India 1989)

fiscal year is from 1995 to 2003.

8. This study has not paid attention towards the funds flow and cash flow patterns.
9. Surroundings environment is also the limitation for the study.

1.16. Population and Sample.

Since mid 1980's where Nepal Government adopted economic liberalization policy in Nepal, many joint venture Banks are established within a span of time .As a result, now a days many joint venture banks are operating in the country.

These are major joint venture Banks whose shares are traded actively in the stock market .It is not possible to study all of them regarding the study topic. Therefore sampling technique will be used for selecting sample from population. A list showing the listed joint venture Banks:-

Nepal Arab Bank Ltd. in	1984
Nepal Investment Bank in	1986
Standard Chartered Bank in	1987
Himalayan Bank in	1993
Nepal SBI Bank in	1993
Nepal Bangladesh Bank in	1994
Everest Bank in	1994
Bank of Kathmandu	1995
Nepal Industrial and Commercial Bank in	2054(B.S.)

Nepal Arab Bank, Nepal Investment Bank and Standard Chartered Bank are the first, second and third joint venture Banks respectively which were established under the Company Act. They have been providing dividend as well as bonus shares to its stock holders. For analysis purpose six major joint venture Banks i.e., Nepal Arab Banks, Nepal Indo-suez Bank, Himalayan Bank, Nepal SBI Bank , Everest Bank and Nepal Bangladesh Bank L.t.d. are taken as sample. It represents 66.67% of total population .

These are the large joint Venture Banks and providing cash as well as bonus shares as dividend.

1. Brief Profile Of selected Nepalese Joint Venture Banks

Nepal Arab Bank Ltd.:-

Nepal Arab Bank limited, the first joint venture bank in Nepal was established in 1984, under Company Act 1964. Its equity configuration showed that Dubai Bank Ltd. (DBL) owned 50% equity partner which was transferred to Emirates Bank International Limited. Later on, Emirate Bank International Ltd., Dubai sold its entire 50% equity holding to National Bank Ltd. of Bangladesh .So the current configuration is given as follows:

National Bank Ltd. Bangladesh	50%
Nepal Industrial Development Corporation (NIDC)	10%
Rastriya Beema Santhan	9.66%
Nepal Stock Exchange	0.34%
Nepalese Public	30%

Being the largest equity holder, National Bank Ltd. Bangladesh is managing the bank in accordance with Technical Service Agreement signed between it and the bank on June 1995. Later on the name of this bank is changed as NABIL BANK LTD.

The bank expanded its banking services towards the different regional and parts of the country by expanding its branches. Besides banking, the other facilities provided are:

-) Credit cards
-) International trade and bank guarantee
-) Tele banking
-) Society for worldwide inter bank financial telecommunications(SWIFT)
-) Safe deposit locker
-) Western union money transfer

J ATM (Automated Teller Machine)

2. Nepal Investment Bank Ltd. (Nepal Indo Suez Bank Ltd.)

Nepal Indo-Suez Bank Ltd. was established on 21st January 1986 as a 2nd Joint Venture Bank under the company Act.1964. The Bank is managed by Banque Indo-Suez Paris in accordance with joint venture and technical services agreement signed between it and Nepalese promoters. Banque Indo-Suez hold 50% of total capital and Nepalese promoters hold other half portion which include government organization holding 30% and general public holding 20% of the total capital .The main objective of the Bank is to provide loan and advances to the Agriculture, Industries and Commerce and to provide modern banking services to the people .The paid up capital of the Bank for the year 1989/90 was Rs 30 Millions. Later on the name of this Bank is changed as Nepal Investment Bank Ltd.

3. Himalayan Bank Ltd.:-

Himalayan Bank Ltd. is a joint venture Bank with Habib Bank Ltd. of Pakistan was established in 1992 under the Company Act.1964. This is the first joint- venture Bank with maximum share holding by the Nepalese private sector, which is managed by Chief Executive. It has an authorized capital of Rs. 240 millions, issued capital of Rs. 120 millions and paid up capital of Rs. 120 millions. Its ownership is composed of founder shareholders 51%, Habib Bank of Pakistan 20%, Karmachari Shanchaya Kosh 14% and public 15%. The main objective of the bank is to provide modern banking facility and loan to Agriculture, Commerce and Industrial sectors.

4. Nepal SBI Bank Ltd.: -

Nepal SBI Bank Ltd. was registered under the company Act. 1964 in 1963. This is the joint venture of State Bank of India and Nepalese promoters. The Bank is managed by State Bank of India under the joint venture and

technical service agreement signed between it and Nepalese promoters Viz. Employee provident fund and Agriculture Development Bank, Nepal. The State Bank of India is holding its 50% equity. The main objective of the bank is to carryout modern banking business under the Commercial Bank Act. 1974. The bank provides loans to Agriculture, commerce and Industrial sectors. The bank started its banking operation on 8th July 1993.

5. Everest Bank Ltd.:-

Everest Bank Ltd. was established in 1992 under the Company Act, 1964 with an objective of carrying out Commercial Banking Activities under the Commercial Bank Act, 1974. United Bank of India Ltd, under technical services agreement signed between it and Nepalese promoters was managing the Bank from the very beginning till November 1996. Later on it handed over the management to the Punjab National Bank Ltd. India which holds 20% equity in the Bank's share capital.

6. Nepal Bangladesh Bank Ltd.:-

Nepal Bangladesh Bank Ltd. a joint venture Bank with IFIC Bank Ltd. of Bagladesh was established in 1993 under the Company Act, 1974. IFIC Bank Ltd. Bangladesh Bank in accordance with the joint venture and technical service agreement between it and Nepalese promoters manages the Bank.

1.17. Research Methodology

This study is conducted on the basis of secondary data. The data is analyzed with the help of both financial and statistical tools. Before presenting the analysis and interpretation of data, it is necessary that research methodology be described first. In the absence of methodology, it is likely that the conclusion drawn may be misunderstood. “ Research methodology is a way to systematically solve the research problem”¹⁸. This study is basically a descriptive research.

¹⁸ Kothari,, C.R., "Research Methodology, Method and Technique", Willey Eastern Ltd, 1st Ed, New Delhi, 1990, P.10

) **Population and Sample (Random Sampling)**

) **Statistical tools**

- I. Arithmetic mean (X)
- II. The coefficient of variation (CV)
- III. Standard deviation (S.D.)
- IV. Linear trend analysis

) **Financial tools**

- I. Liquidity ratio
- II. Activity ratio
- III. Profitability ratio
- IV. Beta- coefficient
- V. Portfolio structure
- VI. Trend analysis

1.19. Organization of the Study.

The study has been organized in to five chapters, each devoted to some aspects of the study required ie. Portfolio Management of listed Joint Venture Banks in Nepal. The titles of each of these chapters are as follows:

- Chapter One:** - Introduction
- Chapter Two:** - Review of literature
- Chapter Three:** - Research methodology
- Chapter Four:** - Presentation and analysis of data.
- Chapter Five:-** Summary conclusions and recommendation

The rational behind this kind of organization is to follow a simple research methodology approach. The contents of each of chapters of this study are briefly mentioned here.

Chapter One: -It contains the introductory part of the study. As already mentioned, this chapter describes the major issues to be investigated along with the objectives and scope of the study.

Chapter two: - It is devoted to theoretical analysis and brief review of

related and pertinent literature available. It includes a discussion on the conceptual framework and review of the major studies.

Chapter three: - It describes the research methodology employed in the study. This chapter deals with the matter and sources of data, population and sample, statistical and financial tools.

Chapter four: - It deals with presentation and analysis of relevant data and information through definite courses of research methodology.

Chapter five: - It states summary, conclusion and recommendation of the study. This chapter states main finding, issues and gaps and suggestive framework of study.

CHAPTER- TWO

REVIEW OF LITERATURE

Review of literature about “Portfolio Management of listed joint ventures Banks are presented in this chapter. This chapter basically concerned with review of literature relevant to the portfolio Management of different writer. Every study of research is very much based on the past knowledge. The past knowledge or the previous studies should not be ignored as it provides foundation to the present study. So review of literature is the most necessary chapter. “The purpose of the reviewing the literatures is to develop some expertise in one’s area to see what new contribution can be made and to review some idea for the developing research design.”

In the previous chapter, the emphasis was laid onto the conceptual framework of the selected topic. In this chapter, the emphasis is given to the review of major related literature on the investment. Investment portfolio and its analysis. Different visions expressed by different great Scholars in respect of portfolio performance are considered. In other words, this chapter highlights the relevant literature. In this connection, the concepts are reviewed in light of research perspectives, different studies and thesis.

2.1 Review of Relevant Books

The banks are such types of institutions, which deal in money and substitute for money. They also deal with credit and credit instruments. Good circulation of credit is essential for the existence of the bank. Unsteady and unevenly flow of credit always harms the banks and lastly to the economy as a whole, hence to collect funds and mobilize (utilize) them in a good investment is not a joke for such an institution. An investment of fund may be the question of life and death of the bank. Thus the banker must think seriously before making an investment decision.

According to Sharpe and Alaxender "Investment, in its broadest sense, means the sacrifice of certain present value for (possibly uncertain) future values."¹⁹

Dr. (Mrs) Preeti Singh has defined investment, as "Investment is the employment of funds with the aim of achieving additional income of growth in values."²⁰

From the definition given above, it is clear that an investment means to trade a known rupee amount today for some expected future stream of payments or benefits.

A commercial bank must always mobilize its funds and other deposits to profitable, secured and marketable sector so that it earns a handsome amount of profit as well as it should be secured and can be converted into cash as per the requirement.

2.2 Popular Models on Portfolio

2.2.1 Markowitz's Portfolio Selection Model

Dr. Harry M. Markowitz is with developing the first modern portfolio theory emanate from a series of propositions concerning rational investor behaviour set by Markowitz.²¹ In 1952 Harry, M. Markowitz published a landmark paper that is generally viewed as the origin of the "Modern Portfolio Theory" approach to investing, Markowitz's approach to investing beings by assuming that an investor has a given sum of money to invest at the present time. This approach considers the single period rate of return. Single period rate of return is simply the total return an investor would receive during the investment period or holding period. Since a portfolio is a collection of securities, this decision is equivalent to as the "Portfolio

¹⁹ Sharp F. William and Alaxender J. Gordan " Investment" Prentice Hall of India Pvt. Ltd. New Delhi.

²⁰ Singh Preeti, " Investment Management Himalayan Publishing House, Bombay.

²¹ Harry M. Markowitz, " Profolio selection", Journal of Finance. 1952 PP77-91

selection problem"²² Harry M. Markowitz infused a high degree of sophistication into portfolio construction by developing a Mean Variance Model for the selection of portfolio managers used rules of thumb and intuitive judgment.

2.2.2 Markowitz Model : The Mean Variance Criterion

Dr. Harry M. Markowitz used mathematical programming and statistical analysis in order to arrange for the optimum allocation of assets within portfolio. To reach this objective Markowitz generated portfolios within a reward risk context. In other words, he considered the variance in the expected relationship for the analysis of risk and return choices. Decisions are based on the concept of efficient portfolios.

A portfolio is efficient when it is expected to yield the highest return of the level of risk accepted or, alternatively, the smallest portfolio risk for a specified level of expected return.

To build an efficient portfolio an expected return level is chosen, and assets are substituted until the portfolio combinations with the smallest variance at the return level is found. As this process is repeated for other expected returns. Set of portfolio meeting these two conditions is known as the efficient portfolio is generated. The set of portfolio meeting these two conditions is known as the efficient set or efficient frontier.

In other words, the set of portfolio meeting two conditions: i.e. the set of portfolio that :

-) Offer maximum expected return for varying levels of risk, and
-) Offer minimum risk for varying levels of expected return, is known as the "efficient set" or "Efficient Frontier."²³

²² William F. Shape, Gerard J. Alexander, Jeffrey V. Bailey, Investment 5th ed. PP 167-168

²³ IBID P. 194

To build an efficient portfolio an expected return level is chosen, and assets are substituted until the portfolio combination with the smallest variance at the return level is found. When this process is repeating for other expected returns, set of efficient portfolio is generated.

2.2.3 Portfolio Theory Assumption

The portfolio selection model that has been developed by Markowitz,²⁴ is based on the following assumptions regarding investor behaviour.

-) Investor considers each investment alternative as being represented by a probability distribution of expected returns over some holding period.
-) Investors maximize one period expected utility and possess utility curve, which demonstrates diminishing marginal utility of wealth.
-) Individual estimates risk on the basis of the variability of expected returns.
-) Investors base decisions solely on expected return and variance of returns only.

According to the Markowitz, the investors should maximize expected return. This rule implies that the non-diversified single security portfolio with the highest expected return is the most desirable portfolio. Expected rate of return for return as the weight.

Markowitz's rule of expected return implies that the non-diversified single security portfolio with the highest expected return is the most desirable portfolio. Only by buying that single security can the expected return be maximized.

The portfolio's expected return is defined in equation as follows:

$$K_p = W_1K_1 + W_2K_2 + \dots + W_nK_n$$

Where,

K_p = Portfolio expected return

²⁴ V.K. Bhalla, Investment Management 8th ed. (New Delhi: S. Chand Company and Company Ltd. 2001)P.500

W_1 = Weight for stock 1

W_2 = Weight for stock 2

K_1 = Expected return for stock 1

K_2 = Expected return for stock 2

The goal of the portfolio manager should be to minimize portfolio risk for any level of expected returns and also suggested that this can be accomplished by solving the following logical set of equations.

$$\text{Variance } (\sigma_p^2) = W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + 2W_A W_B \text{Cov}(r_A, r_B)$$

$$\sigma_p = \sqrt{W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + 2W_A W_B \text{Cov}(r_A, r_B)}$$

Where,

σ_r = Standard deviation of portfolios rate of return

$\text{Cov}(r_A, r_B)$ = Covariance of returns between assets A and B

2.2.4 The Sharpe : The Single Index Model

William F. Sharpe published a model simplifying, the mathematical calculation required by the Markowitz model, conceptually, its application remained several limitations. Sharpe assumes that for the sake of simplicity, the return of a security could be regarded as being linearly related to a single index like the market index. The mechanical complexity of the Markowitz's portfolio model kept both practitioners and academics away from adopting the concept for practical use. As a result, what is referred to as the Capital Assets Pricing Model (CAPM) was developed.²⁵

Assumptions²⁶

The Capital Assets Pricing Model is based on the following assumptions:

1) Investors evaluate portfolios by looking at the expected returns and standard deviations of the portfolio over a one period horizon.

²⁵ William F. Sharpe in "Capital Assets Prices": A theory of Market Equilibrium under Conditions of Risk" Journal of Finance. (September 1964). P.425-42

²⁶ William F. Sharpe, Gerard J. Alexander, Jeffrey V. Bailey, Investment 5th ed. (New Delhi prentice Hall of India 2000) P.262-263

- J Investors are risk-averse, so when given a choice between two identical portfolios, they will choose the one with the lower standard deviation.
- J Individual assets are infinitely divisible, means that an investor can buy a fraction of a share if he or she desires.
- J Investor can borrow and lend at risk free rate of interest.
- J Taxes and transaction cost are free.
- J With these assumptions, the following assumptions are added :
- J All investors have the same for all investors.
- J The risk -free rate is same for all invetors.
- J Information are freely and instantly available to all investors.

2.3 Review of Article

Uptill now, there are not many articles available in the published form related to investment portfolio management in Nepal. Mr. Shiba Raj Shrestha, Deputy Chief Officer of Nepal Rastra Bank Banking Operation Department, has given a short glimpse on the "Portfolio Management in Commercial bank, theory and practice."²⁷ Mr. Shrestha has highlighted the following issues in the articles.

The portfolio management becomes very important both for individuals as well as institutional investors, Investors would like to select a best mix of investment assets subject to the following aspects.

- J Higher return which is comparable with alternative opportunities available according to the risk of investors.
- J Good liquidity with adequate safety of investment.
- J Certain capital gains.
- J Maximum tax concession.
- J Flexible investment.
- J Economic, efficient ad effective investment mix.

²⁷ Shrestha, Shiba Raj, " Portfolio Management in Commercial Bank, Theory & Practice", Nepal Bank Patrika, Biashakh Masant, 2055

In View of above aspects, following strategies are adopted.

- J Do not hold any single security i. e. try to have a portfolio of different securities.
- J Do not put all the eggs in one basket i.e. to have a diversified investment. (Marketing investment in different sectors)
- J Choose such a portfolio of securities, which ensures maximum return with minimum risk or lower of return but with added objective of wealth maximization.

However, Mr. Shrestha has also presented the following approaches to be adopted for designing a good portfolio and its management.

- J To find out the invisible assets (generally securities) having scope for better returns depending upon individual characteristics like age, health, need, disposition, liquidity, tax liability, etc.
- J To find out the risk of securities depending upon the attitude upon the attitude of investor towards risk.
- J To develop alternative investment strategies for selecting a better portfolio which will ensure a trade off between risk and return so as to attach the primary objective of wealth maximization at lowest risk.
- J To identify securities for investment to refuse volatility of return and risk.

In this context, Mr. Shiba Raj Shrestha has presented two types of investment analysis techniques i.e. fundamental analysis and technical analysis to consider any securities such as equity, debentures or bond and other money and capital market instruments. He has further suggested that the banks having international network can also offer access to global financial market. He has also pointed out the required skilled manpower research and analysis and proper Management Information System (MIS) in any type of commercial banks to get success in portfolio management and customer's confidence.

2.4 Portfolio Management in Nepal Banks :

According to Mr. Shrestha, the portfolio management activities of Nepalese Commercial banks at present are in nascent stage. However, on the other hand, most of the banks are not doing such activities so far because of the following reasons:

- J Unawareness of the clients about the services available.
- J Hesitation of taking risk by he clients to use such facility.
- J Lack of proper techniques to run such activities in the best and successful manner.
- J Less developed capital market and availability of few financial instruments in the financial market.

Regarding joint venture commercial banks, they are very eager to provide such services but because of the above mentioned problems, very limited opportunities are available to the banks for exercising the portfolio management.

Mr. Shrestha has thrown following concluding remarks :

- J The survival of the banks depends upon their own financial health and various activities.
- J In order to develop and expend the portfolio management activities successfully, the investment management methodology of a portfolio manager should reflect high standards and give their clients the benefits of global strengths, local and prudent philosophy.
- J Whit the disciplined and systematic approval for the selection fo appropriate countries, financial assets and the management of various risks: the portfolio manager could enhance the opportunity for each investor (client) to earn superior returns overtime.
- J The Nepalese banks having a greater network and access to national and international capital markets have to go for portfolio management

activities for the increment of their fee based income as well as to enrich the client base and to contribute in national economy

Mr. Bodhi B. Barjracharya.²⁸ In his article "Monetary policy and Deposit Mobilization in Nepal" has concluded that mobilization of the domestic saving is one of the prime objectives of the monetary policy in Nepal and commercial intermediary for generating resources in the form of deposit of private sector and providing credit to the investor in different sectors of the economy.

Bhagat Bista, in his book "Nepal Ma Aadhunik Banking Byabastha", has made an attempt to highlight some of the important factors which have contributed to the efficiency and performance of joint venture banks. He concluded that the establishment of joint venture banks a decade ago marks the beginning of modern banking era in Nepal. The joint venture banks have brought many new banking techniques such as computerization hypothecation, consortium finance and morder fee based activities into the economy.²⁹

Mr. Ramesh Lal Shrestha,³⁰ in his article. "A study on Deposits and Credits of Commercial Banks in Nepal" has concluded that the credit deposits ratio would be 51.3%, other things remaining the same, in 2004 A. D., which was the lowest under the period of review. So he had strongly recommended that the commercial banks should try to give more credit entering new field as far as possible, they might not be able to absorb even their total expenses.

Likewise, Sharma Murari R. Wurari wrote an article, "joint Venture Bank in Nepal : Co-existing or Growing out". In his words, it would be definitely unwise for Nepal not to let the JVBs operate in the country and not to take and advantage of them as additional means of resources mobilization as well

²⁸ Bodhi B. Barjracharya, " Monetary Policy & Deposit Mobilization in Nepal", Rajat Jayanti Smarika, RBB (Kathmandu : NRB 2047 B.S.) P. 93-97

²⁹ Bhagat Bista, Nepal Ma Adhinik Banking Byabastha (Indo Chhapakhana, Kopondol, Lalitpur, 2048 B.S)

³⁰ Ramesh Lal Shrestha, " A study on deposit & credit of Commecial Banks in Nepal", Nepal Rastra Bank.

as harbinger of new era in banking. But it will certainly be unfortunate for the country to develop JVBs and the cost of the domestic banks. So far one should admit frankly no different treatment has been extended to the domestic and JVBs at least from the government side, which is commendable. If His Majesty's Government keeps on the stance of treating the domestic and JVBs equally deposit holder's bargaining strength and if the JVBs also show their alacrity to come forward to share the trails and tribulations of this poor country, both types of banks will coalesce and co-exit complementing each other and contributing to the nation's accelerated development. On the contrary, if the JVBs use their strength against trading into the number, some path of development along with domestic banks and the government, they will eventually grow out the domestic banks from the more profitable urban areas and lucrative urban unless remedying by the determination of the government"³¹

2.5 Features of Sound Lending and Investment Policy

The income and profit of the bank depends upon its lending procedures, lending policy and investment of its funds in different securities. The greater the credit by the bank, the higher will be the chance of earning profit. A sound lending and investment policy is not only the prerequisite for bank's profitability, but also crucially significant for promotion of commercial savings of a financially backward country like Nepal.

Some necessities for sound lending and investment policies that most of the banks must consider can be explained below :

a. Safety and Security

The Bank should never invest its funds in those securities which are subject to too much depreciation and fluctuation because a little difference may cause a great loss. It must not invest its fund into speculative businessman who may be bankrupt at once and who may

³¹ "Murari Raj Sharma", Joint Venture Bank in Nepal Co-existing or Growing Out", His Majesty's Government, Year 1988) p. 31-42

earn million in a minute also. Thus the banks should accept such types of securities which are commercial, durable, marketable and high market prices. In this case "MAST" should be applied for the investment.

M- Marketability

A - Ascertainability

S - Stability

T - Transferability

b. Profitability

A commercial bank can only maximize its volume of wealth if it maximizes the return on its investment and lending. So the banks must invest their funds where they gain maximum profits.

c. Liquidity

Liquidity is the ability of a firm to repay the money when needed. People deposit money in different accounts with the confidence that bank will repay the money when needed. To maintain such confidence of the depositors, the bank must keep this point in mind while investing its excess funds in different securities or at the time of lending so that it can meet current or short-term obligation when they become due for payment.

d. Diversification

"A bank should not lay all eggs on the same basket". This saying is very much important to the bank and it should be always careful not to grant loan in only sector. To minimize risk, a bank must diversify its investment on different sectors.

Diversification of loans to sustain loss according to the law of average because if securities of a company deprived there may be appreciation in the securities of other companies. In this way the loss be recovered. Hegal securities will bring out many problems for the investor. A Commercial bank must follow the rules and regulations as well as different directions issued by the NRB, ministry of finance and other while mobilizing its funds.

2.6 Ratio Analysis

An arithmetic relationship between two figures is ratio. In other words the relationship between two accounting figures expressed in mathematical term is known as financial ratio. "Ratio analysis is used to compare a firm's financial performance and status to that of other firms or to itself overtime."³⁰ From the help of ratio analysis, the qualitative judgment can be yearly and timely done regarding financial performance of a firm. Ratio is always computed by dividing one item of relationship with the other. In other words ratio simply means one number expressed in terms of another.

Ratio analysis is a technique of analysis and interpretation of financial statement. To evaluate the performance of an organization by creating the ratios from the figures of different accounts included in the balance sheet and income statement is known as the ratio analysis. It is very helpful for decision making. It is on the basis of information provided by the ratio analysis with the help of financial statement helps in decision making on any financial activity.

Ratio analysis serves as a stepping-stone for an inter-firm comparison to take remedial measures. It helps management in evolving future "Market Strategies".

In this context, the following ratios are calculated and then analyzed as per the need.

2.6.1 Liquidity Ratio

Liquidity can be defined as the firm's ability to repay the bills and meet the urgent need of money. Thus it is measured by the speed with which a bank's assets can be converted into cash to meet deposits withdrawals and current obligations.

The following ratios are calculated under liquidity ratio.

i Current Ratio

This shows the relationship between current assets and current liabilities.

Current Assets includes: Cash, debtors, bank balance, money at call, short notice, loans and advances, investment on government securities and other interest receivable and miscellaneous current assets.

Current Liabilities: short term loans, bills payable, tax provision, staff bonus, dividend payables and other miscellaneous current liabilities.

Current ratio is calculated as

$$CR \times \frac{CA}{CL}$$

The optimal standard of CR is 2:1. However accurate standards depends on circumstances in case of seasonal business.

ii Cash and Bank Balance to Total Deposit Ratio

It is computed by dividing total cash and bank balance by total deposit of the concern. It is stated as :

Cash and Bank balance to total deposit ratio = Cash and Bank Balance/Total Deposit

Cash and Bank Balance: Cash in hand, foreign cash in hand, checks and other items, balance with domestic bank and balance held abroad.

Total Deposit : Current deposit, saving deposit, fixed deposit, money at call, etc. bank

iii Cash and bank Balance to Current Assets Ratio

It is computed by dividing total cash and bank balance by current assets.

iv Cash and Bank Balance/ Current Assets ratio

It is computed by dividing investment on government securities by current assets. It is expressed as investment of government securities/Current Assets

Investment on government securities: Treasury bills, debenture, bonds, etc.

v Loan and Advances to Current Assets Ratio

It is computed by dividing loans and advances by current assets, and is expressed as Loans and Advances/Current Assets

2.6.2 Assets Management Ratio (Activity Ratio)

It measures how efficiently the bank manages the resources at its command. The following ratios are used under this.

i Loans and advances to total deposit ratio = $\frac{\text{Loans and Advance}}{\text{Total Deposit}}$

ii Total investment to total deposit ratio
= $\frac{\text{Total Investment}}{\text{Total Deposit}}$

Total Investment : Investment on government sector, investment on debenture and bonds, shares in subsidiary co.; shares in other company and other investment.

iii Loans and advances to total working fund ratio
= $\frac{\text{Loans and Advances}}{\text{Total working Fund}}$

Total working fund: all assets of on balance sheet items. In other words, it includes CA, Net FA, Loans for development banks and other miscellaneous assets but excludes off-balance sheet items like L/C, Letter of Guarantee, etc.

iv Investment on government securities to total working fund ratio
= $\frac{\text{Loans and Advances}}{\text{Total Working fund}}$

v Investment on shares and debentures to total working fund ratio
= $\frac{\text{Investment on shares and Debentures}}{\text{Total Working fund}}$

vi Investment of fixed deposit to total deposit ratio.

= Investment of fixed Deposit/Total Deposit

2.6.3 Profitability Ratio

The Following ratios are calculated under this,

- i Net Profit to Total Deposit Ratio = NPAT/Total Deposit
- ii Net Profit to Total investment ratio, = Net Profit/Total Investment
- iii Return on loans and advances ratio, =Net profit/Loans and advances
- iv Return on total working fund ratio, = Net profit/Total Working fund
- Total interest earned to total outside assets ratio,
= Total Interest Earned/Total Outside Assets
- v Total interest earned to total working fund ratio,
= Total interest Earned/Total Working fund
- vi Total interest paid to total working fund ratio,
= Total Interest paid/Total Working Fund

Total Interest paid : Total interest expenses on deposit liabilities, loans and advances (borrowing) and other deposits.

2.6.4 Growth Ratio

It is calculated to examine and analyze the following growth ratios,

- J Growth ratio to loans and advances
- J Growth ratio to net profit
- J Growth ratio to total deposit
- J Growth ratio to total investment

CHAPTER - 3

RESEARCH METHODOLOGY

Research methodology is the process of arriving at the solution of the problem through planned and systematic dealing with the collection, analysis and interpretation of facts and figure. Research is a systematic method of finding right solutions for the problem whereas research methodology refers to the various sequential steps to adopt by a research methodology refer to the various methods of practices applied by the researcher in the entire aspect of the study.

The basic objective of this study is to evaluate the investment portfolio of Nabil Bank as compared to other joint venture banks so that whether Nabil's investment performance is below, average or above the industry average can be ascertained.

In order to accomplish this study, both the primary and secondary data will be used. The data will be analyzed by using various financial and statistical tools useful to my study. For this purpose the financial data of the last six years from the fiscal year 2001/02 to 2006/07 have been examined to their financial performance study. For this purpose, the following research methods have been adopted.

3.1 Research Design

The present study is mainly based on two types of research design i.e. descriptive and analytical. Descriptive research design describes the general pattern of the Nepalese Investors, business structure, problem of portfolio management, etc. The analytical research design makes analysis of the gathered facts and information and makes a critical evaluation of it. "A research design is the arrangement of conditions for collection and analysis

of data in a manner that aims to combine relevance to the research purpose with economy in procedures."³²

Finally research design is the plan, structure and strategy of investigations conceived so as to obtain answers to research questions and to control variance. To achieve this study designs have been used.

3.2 Population and Sample

There are Twenty Five commercial and nine joint venture banks operating in Nepal. Among them Nabil Bank limited, Standard and Chartered Bank limited, Nepal SBI Bank, Nepal Bangladesh bank limited, Himalyan Bank Limited, and Everest Bank Limited are taken as the base for the study.

3.3 Sources of Data

This research study is mainly based on secondary (published) data. However, to certain extent, primary data are also used. The required data for the study are collected from the concerned publications from different publishers. For the purpose of the study, the secondary data are gathered from various sources such as books, journals, articles, reports etc. So the major sources and types of data are in published form such as :

- J Annual Report of Everest Bank Ltd.
- J Annual Report of Himalayan Bank Ltd.
- J Annual Report of Nabil Bank Ltd.
- J Annual Report of Nepal Bangladesh Bank Ltd.
- J Annual Report of Standard Chartered Bank Nepal Ltd.
- J Economic Survey (2001) published by NRB
- J Financial Statement of Listed Companies Vol. III & Vol. IV published by Nepal. Other published materials like newspapers, journals, magazines, textbooks, etc.
- J Quarterly Economic Bulletin (Mid July 2001) published by NRB

³² Kothari, C.R. , " Research Methodology, Method & Technique" New Delhi, Willey Eastery Limited 1989.

-) Banking and Financial Statistics (Mid July 2001) published by NRB
-) Bulletins & Report Periodically published by various organizations.

3.4 Data Collection Techniques

The required data will be collected in a period of 3 months. The following techniques will be used for the data collection.

3.4.1 Observation

During the fieldwork, all the research will be held with different investors observing their portfolio structure, business styles, different tools, etc.

3.4.2 Group Discussion

Focus group discussion (FGD) will be organized involving the group of respondents. During the study period more than three group discussion will be held in different investors. Each group involve will be knowledgeable young & old investors.

3.5 Modes of Data Analysis

The data collected during fieldwork will be thoroughly analyzed. After completion of the fieldwork, the collected data will be classified into different categories as per their nature. The category of data is descriptive cum analytical.

3.6 Data Analysis Tools

Financial as well as the statistical tools are used to make the analysis more make the analysis more convenience, reliable and authentic, too.

3.6.1 Financial Tools

Under this heading different Financial ratios are calculated and carried out in comparison, some of these are expressed below.

-) Liquidity ratio

- J Assets management ratio

3.6.2 Statistical Tools

Various statistical tools can be applied to analyze the study of the portfolio management of joint venture banks in Nepal. Under this the following statistical tools are used:

- J Coefficient of correlation analysis (r)
- J Coefficient of Variation (ev)
- J Standard Deviation (S. D.)
- J Test of Hypothesis

Coefficient of correlation analysis (r)

"Correlation is the statistical tool that we can use to describe the degree in which one variable is linearly related to another."³³

The coefficient of correlation measures the degree of relationship between two sets of figure. Among the various methods of finding out coefficient of correlation, Karl Persons method is applied in the study. The result of coefficient of correlation is always between +1 or -1. When $r = +1$, it means there is perfect relationship between two variables. The Pearsons formula is,

$$r = \frac{\sum fx \sum x \sum fy \sum y}{\sqrt{\sum fx \sum x \sum fy \sum y}}$$

Standard Deviation (S. D.)

The measure of the scateredness of the mass of figures in a series about an average is known as the dispersion. The standard deviation measures the absolute dispersion. The greater the amount of dispersion, greater the standard deviation. A small standard deviation means a high degree of uniformity of the observations as well as homogeneity of a series; a large standard deviation means just the opposite. This is calculated as follows:

³³ Richard H.evin and David S.Rubin "Statistics for Management" Prentice Hall of India Pvt. Ltd. New Delhi.

Coefficient of variations (cv)

The coefficient of variance is the relative measure of dispersion, comparable across distribution which is defined as the ratio of the standard deviation to the mean expressed in percent."³⁴³⁴

It is calculated follows:

$$cv \times \frac{S.D.}{Mean} \times 100$$

3.7 Limitation of the Methodology

During the study period, more and more books, various types of journal and thesis will be studied for the knowledge, previous research work is the backbone of the present research work.

3.8 Review of Related Studies :

During the study period more and more books, various types of journal and thesis will be studied for the knowledge. Previous research work is the backbone of the present research.

³⁴ IBID

CHAPTER - 4

PRESENTATION AND ANALYSIS

In the previous we discussed the research Methodology that is being adopted while competing the study. The previous chapter was basically concerned with the methods like the tools i.e. Financial and statistical tools, Data collection techniques, population and sample were explained in detail.

In This Chapter, the concern is given in the presentation and analysis part of the data in detail. Since the topic is related to Investment as a whole, hence the ratios related to Investment, Return ad comparison of the data will be done since the data collected from the published since the data collected from the published source do not tally from one bank to another bank, banking & financial statistics of mid October 2001 and balance-sheet of baks are taken as the main source of data for the purpose though the data vary with each other.

Various are calculated in order to arrive at the concrete decision regarding the various joint venture bank's financial performance and portfolio structure.

4.1 Analysis of Ratios

An arithmetic relationship between two figures is ratio. In other words. The relationship between two accounting figures expressed in terms is known as financial ratios. A ratio is always calculated by dividing one item of the relationship with other. As a tools of financial analysis. Ratio can be expressed in terms of percentage. Ratio analysis is a very important tool of financial analysis.

From the help of ratio analysis, the qualitative judgment can be done very easily and timely regarding financial performance of the firm. It establishes the significant relationship between the times of financial statements to

provide a meaningful understanding of the performance and financial position of a firm.

Ratio analysis serves as a stepping stone for an inter-firm comparison to take remedial measures. In this chapter, only important financial ratios are analyzed to compare the financial performance of Nabil Bank. i. e. the pioneer of joint venture bank and compare it with the other sample joint venture banks and on that basis the conclusion will be drawn.

4.2 Return on Shareholders Fund Ratio

This ratio is calculated by dividing Net profit available to equity shareholders by the total shareholders fund.

This ratio is calculated by dividing Net Profit available to equity shareholders by the total shareholders fund.

$$\frac{\text{Net Profit after tax}}{\text{Shareholders Fund}}$$

Table No. 1
Return on shareholders fund ration

(In Percentage)

Fiscal Yr.	NABIL	SCBNL	HBL	NBBL	EBL
2001/02	27.6%	36.71%	38.68%	8.14%	-9.48%
2002/03	17.5%	31%	31.94%	20.06%	-10.06%
2003/04	14.3%	29.11%	24.13%	25.64%	21.1%
2004/05	20.5%	33.27%	23.77%	24.66%	18.04%
2005/06	22%	32.85%	22.9%	25.37%	24.93%
2006/07	16.7%	31.08%	23.43%	22.36%	21.16%
Mean	19.77%	32.34%	27.48%	21.08%	11.12%
S. D.	4.31%	2.4%	5.9%	6.1%	14.9%
C. V.	21.79%	7.36%	21.4%	29%	13.4%

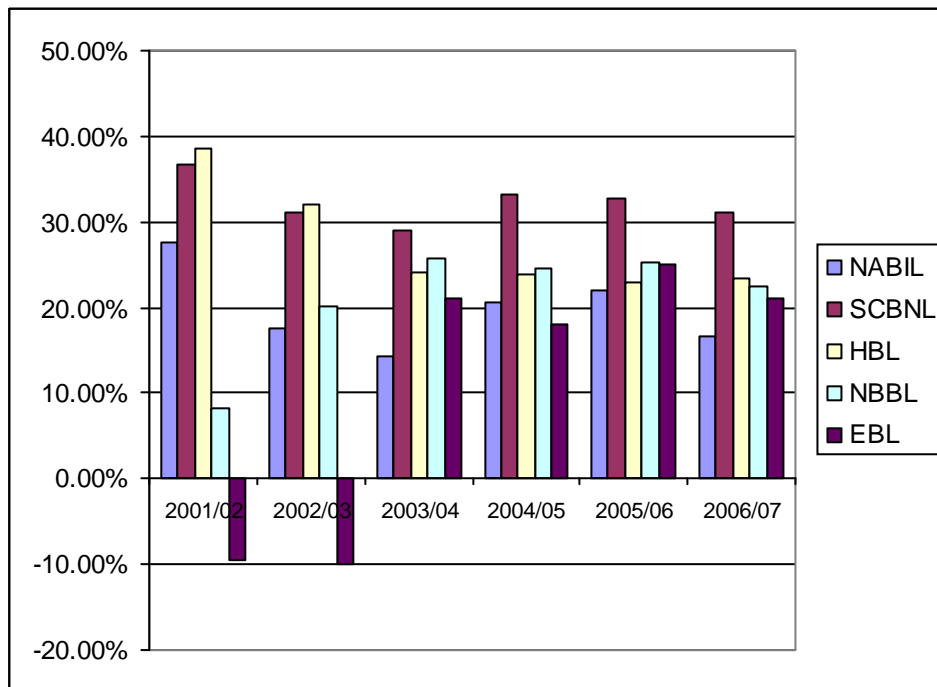
Source : Annual report of various JVBs from f/y 2001/02 to 2006/07

Industry Average mean -22.36%

Industry Average C. V. - 42.71%

The above detail can be shown in the following Bar-diagram.

Fig No. 1
Return on shareholders fund ration



From the above comparative Table No. 1, it is found that Nabil Bank has low mean return on shareholders fund than Industry average i.e. 19.77% < 22.63%. Whereas among these five joint venture banks SCBNL is 32.34%. Similarly HBL has the second highest mean returns as shareholders fund and the mean percentage is 27.48%. But NBBL and EBL has low mean return than industry average i.e. 21.08 and 11.12% respectively. So Everest Bank has the lowest mean return of 11.12% and the reason behind it is the negative return on the first two years i.e. in 2001/02 and 2002/03, the return in this year were -9.48% and -10.06% respectively.

In the case it is found that SBNL and HBL have better position, NBBL has slightly low position in the industry. But Everest Bank has a very low position in the industry because of having lowest mean return on shareholders fund.

But looking at the C.V. ratio, NABIL Bank has low C.V. ratio than industry Average C.V. i.e. 21.79%. This indicates that the ratios of the bank are more uniform throughout the review periods. It is good to have low C.V. than industry average C.V. But looking at other four JVBs. C.V. ratio the SCBNL has the lowest C.V. of 7.6% indicating of more uniformity of the ratios and Everest Bank has the highest C.V. ratio of 13.4% indicating of very high fluctuations of data throughout the review periods.

Similarly HBL and NBBL also has low C.V. ratio than industry average C.V. coefficient of variation of HBL is 21.4%. In the both banks the c.v. ratios are lower which are indicating more uniformity of data.

So, finally it is concluded that looking at mean percentage Nabil Bank does not have better position but looking at C.V. Nabil's ratio are more uniform throughout the period. Everest Bank has a very low position in both the cases of having very lowest mean return on shareholders fund i.e. 11.12% and the highest C.V. ratio of 13.4%.

Standard and chartered Bank has the position due to having highest mean return on shareholders fund and lowest C.V. ratio. The mean percentage in this case is 32.34% and C.V. ratio is 7.36%.

4.3 Return on Total Assets Ratio

This ratio is calculated by dividing net profit by the total assets of the firm. thus, it measures the profitability with respect to the total assets. Thus, it seems to be vital for measuring the financial performance of the firm. The higher ratio of the firm indicates the efficiency of the bank is using its resources. It is calculated as:
$$\frac{\text{Net profit After Tax}}{\text{Total Assets}}$$

Table no. 2
Return on total assets ratio

in percentage

Fiscal Yr.	Nabil	SCBNL	HBL	NBBL	EBL
2001/02	2.03	2.95	2.48	0.64	-4..5%
2002/03	1.79	2.49	2.03	1.38	1.93%
2003/04	1.56	2.8	1.56	2.19	1.76%
2004/05	2.25	2.67	1.47	1.69	1.1%
2005/06	2.15	2.9	1.26	1.84	1.2%
2006/07	1.5	2.19	1.44	1.88	1.33%
Mean	1.89%	2.57%	1.71%	1.6%	-0.17%
S.D.	0.27%	0.27%	0.42%	0.49%	1.04%
C.V.	14.15%	10.49%	24.5%	30.85%	16.346%

Source: Banking and Financial Statistics mid October 2007

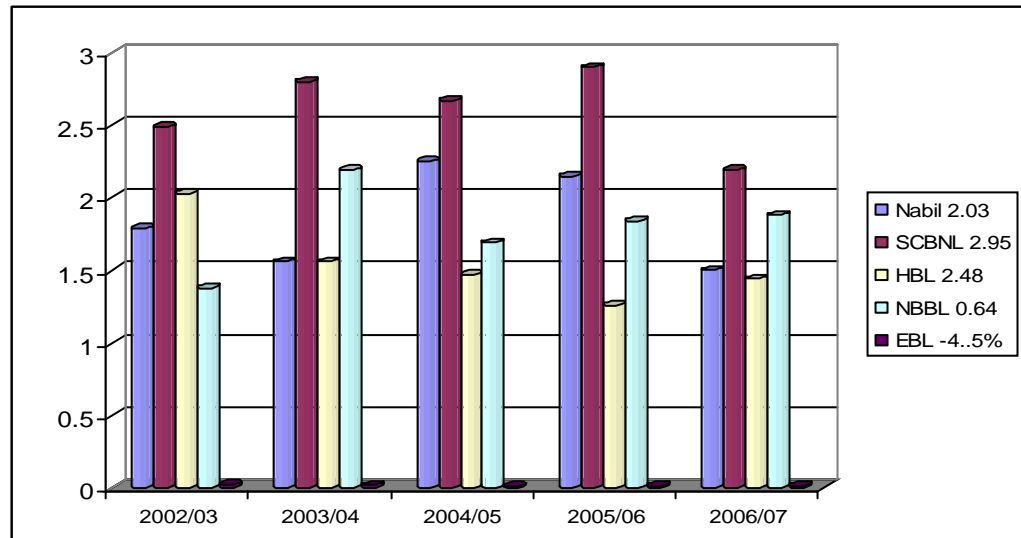
Industry Average Mean -1.52

Industry Average C.V. -19.34

The comparative table no 2 shows that Nabil Bank Ltd. has above mean return than industry Averages i.e. 1.89%. However among JVBs standard and, Chartered Bank Nepal has the highest mean return and Eveest Bank Limited has the lowest return on TA i.e. 2.57% and -0.17%. The industry average mean is 1.52%. However HBL and NBBL also have mean return above industry average mean i.e. 1.71% and 1.6% respectively.

Similarly looking at coefficient of variation Nabil Bank has lower C.V. ratio than industry average C.V. i.e. 14.51%<19.34%. It indicates than Nabil Bank's ratio is more uniform throughout the review period. While among the JVBs standard chartered Bank has the lowest C.V. than industry average i.e. 10.49 % indicating more uniformity. Nepal Bangladesh Bank is not uniform due to the highest average ratio than industry average C.V. the C.V. of NBBL is 30.85%. Similarly HBL has second Highest C.V i.e. 24.5% indicating no uniform.

Fig no. 2
Return on total assets ratio



4.4. Total investment to Total Deposit Ratio

This ratio is calculated by dividing total investment by Total deposits of the bank. The calculated result of this ratio measures the magnitude to which the banks are successful in mobilizing the total deposits on investment or not. It

is computed as:
$$\frac{\text{Total Investment}}{\text{Total Deposit}}$$

Table No. 3
Total Investment to Total Deposit Ration

In percentage

Fiscal Yr.	Nabil	SCBNL	HBL	NBBL	EBL
2001/02	20%	30.29%	15.36%	6.29%	58.3%
2002/03	22.8%	30.23%	23.59%	0.44%	28%
2003/04	11%	12.27%	12.62%	0.25%	9.88%
2004/05	15%	24.10%	4.79%	17.1%	9.62%
2005/06	9.78%	26.66%	15.74%	0.93%	8.5%
2006/07	17.38%	31.25%	12.69%	3.23%	18.1%
Mean	16%	25.8%	14.1%	4.7%	22.1%
S.D.	4.63%	6.53%	5.55%	6%	17.57%
C.V.	29%	25%	39%	12.6%	79.1%

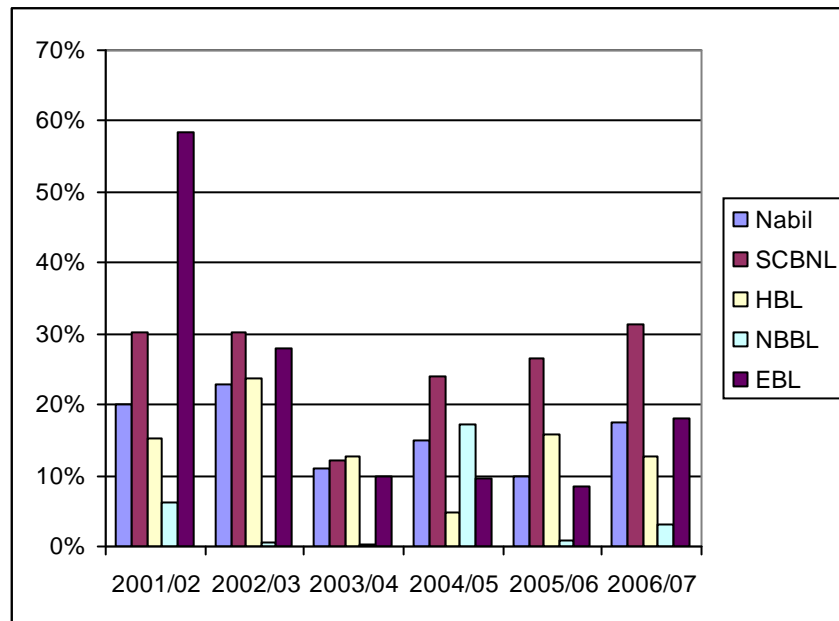
Source: Banking & Financial Statistics Mid October 2007

Industry average mean =16.54%

Industry Average C.V =59.6%

The above detail can be shown in the following Bar diagram

Fig. No. 3
Total Investment to total deposit ratio



The comparative table no. 3 reveals that the ratio of investment to total deposits of joint Venture bank are in fluctuating trend throughout the review period i.e. from the fiscal year 2001/02 to 2006/07. The mean investment of total deposit of standard and chartered bank Nepal Ltd. is the highest at the 25.8%. Similarly Everest Bank Ltd. has second highest ratio of investment to total deposit with 22.1%. The industry average mean is 16.54. In this case the Nabil Bank performance is below the industry average $16 < 16.54$, where as SSC Bank and Everest Bank have the highest ratio of investment to total deposit i.e. $25.8 > 16.54$, $22.1 > 16.54$.

Similarly the investment to total deposit of HBL and NBBL are also lower than industry average mean, i.e. $14.1 < 16.54$, $4.7 < 16.54$.

So in this case, as compared to Himalayan Bank and NBBL, Nabil has higher mean of investment to total deposit and in the same manner, Nabil Bank has lower mean as compared to SSC Bank and everest Bank. So, this indicates that SSC bank and EBL mobilize the fund in investment title is higher than the standard, ratio , whereas Nabil Bank's invested fund i highly below than standard ratio.

4.5 Loans and advances to total deposit ratio

Loans and advances to total deposit ratio is calculated by dividing loans and advances by total deposit. This ratio explains as to what extent the bans are able to mobilize their depositor's fund to earn profit by providing the funds to outsiders in the form of loans and advances. Thus the high represents the greater efficiency of the firm in utilizing the funds or proper utilization f

funds and vice versa. It is computed as:
$$\frac{\text{Loans and Advances}}{\text{Total Deposits}}$$

The following table shows the ratios of loans and advances to total deposit ratio of various joint venture banks.

Table no. 4
Loans and advances to total deposits ratio

In percentage

Fiscal Yr.	Nabil	SCBNL	HBL	NBBL	EBL
2001/02	60.5%	51.77%	64%	78%	29%
2002/03	59.7%	47%	59%	89%	68%
2003/04	60.6%	49%	55.4%	83%	77%
2004/05	61.4%	42%	55%	78.6%	69.7%
2005/06	57.3%	39%	3%	71%	74%
2006/07	53.3%	38%	52%	85.6%	65.7%
Mean	58.8%	44.46%	56.4%	80.93%	63.9%
S.D.	2.77%	5.13%	4.05%	5.72%	16.05%
C.V.	4.7%	11.5%	7.2%	7.10%	25.11%

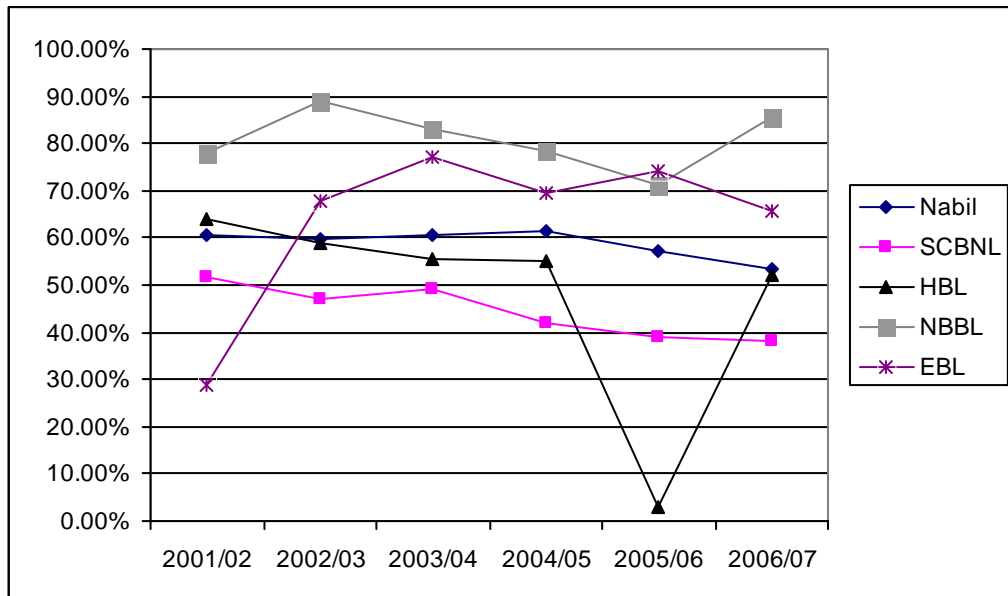
Source: Banking & Financial Statistics Mid Oct. 2007.

Industry Average Mean: 60.9%

Industry Average C.V. =11.1%

The above detail can be shown in the bar diagram in the following way:

Fig. No. 4
Loan & Advance to total deposit ratio



From the above comparative table no. 4, it is found that the mean percentage of Nabil Bank Ltd. is 58.8% which is lower than industry average mean i.e. 60.9%. Similarly standard deviation and coefficient of variation are 2.77% and 4.7% respectively. The mean percentage of loans and advances to total deposit of Nabil Bank is lower than that of NBBL and EBL i.e. 80.93% and 63.9% but on the other side Nabil Banks' mean percentage is higher than that of SCBNL and HBL i.e. 44.4%, 56.4% respectively.

The table also reveals that NABIL, SCBNL and HBL are investing low amt. of deposits on loans and advances which are lower than industry average. It is only NBBL and EBL whose mean investment to loans and advances is higher than industry average.

Similarly, it is also found that Nabil Bank has lowest coefficient of variation among the other joint venture Banks i.e. 4.7%. Similarly Everest Bank Ltd. has the highest C.V. ratio which indicates that the investment of the bank is more uniform and similarly highest CV indicates that the ratio more fluctuating. So the lowest CV is better than the highest.

4.6 Investment Portfolio

Deposits and borrowing are the main sources of funds for the joint venture banks, which are applied in the various long term and short term financial investment.

Financial investment, mainly in government securities, shares and debentures of other institution and in NRB band are studied in the present chapter The investment portfolio of different banks from the fiscal years 2001/02 to 2006/07, are studied in this chapter. Amount invested in various above mentioned categories and their weights are shown in the following table.

Table no. 5

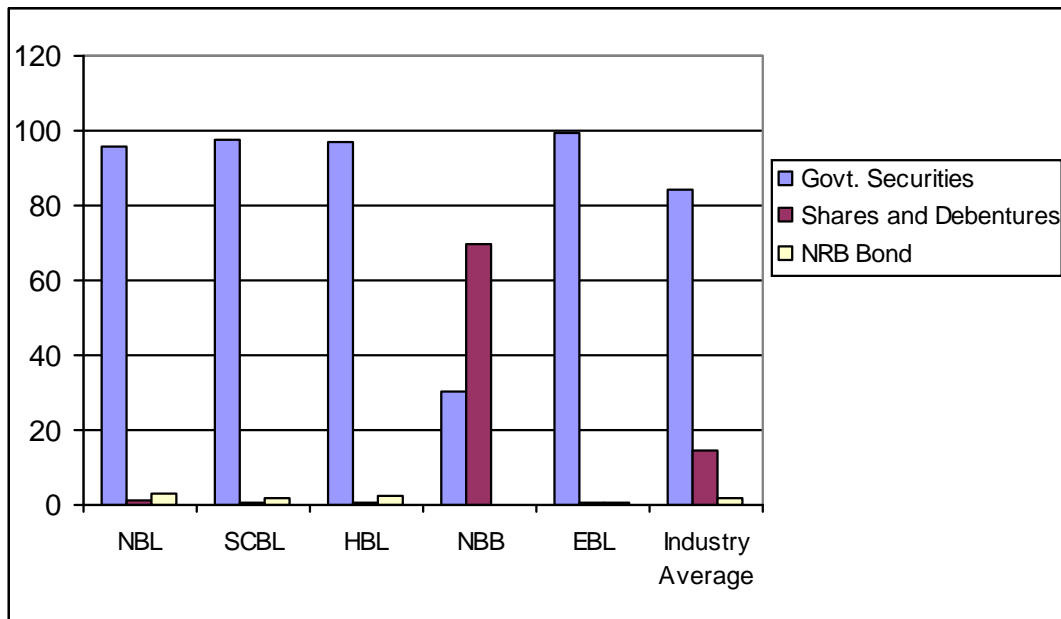
Joint Ventures Banks Average Investment Portfolio in Percentage

S.N.	Names of the banks	Govt. Securities	Shares and Debentures	NRB Bond
1	Nabil Bank Ltd	95.7	1.2	3
2	Standard and Chartered Bank Ltd.	97.4	0.5	2.1
3	Himalayan Bank Ltd.	97	0.7	2.4
4	Nepal Bangladesh Bank	30.6	69.4	0
5	Everest Bank Ltd.	99.1	0.5	0.4
6	Industry Average	84	14.46	1.58

Source: Banking and Financial Statistics Mid Oct. 2007.

Fig. No. 5

The above detail can also be depicted in the following pie chart



The above table no. 5 shows average investment portfolio of joint ventures banks from fiscal year 2001/02 to 2006/07. The govt. securities stood at the first position. The industry average investment on it is 84%. Nabil Bank has invested 95.78% of its funds on Govt. securities, similarly the Everest Bank has invested the highest amt. of its funds in the Govt. Securities with 99.1%. Similarly Standard and Chartered Bank has invested 97% of its amount of its funds under this heading and the invested percentage is 30.6%. NBBL is investing below industry average.

Similarly, share & debenture stood 2nd position with the industry average of 14.46%. Nabil bank has invested very low amount of its funds in share and debenture with 1.2%. Nepal Bangladesh Bank has invested the highest amount of its funds on share and debenture which is very high as compared to other joint venture banks, its investment is 69.4%. Himalayan Bank has invested very low amount of its funds i.e. 0.7%. Standard and chartered bank and Everest Bank have invested a low amount of their funds on share and Debenture and the percentage is 0.5% respectively. In this case Nabil Bank,

S&C Bank, Himalayan Bank and Everest Bank Limited are investing below the industry average.

Similarly NRB Bond stood at third position in the investment portfolio of joint venture banks in Nepal. The industry average of investment in share and debenture is 1.58%. Nabil bank is investing highest amount of funds in NRB Bond among other sample JVBS i.e. 3% Himalayan Bank, and standard and Chartered Bank limited are investing above industry average i.e. 2.4%, 2.1% . Everest bank is investing lowest amount on NRB bond i.e. 0.4% which is below industry average.

4.7 Loans and advances portfolio

The major portion of short term investment of commercial bank is the loans and advances provided to various sectors of the market. Joint venture banks' loans and advances flow to the following categories.

) Loans and advances provided to the government enterprise

) Loans and advances provided to private sector organization.

) Loans and advances provided to Foreign Bills purchase and discounted

The following table shows the short term investment of various joint ventures banks in various sectors. The table also helps us to know how the various joint venture banks from their resources to short term investment.

The purpose here is to compare and analyze the loans and advances portfolio of Nabil Bank and other sample joint venture banks in Nepal.

Joint Venture Banks provide loans and advances from the money i.e. the money it reserves by the way of the person against the personal security of the borrowers or against the security of the movable and immovable properties. Mainly the joint venture banks are providing their funds to the private sector, Government enterprise and foreign Bills purchase and discounted.

Table no. 6
Joint Venture banks average loans and advances portfolio

in percentage

S.N.	Names of the banks	Govt. Securities	Shares and Debentures	NRB Bond
1	Nabil Bank Ltd	1.26%	94.11%	4.6%
2	Standard and Chartered Bank Ltd.	5%	90.31%	4.69%
3	Himalayan Bank Ltd.	3.065%	93.95%	2.97%
4	Nepal Bangladesh Bank	5.35%	89.71%	5.025%
5	Everest Bank Ltd.	0%	97.13%	2.87%
6	Industry Average	2.93%	93.04%	4.03%

Source: Banking and Financial Statistics Mid 2007

The above table no. 6 shows that Nabil Bank is providing very high amt. of its loans and advances to the private sector. The mean percentage of loans and advances to the private sector is 93.04%. The mean percentage of loans and advances to the private sector in Nabil Bank is 94.11%. Nabil Bank limited has given second priority to Foreign bill purchases and discounts. The mean percentage of foregin Bills P and D is 4.6%. The bank has finally given priority to Government Enterprises with the mean percentage of 1.26%.

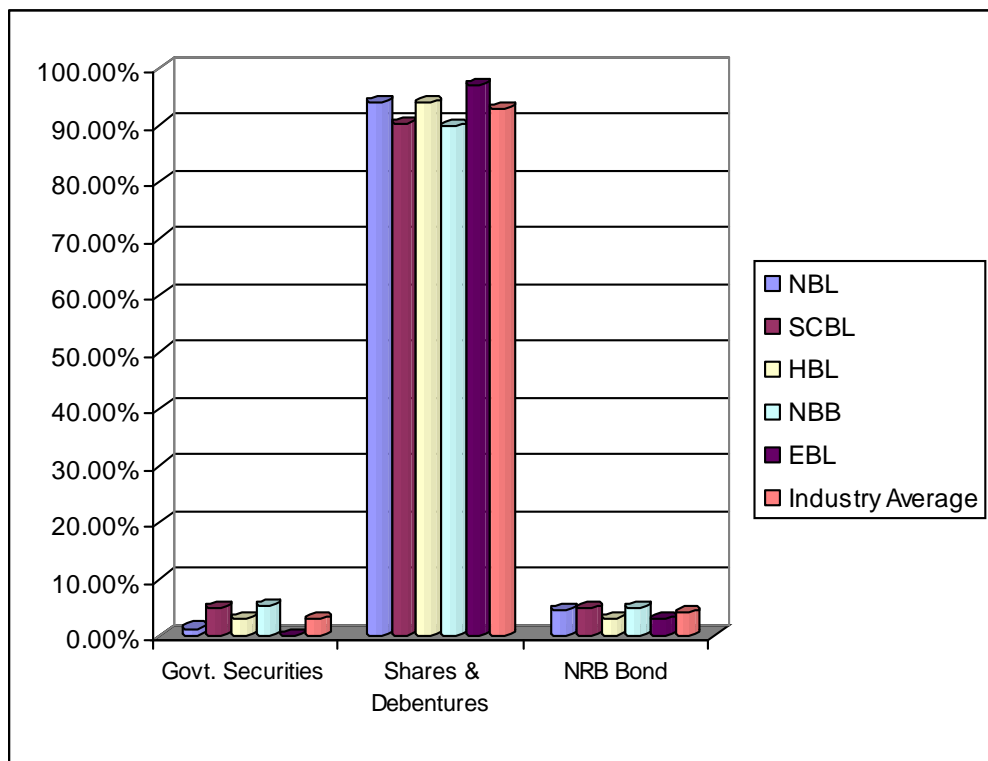
Similarly the table shows that Everest Bank is providing a very high amount of its loans and advances tot he private sector. The mean percentage is 97.13% which is the highest as compared to other JVBs. It has given second priority to Foregin bills P and D. The mean Himalayan Bank Ltd has provided very high amount of its loans and advances to private sector. The mean percentage of loans and advances to private sector is 93.95%. IT has given a second priority to Government enterprises. The mean percentage of loans and advances to Government enterprises is 3.065% Finally it has given apriority in providing loans and advances to foreign Bills P and D. the mean percentage is 2.97%.

Standard and chartered bank is providing very high amount of its loans and advances to the private sector. The mean percentage of loans and advances to private sector is 90.31%. It has given second priority to Government Enterprises, with the mean percentage 5%. Finally it is providing its loans and advances to foreign bills P and D. The mean percentage is 4.69%.

Nepal Bangladesh Bank is also providing very high amount of its loans and advances to private sector stood at first position with industry average of 93.04%. In this case, Everest Bank, Nabil Bank and Himalayan Bank Ltd. are providing above industry average i.e. 97.13%, 94.11%, 93.95 %. Where S and C bank and NBBL are providing below industry average i.e. 90.312% and 89.71%

Foreign bills P and D stood at second position with the industry average 4.03%. In this case NBBL, Standard and chartered bank Nepal Limited and Nabil Bank are providing loans and advances above industry averages (i.e. 50.25%, 4.69%, 4.6%)

Fig. No. 6
Joint Venture banks average loans and advances portfolio



And finally Government Enterprises stood at the third position with the Industry. Average of 2.93% NBBL, HBL and SCBNL are providing loans and advances above industry. Average i.e. 5.35%, %5, 3.065% where as Nabil Bank providing below industry average.

4.8 Earning Per Share :

Earning Per Share measures profitability of the common shareholders investment. It shows the profit available to the equity shareholders as per share.

EPS is calculated as :

$$\text{EPS} = \frac{\text{Earnings available for share}}{\text{No. of equity share}}$$

Again we have,

Earning available for equity share = Net profit after tax - performance dividend

Table-7
Calculated Earning per share (EPS)

Fiscal Yr.	Nabil	SCBNL	HBL	NBBL	EBL
2001/02	132.9	159.49	103.43	5.46	-12.01
2002/03	67.6	165.40	115.08	17.61	-9.2
2003/04	44.5	129.61	113.22	50.66	20.86
2004/05	67.84	105.86	86.07	68.94	21.03
2005/06	83.785	115.62	83.03	116.28	34.40
2006/07	59.2064	126.88	93.57	82.81	35.38
Mean	76	133.81	99.09	56.96	15.08
S.D.	28	21.74	12.47	37.80	19.05
C.V.	36.85	16.25	12.59	66.40	126.32

Source : Financial Indicators of JVBs, Annual Report 2007

Industry Average Mean = 76.19%

Industry Average C.V. = 51.68%

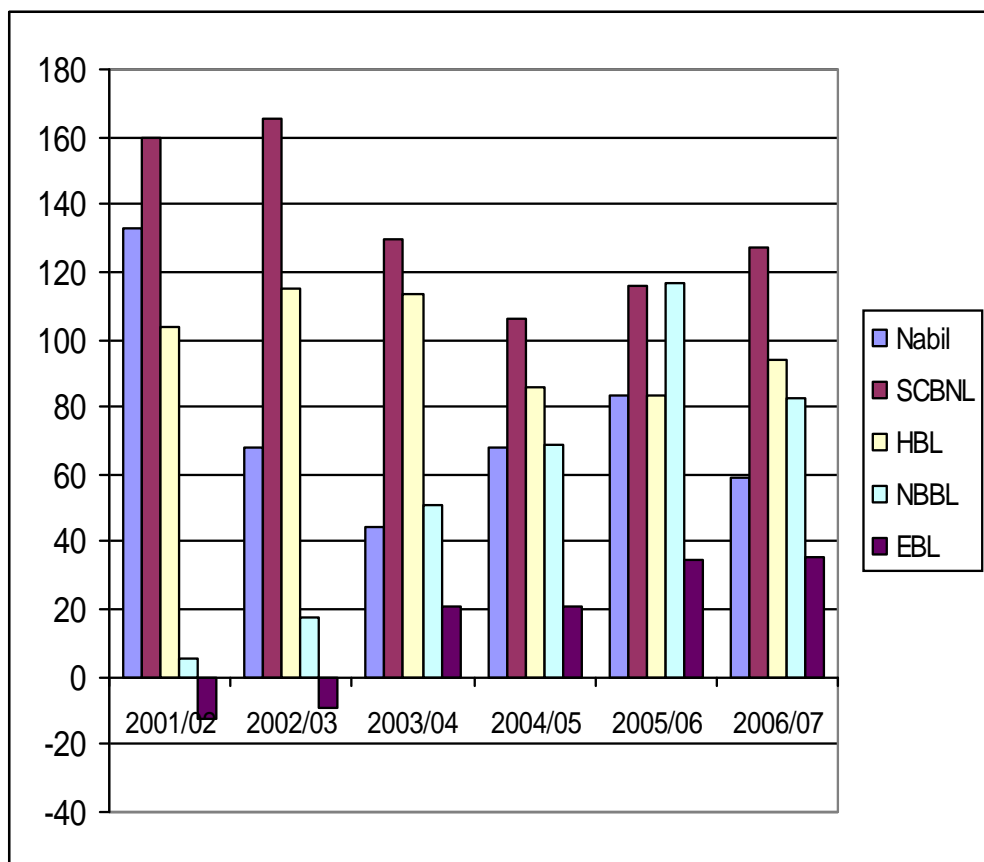
From the table no. 7, it is found that NABIL Bank has mean EPS of 76% and coefficient of variation is 36.85%. Industry average mean EPS is

76.19% & industry C.V. is 51.68%. NABIL Bank has almost equal mean EPS to industry average and lower C.V than industry average C.V. it is better to have lower C.V. because it indicates that the data are more uniform i.e. less fluctuation throughout the review period.

Himalayan Bank has the lowest C.V. of 12.59% with the mean EPS of 99.09%. This bank has above mean EPS than industry average i.e. $99.09 > 76.19$ and lower C.V. ratio than industry average C.V. i.e. $12.59 > 51.68$. It means the data are more uniform.

NBBL on the other hand has mean EPS of 56.96% which is lower than the industry average mean i.e. 76.19%. Its C.V. is 66.4% which is higher than industry average C.V. i.e. 51.68%. It means there have been very high fluctuations of data.

Fig. No. 7
Calculated Earning per share (EPS)



Investment portfolio to return on shareholders fund(ROSF)

Comparison made between Investment portfolio to return on shareholder fund (ROSF) helps us to draw a conclusion as to by investing certain percentage to government securities, shares and debentures and NRB bond how much return will be collected. Making comparison between sample joint venture banks, it is possible to find out which bank is forward and which one is left behind in collecting high return to shareholders fund. Since the data re collected from fiscal year 2001/02 to 2006/07, from different books and statistics to some extent the data may not taly with each other.

Table no. 8
Comparative table of investment portfolio to ROSF:

Name of Banks	Investment portfolio			Return on shareholders fund(ROSF)		
	Govt. Securities	Shares and Debentures	NRB bond	Mean(X)	S.D.	C.V.
NABIL	95.78%	1.2%	3%	19.77%	4.31%	21.79%
SCBNL	97.4%	0.5%	2.1%	32.34%	2.4%	7.36%
HBL	97%	0.7%	2.4%	27.48%	5.9%	21.4%
NBBL	30.6%	69.4%	0%	21.08%	6.1%	29%
EBL	99.1%	0.5%	0.4%	11.12%	14.9%	134%

From the above comparative table no. 8, it is found that Nabil Bank is giving first priority in making investment to Government securities is 95.78%. The second priority is given to NRB bond and finally to share and debenture with 3% and 1.2%. While doing this portfolio the bank has earned 19.77% as mean return on shareholders fund, with 21.79% coefficient of variation and 4.31% S.D. since the C.V. is high (21.79%), it inidcates that the bank is less uniform throughout the review period.

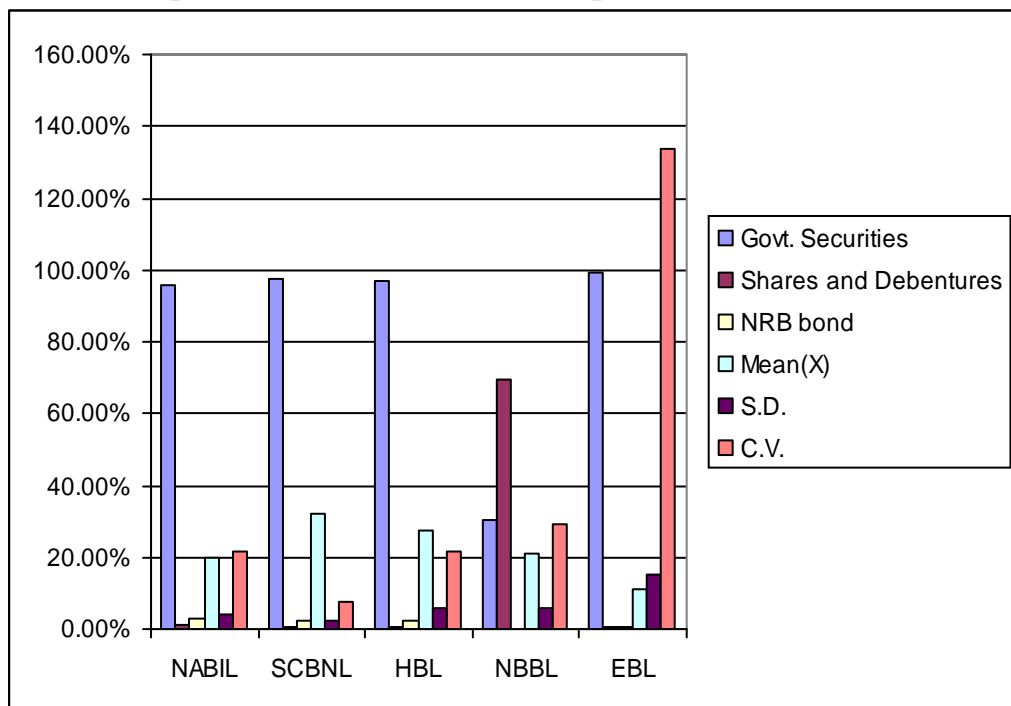
Standard and chartered bank is giving the first priority to making investment in government securities i.e. 97.4% and the second and third priority to NRB bond and share and debenture with 2.1% and 0.5% respectively. While making this portfolio the bank has earned 32.34% as mean return on

shareholders fund involving at the 7.36% of coefficient of variation and 2.4% S.D. the C.V. is lower . It indicates that the ratio of the bank is highly uniform throughout the review period.

Himalayan bank Ltd. is also making investment highly in government securities. The mean percentage of government securities is 97%. Secondly to NRB bond and finally to share and debenture. In this case, the bank has earned 27.48% as mean return on shareholders fund by involving at 21.4% C.V. and having 5.9% as S.D.. Here C.V. is high thus indicating less uniformly of the bank throughout the period.

Nepal Bangladesh Bank on the other hand has a contrast investment portfolio as compared to other JVBs. It has given the first priority to share and debenture with the mean 69.4%. Second and third priority is given to government securities with 30.6%. It has invested no amount under NRB bond. The bank has 21.08% mean return on shareholders fund with 29% of C.V and 6.1% S.D. C.V. is high indicating less uniformity and high fluctuation of data throughout the review period.

Fig. no. 8
Comparative table of investment portfolio to ROSF:



4.10. Investment portfolio to Return on Total Asset Ratio

Comparison of investment portfolio to ROA is done with a view to find out as to what percentage of return on total assets is collected by making investment on different headings, i.e. government securities, shares and debentures and NRB bond. This comparison further helps us to know that whether the investment ratio has been uniform throughout the review period or not.

Table no. 9
Comparative table of investment portfolio to ROA

Name of Banks	Investment portfolio			Return on total assets (ROA)		
	Govt. Securities	Shares and Debentures	NRB bond	Mean(X)	S.D.	C.V.
NABIL	95.78%	1.2%	3%	1.89%	0.27%	14.51%
SCBNL	97.4%	0.5%	2.1%	2.57%	0.27%	10.49%
HBL	97%	0.7%	2.4%	1.71%	0.42%	24.5%
NBBL	30.6%	69.4%	0%	1.6%	0.49%	30.85%
EBL	99.1%	0.5%	0.4%	-0.17%	1.04%	16.364%

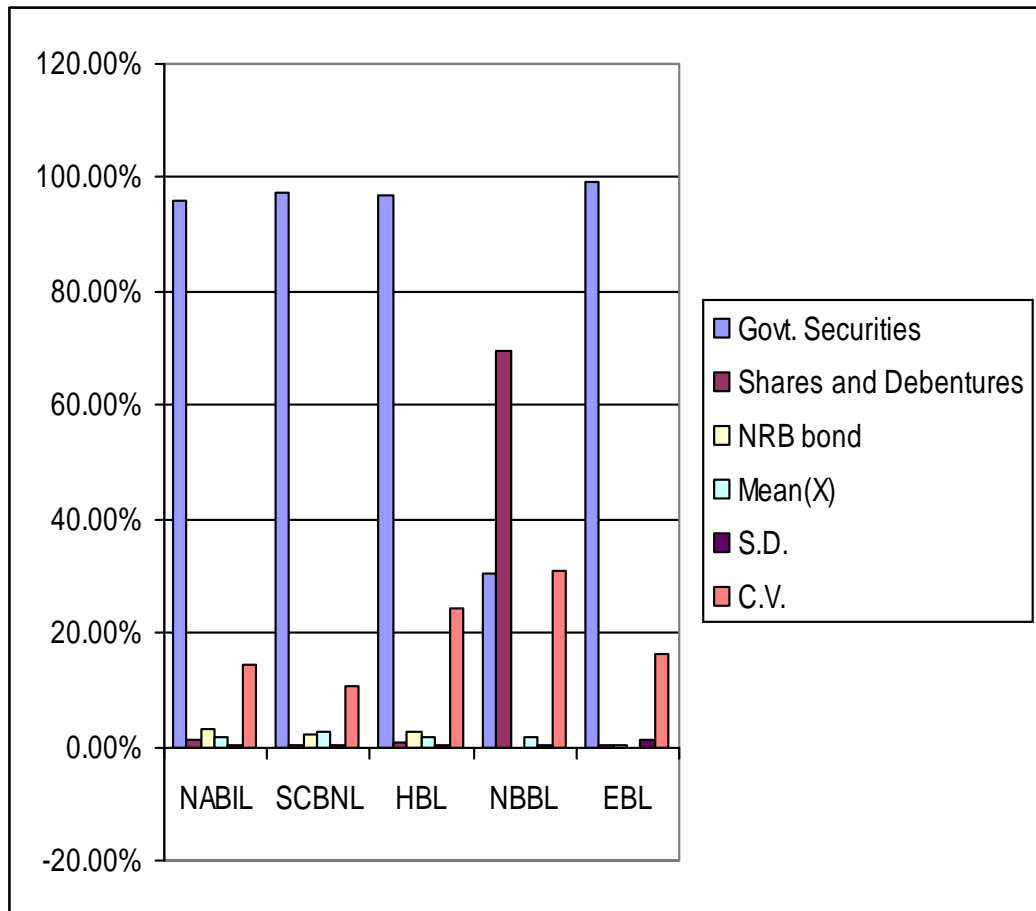
From the comparative table no. 9 it is found that Nabil Bank by making investment 95.78% of total funds in govt. securities, 3% in NRB bond and finally to shares and debentures has collected 1.89% as mean return to Total assets. Similarly with this it is also involved with 14.51% as coefficient of variation and 0.27% as standard deviation. Since the C.V. of Nabil is lower thus indicating high uniformity of the data through out the review period. In the same way , SCBNL has also given high priority to Govt. Securities, secondly to NRB bond and finally to share and debentures. The ratio's of investment are 97.4% , 2.1% and 0.5%. While doing this bank has collected 2.57% as mean return to total assets at 10.49% C.V. The S.D. in this case is 0.27% Since C.V. is lower, it indicate the bank is more uniform throughout the review period, i.e. data are less fluctuating.

Himalayan bank has also given high priority to government securities. With 97% as mean, secondly to NRB bond i.e. 2.4% and finally to share and debenture with 0.7%. It has collected 1.71% as mean return by involving at C.V. 24.5% and S.D. is 0.42% since C.V. is high indicating of high fluctuations of data throughout the review period.

Nepal Bangladesh bank on the other hand has collected 1.6% as mean return on total assets at very high C.V. i.e. 30.85% by making investment as 69.4% on shares and debentures and 30.6% on government securities.

Everest Bank on the other hand by investing almost all i.e. 99.1% on government securities and 0.5% only on shares and debentures and 0.4% on NRB bond has collected negative return on 0.17% on total assets.

Fig no. 9
Comparative table of investment portfolio to ROA



4.11 Investment portfolio to Earning per share

This comparison is done with a view to find out that by making certain investment portfolio what percentage of earning per share is collected and to what coefficient of variation level that EPS has been collected. Further it helps us to know that, from the view point of EPS, whether the investment portfolio that is being adopted by the bank is good i.e profitable or not

Table no. 10

Comparative table of investment portfolio to EPS

Name of Banks	Investment portfolio			Earning per share(EPS)		
	Govt. Securities	Shares and Debentures	NRB bond	Mean(X)	S.D.	C.V.
NABIL	95.78%	1.2%	3%	76.0%	2.0%	36.85%
SCBNL	97.4%	0.5%	2.1%	133.81%	21.74%	16.25%
HBL	97%	0.7%	2.4%	99.09%	12.47%	12.59%
NBBL	30.6%	69.4%	0%	56.96%	37.8%	66.4%
EBL	99.1%	0.5%	0.4%	15.08%	19.05%	126.33%

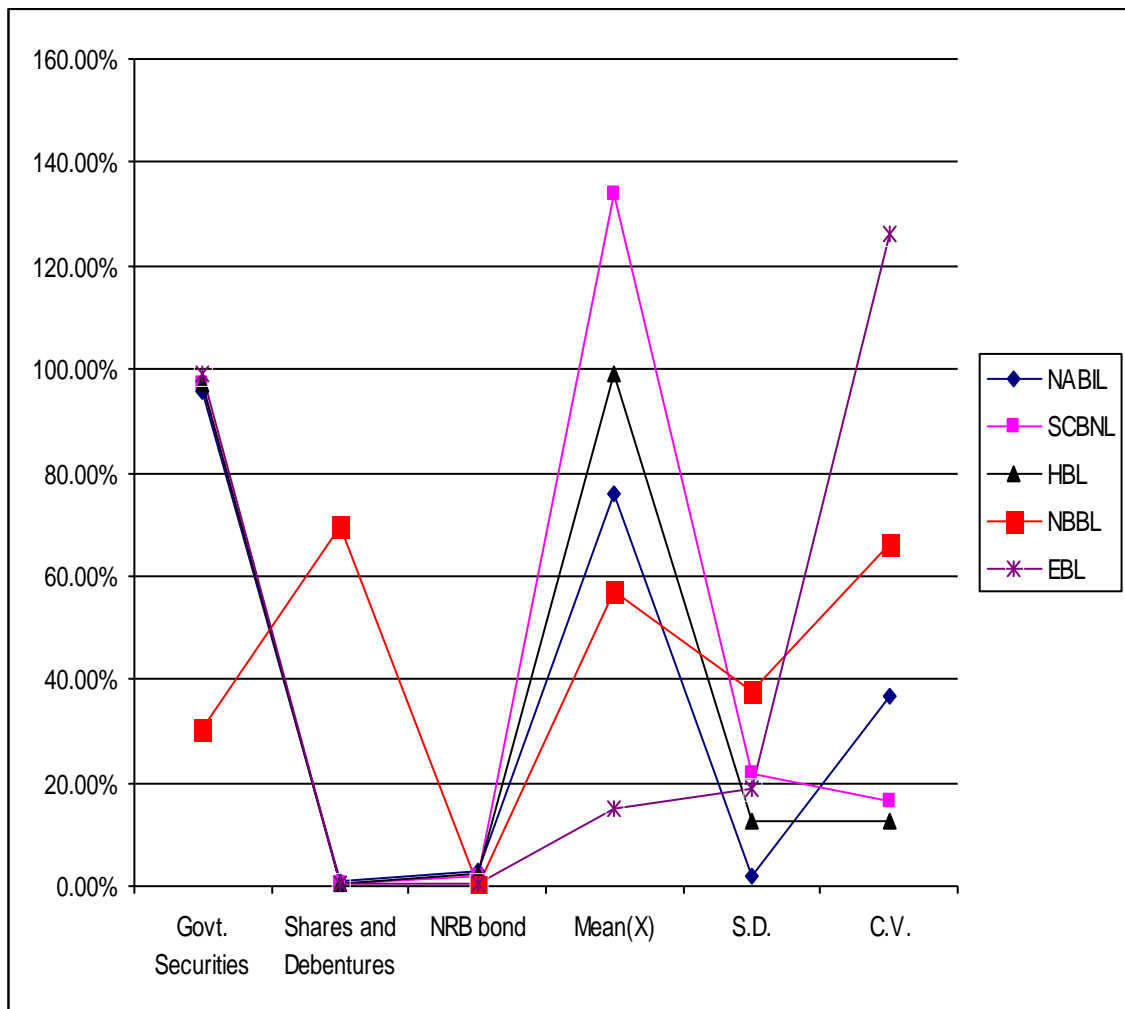
From the above comparative table, it is found that Nabil Bank has invested very high amount of its fund to Government securities; i.e. 95.78%. It has given second priority to NRB bond with mean percentage of 3% and finally to share and debenture with 1.2%. While making this portfolio the bank is involved with mean EPS 76% and coefficient of variation 36.85%. The C.V. is high indicating less uniform and high fluctuating of data throughout the review period.

Similarly standard chartered bank is also giving first priority to government securities and the mean percentage is 97.4%. Similarly it has given second priority to NRB bond i.e. 2.1% and finally to share and debenture i.e.0.5%. While making this the firm is involved with 33.8% mean EPS and 16.25% as C.V. since C.V. is lower hence it is concluded that the ratio of the bank is more uniform throughout the review period.

Himalayan bank is giving highest priority government securities with 97% mean., second priority to NRB bond with 2.45 mean and lastly to shares and debentures i.e. 0.7 % While involving in this kind of portfolio, the bank has collected mean EPS 99.09% and with 12.59% C.V. since the C.V. is lower, it is concluded that the ratios are more uniform throughout the review period.

NBBL on the other hnd has given priority to shares and debenture with 69.4% mean and finally to government securities with 30.6%. It has invested no amount on NRB bond and has been involved with 66.4% as coefficient of variation and thereby collecting mean earning per share as 56.96%. Since C.V. is very high thus the ratio is not uniform.

Fig no. 10
Comparative table of investment portfolio to EPS



4.12 Loan & Advances portfolio to return on shareholders fund(ROSF)

Preparing a comparative table of loans & advances portfolio to return on shareholders funds helps us to know that by providing certain percentage of loans and advances to govt. Securities, private sector and foreign bills P & D how much return is collected to shareholders fund and at what percentage of risk, that much return is collected.

Table no. 11
Comparative table of loans and advances portfolio to ROSF

Name of Banks	Investment portfolio			Return on Shareholders fund (RSF)		
	Govt. Securities	Shares and Debentures	NRB bond	Mean(X)	S.D.	C.V.
NABIL	1.26%	94.11%	4.6%	19.77%	4.31%	21.79%
SCBNL	5%	90.31%	4.69%	32.34%	2.4%	7.36%
HBL	3.065%	93.95%	2.97%	27.48%	5.9%	21.4%
NBBL	5.5%	89.71%	5.025%	21.08%	6.1%	29%
EBL	0%	97.13%	2.87%	11.12%	14.9%	134%

From the above comparative table no. 11, it is found that Nabil Bank is providing very highest amount of its loans and advances to private sector i.e. 94.11% and is giving second priority to foreign Bills P and D with 4.6 mean percentage and finally to government enterprises i.e. 1.26% while giving priority to these sectors it has earned 19.77% as mean percentage of return on shareholder's fund. But it has very high coefficient of variation i.e. 21.79% which indicates that the investment is not uniform throughout the review period i.e. from the fiscal year 2001/02 to 2006/07 rather it is in fluctuating trend. The standard deviation is 4.31% which is also high indicating less consistency of the bank.

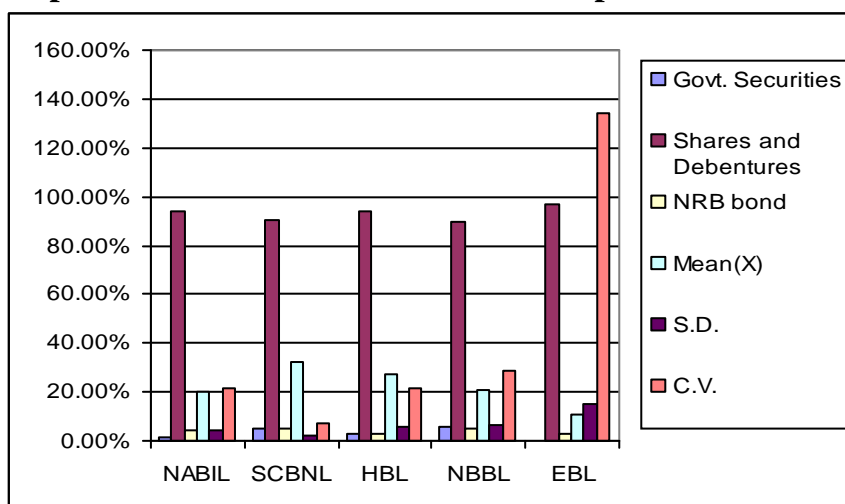
Similarly in the table standard and chartered bank is also giving first priority to private sector with mean percentage 90.31%, second priority to Govt. Enterprises with 5% and finally to foreign Bill P % D with 4.69% while doing this, the bank has collected very highest percentage of mean return to shareholders' fund. The mean return at this moment is 32.34 % which is very

high even as compared to other sample joint venture banks. The standard deviation in this case is 2.4% which is very low and indicates that the bank is highly consistent. Similarly it is also found that the coefficient of variation is also very low, i.e. 7.36%. As we know that lower C.V. indicates the bank is more uniform. Thus in this case, it is very profitable to have lower C.V. for the bank.

Himalayan bank is giving first priority to private sector with mean parentage of 93.95% second priority to government enterprises with 3.065% and finally foreign bills P & D with 2.97%. While incurring this, the bank is earning 27.48% of mean return to shareholders fund involving 5.9% as standard deviation and C.V. 21.4% Similarly the coefficient of variation of Himalayan bank is high which indicates that the data re more fluctuating throughout the review period.

Nepal Bangladesh Bank on the other hand is giving first priority to private sector in providing loans advances. The mean percentage of loans and advances to private sector is 89.71% It is giving second priority to government enterprises and finally to foreign bills P&D. While doing this portfolio of investment the bank is involved with 29% of coefficient of variation and 21.08% standard deviation. The C.V is very high indicating the bank is less uniform. The reason is that the data re more fluctuating throughout the review period

Fig. no. 11
Comparative table of loans and advances portfolio to ROSF



4.13. Loans and advances portfolio to return on totals assets

Comparison of loans and advances portfolio to return on assets is done to know the rate of return on total assets by providing certain percentage of loans and advances to government enterprises, private sector and foreign bills purchases and discount . It further helps us to know whether the policy of providing loans and advances to different sector that the bank currently adopting is uniform or not.

Table No. 12

Comparative table of loans and advance portfolio to Return on total assets.

Name of Banks	Investment portfolio			Return on Assets(ROA)		
	Govt. Securities	Shares and Debentures	NRB bond	Mean(X)	S.D.	C.V.
NABIL	1.26%	94.11%	4.6%	1.89%	0.27%	14.51%
SCBNL	5%	90.31%	4.69%	2.57%	0.27%	10.49%
HBL	3.065%	93.95%	2.97%	1.71%	0.42%	24.5%
NBBL	5.5%	89.71%	5.025%	1.6%	0.49%	30.85%
EBL	0%	97.13%	2.87%	-0.17%	1.04%	16.346%

In the above comparative table no. 12, it is found that Nabil Bank is providing a very high amount of loans and advances to private sector is 94.11% Similarly the second priority is given to Foreign bills P&D with mean 4.6% and finally to government enterprises with the mean of 1.26%. While involving in this kind of portfolio of loans and advances, the mean return on total assets is 1.89% which is the second highest mean among the sample joint venture bank. The coefficient of variation in this case is 14.51%, which is the second lowest among JVBs.

Similarly, SCBNL on the other hand has also given first priority to private sector with the mean 90.31%, second priority is given to government enterprises with mean 5% and finally to foreign bills P&D with mean 4.69%. The portfolio adopted by SCBNL is slightly different than Nabil Bank adopted. By adopting this kind of portfolio the bank has collected 2.57% as the mean return on total assets, with the involving at lowest level of risk i.e. 10.49% SCBNL has collected highest mean return with the lowest C.V.

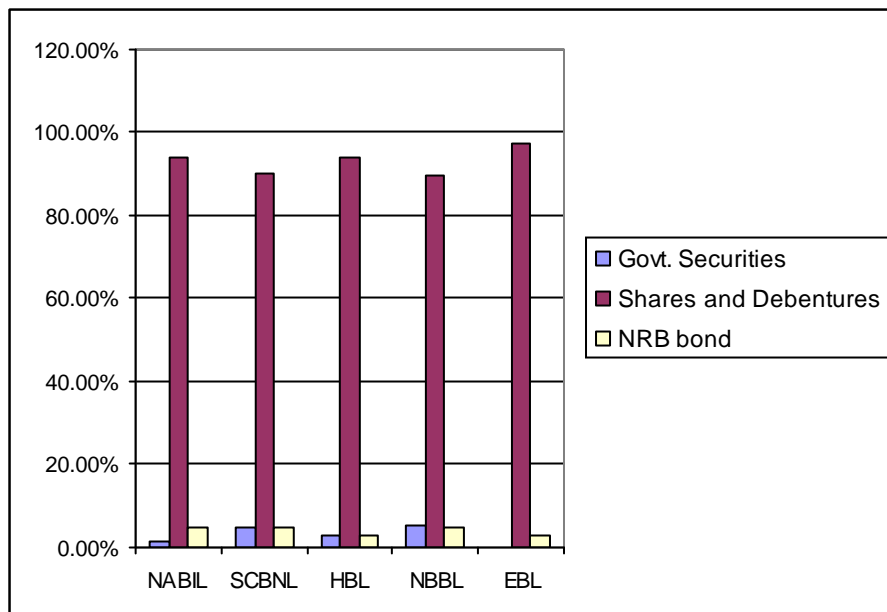
Himalayan Bank is providing 93.95% to private sectors. 3.065% to government enterprises and finally to foreign bills P&D with mean 2.97%. While adopting this portfolio the bank has collected 1.71% as mean return on total assets with 24.5% as coefficient of variation.

NBBL has adopted slightly different portfolio of loans and advances than others. In this case, the bank is providing 89.71% of loans and advances to private sectors, 5.35% to government enterprises and finally to foreign bills P&D with mean 5.025%. While involving in this portfolio the bank has collected 1.6% as mean return as total assets with very high coefficient of variation 30.58%

Everest Bank is providing first priority is providing loans and advances to private sectors with mean 97.13% and finally to foreign bills P & D with 2.87% and providing no funds to government enterprises. While doing this the bank has collected negative mean return on total assets of -0.17% with 16.346% C.V.

Finally it is concluded that SCBNL has the highest mean return with lowest C.V. i.e. 2.57% at C.V. 10.49% and EBL has lowest mean return of -0.17% and 16.346% C.V. NBBL has the highest C.V. of 30.85%.

Fig. No. 12
Comparative table of loans and advance portfolio to Return on total assets.



4.14 Loans and advances portfolio to earning per share

This comparison is done with a view to find out as what level of EPS is collected by granting loans and advances, certain percentage to government enterprises, certain percentage to private sector and certain percentage to foreign bills purchases and discounts. It helps us to know which bank has collected highest mean EPS and by making what kinds of loans and advance portfolio that EPS is collected.

Table no. 13

Comparative table of loans and advances portfolio EPS

Name of Banks	Investment portfolio			Return on Assets(ROA)		
	Govt. Securities	Shares and Debentures	NRB bond	Mean(X)	S.D.	C.V.
NABIL	1.26%	94.11%	4.6%	76%	28%	36.85%
SCBNL	5%	90.31%	4.69%	133.81%	21.74%	16.25%
HBL	3.065%	93.95%	2.97%	99.09%	12.47%	12.59%
NBBL	5.5%	89.71%	5.025%	56.96%	37.8%	66.4%
EBL	0%	97.13%	2.87%	15.08%	19.05%	126.33%

In the above table, Nabil bank by providing 94.11% of loans and advances to private sectors, 4.6% to foreign bills P&D and finally 1.26% to government enterprises has collected 76% of mean return on earning per share with 36.85 % coefficient of variation.

Standard and chartered bank Nepal Limited on the other hand by providing 90.31% to private sectors, 5% to foregin Bills P&D has collected very high mean return of 133.81% to EPS with 16.25%.

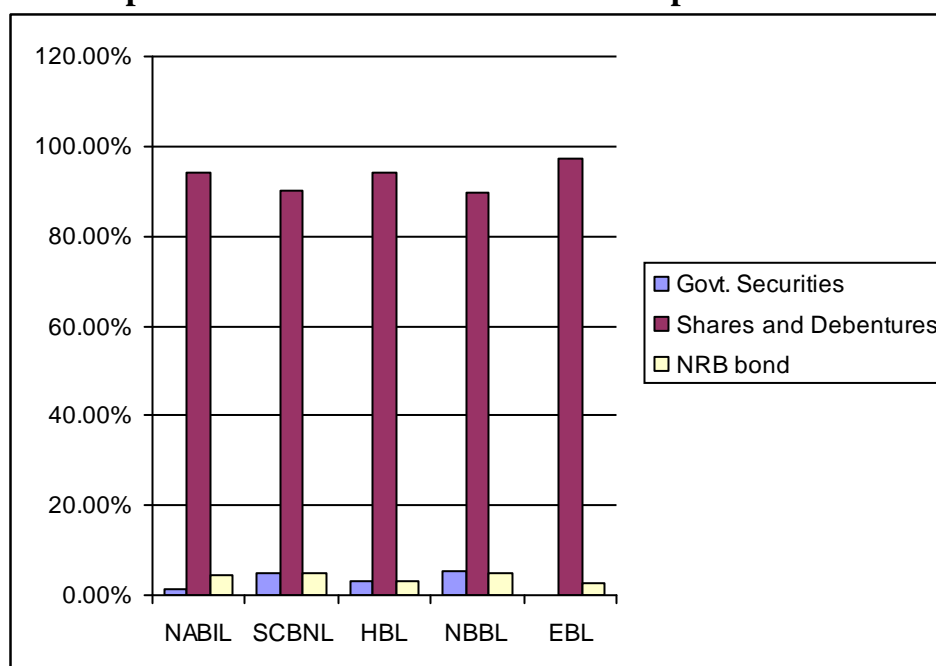
Himalayan Bank with 93.95% to private sector, 3.065% to government enterprises and 2.97% to foreign bills P & D the bank has mean earnings per share of 99.09% with the lowest C.V. of 12.59% The mean percentage i.e. 99.09% is the second highest mean among JVBs.

Nepal Bangladesh bank limited had provided 89.71% to private sectors, 5.35% to Government enterprises and 5.025% to foreign bills P&D . It has collected 56.96% mean percentage to EPS with very high C.V. of 66.4%.

Everest Bank limited by providing 1st and last priority to private sectors with 97.13% and 2.87% to foreign bills P&D has collected the lowest mean return to EPS i.e. 15% with the highest C.V. of 126.33%.

Finally it is concluded that SCBNL has the highest mean return and EBL has the lowest i.e. 133.81% and 15% HBL has the lowest C.V. and EBL has the highest C.V. i.e. 12.59% and 126.33%. Thus it is clear now the ratio of HBL is more uniform and that of EBL is more fluctuating throughout the review period.

Fig. no. 13
Comparative table of loans and advances portfolio EPS



4.15. Beta Coefficient

The beta coefficient is an index of systematic risk. Beta reflects that part of portfolio's returns and variation in returns, which is attributable to the overall movement of the market rather than to any unique characteristics of the portfolio. Beta coefficient may be used for ranking the systematic risk of

different assets. If the beta is less than 1, the assets is defensive assets, if the beta is greater than 1, the aset is more volatile than the market and is called and aggressive assets. The greater the beta of a security, the greater the risk and vice versa.

4.16 Estimated market parameter

Market return and market standard deviation are the most important factors to analyze the risk and return. For that purpose 14 different companies from all over the market are take into consideration. These selected companies are taken from different sectors like banking sector manufacturing sector, trading sector, service sector, hotel sector etc

Return is the combination of capital gain yield and divided yield. Capital gain(loss) yield can be calculated by difference between this year price and last year price with respect to the last year price. .

Dividend yield can be calculated by dividend per share divided by market price per share. Market return is the mean return of the selected companies which is represented by the market return of the study. Standard deviation measures the risk that is very essential to study the risk and expected rate of return and to analyze the beta coefficient of the study Standard deviation helps the investors to take the decision on the investment.

Table no. 14
Estimated market parameter

Name of Organization	2001		2002		2003		2004		2005		2006	
	P _t in Rs	D/ P _t in %	P _t in Rs	D/ P _t in %	P _t in Rs	D/ P _t in %	P _t in Rs	D/ P _t in %	P _t in Rs	D/ P _t in %	P _t in Rs	D/ P _t in %
Nepal Arab Bank Ltd.	881	3.97	900	-	500	-	430	1.48	700	1.36	12.00	-
Standard & Chartered Bank Nepal Limited	1000	3	720	13.9	1050	8.57	840	8.33	1162	6.88	1985	50.4
Nepal Indo-Suez Bank Ltd.	810	4.94	525	9.52	719	6.95	600	8.33	822	3.65	1401	1.78
Nepal Bangladesh Bank Ltd.	-	-	139	0	153	4.90	252	6.26	616	2.51	1502	0
National Life General Ins. Co.	620	.23	310	7.1	315	6.98	3.5	6.56	390	5.13	-	-
Nepal Insurance Co. Ltd	630	3.17	450	6.67	0	0	0	0	460	5.43	-	-
NIDC Capital Market Ltd.	-	-	72	-	100	-	75	0	100	15	415	3.61
Goodwill Finance & Investment Co. Ltd.	-	-	-	-	-	-	-	-	66	15.2	-	-
Nepal Housing & Merchant Finance Ltd.	-	-	-	-	63	0	80	9.89	91	0	-	-
Nepal Lever Ltd	417	-	290	-	405	-	480	4.17	1501	267	-	-
Nepal Battery Co. Ltd.	720	3.48	-	-	-	-	630	7.15	690	2.90	-	-
Bishal Bajar Co. Ltd.	-	-	3450	0.58	2700	0	1850	1.08	1800	2.22	1800	2.22
Salt Trading Corporation	980	0	770	.097	450	2.22	450	2.67	500	3	-	-
Yak & Yeti Hotel Ltd	1375	1.45	550	3.64	-	-	355	5.64	405	4.94	-	-
Number of Observation	9	-	11	-	10	-	12	-	14	-	5	-
P_1	7433		8176		6455		6455		9303		7103	
Dt/Pt	23.24		42.38		29.62		61.56		70.89		12.65	
Pt/n	826		743		645.5		538		665		1420	
[Dt/Pt]/n(%)	2.58%		3.85%		2.96%		5.13%		5.06%		2.53%%	

In the above table no. 14

P_t=closing market price per share

D_t/P_t=Dividend yield %

On the basis of the data available in the above table, market return and market standard deviations are calculated in the following tables.

Table no. 15
Estimated market return

Year 1	P _t Closing Price 2	Capital Gain P _t -1 3	D _t / P _t 4	R _m (3,4) 5	R _m - R _m	(R _m -R _m) ²	R ₁
2001	826	-	2.58	-	-	-	7.35
2002	743	-10	3.85	-6.15	- 29.53	872.02	10.93
2003	645.5	-13.12	2.96	-10.16	- 33.54	1124.93	10.22
2004	538	-16.65	5.13	-11.52	-34.9	1218.01	3.52
2005	665	23.61	5.06	28.67	5.29	27.98	2.33
2006	142	113.53	2.53	116.06	92.68	8589.58	4.66
				R _m X116.9 R _m X $\frac{R_M}{N}$ X23.38%		(R _m Z R _m) ² X11832.53	R _F X39% R _F X6.5%

Here,

$$um^2 \times \frac{(R_m \sum R_m)^2}{N \sum 1} \times \frac{11832.53}{5 \sum 1} \times 2958.13\%$$

Standard deviation (S.D.) of market return (*um*)

$$um \times \sqrt{um^2}$$

$$\times \sqrt{2958.13}$$

$$\times 54.39$$

In the above table, market return(R_M) of the stock is 23.38%, and the required market standard deviation of the stock is 54.39%. Average risk free rate of the stock is 6.5%.

Calculated of beta coefficient B_j and expected rate of return (R_j) of NABIL Bank limited (Detail in Annex H)

$$\text{Cov}(R_A, R_M) =$$

$$(R_m - Z\hat{R}_m)(R_a - Z\hat{R}_a)$$

$$\times 8784 / 5$$

$$\times 1756.8$$

$$\text{Beta coefficient } (B_j) = \text{cov}(R_A, R_M) / \sigma_M^2$$

$$= 1756.8 / 2958.13$$

$$= 0.59$$

$$\text{Required rate of return } (R_j) = R_F + \Gamma(R_M - ZR_F)B_j$$

$$= 6.5 + (23.38 - 6.5)$$

$$= 16.46\%$$

Therefore the required bet coefficient $B_j = 0.59$

The required rate of return of NABIL $(R_j) \times 16.46\%$

Calculated of bet coefficient B_j and Expected rate of return (R_j) of standard and chartered bank Nepal Limited SCBNL detail in Annex I

$$\text{Cov}(R_A, R_M) =$$

$$\sum \frac{(R_m - Z\hat{R}_m)(R_a - Z\hat{R}_a)}{N}$$

$$\times \frac{6270.16}{5}$$

$$\times 1254.03$$

$$\text{Beta coefficient } (B_j) = \text{cov}(R_A, R_M) / \sigma_M^2$$

$$= 1254.03 / 2958.13$$

$$= 0.42$$

$$\text{Required rate of return } (R_j) = R_F + \Gamma(R_M - ZR_F)B_j$$

$$= 6.5 + (23.38 - 6.5)0.42$$

$$= 13.59\%$$

Hence, the required beta coefficient B_j and Required rate of return

(R_j) of standard and Chartered bank Nepal limited are 0.42, and 13.59% respectively.

Calculated of beta coefficient B_j and expected rate of return of Himalayan Bank Ltd. (Detail in ANNEX J)

$$\text{Cov}(R_A, R_M) =$$

$$X \frac{(R_m - Z \hat{R}_m)(R_a - Z \hat{R}_a)}{N}$$

$$X \frac{5117.61}{5}$$

$$X 1023.52$$

$$\text{Beta coefficient } (B_j) = \text{cov}(R_A, R_M) / \sigma_M^2$$

$$= 1023.52 / 2958.13$$

$$= 0.35$$

$$\text{Required rate of return } (R_j) = R_F + \Gamma (R_M - Z R_F) B_j$$

$$= 6.5 + (23.38 - 6.5) 0.35$$

$$= 12.41\%$$

Therefore the required beta coefficient and required rate of return of Himalayan Bank Limited are 0.35 and 12.41% respectively.

Calculated of bet coefficient B_j and expected rate of return R_j of Nepal Bangladesh Bank Ltd. (Detail in ANNEX K)

$$\text{Cov}(R_A, R_M) =$$

$$X \frac{(R_m - Z \hat{R}_m)(R_a - Z \hat{R}_a)}{N}$$

$$X \frac{8266}{4}$$

$$X 2066.51$$

$$\text{Beta coefficient } (B_j) = \text{cov}(R_A, R_M) / \sigma_M^2$$

$$= 2066.51 / 2958.13$$

$$= 0.7$$

$$\text{Required rate of return } (R_j) = R_F + \Gamma (R_M - Z R_F) B_j$$

$$= 6.5 + (23.38 - 6.5) 0.7$$

$$= 18.32\%$$

The required beta coefficient of NBBL is 0.7 and required rate of return R_j is 18.32%.

Calculated of beta coefficient B_j and expected rate of return R_j of Everest Bank Ltd. (Detail in Annex L)

$$\text{Cov}(R_A, R_M) =$$

$$X \frac{(R_m - Z \hat{R}_m)(R_a - Z \hat{R}_a)}{N}$$

$$X \frac{10087.8}{4}$$

$$X 2522$$

$$\text{Beta coefficient } (B_j) = \text{cov}(R_A, R_M) / \sigma_M^2$$

$$= 2522 / 2958.13$$

$$= 0.85$$

$$\text{Required rate of return } (R_j) = R_F + \Gamma (R_M - Z R_F) B_j$$

$$= 6.5 + (23.38 - 6.5) 0.85$$

$$= 20.85\%$$

Therefore required bet coefficient B_j and required rate of return R_j OF

Everest Bank limited are 0.85 and 20.85% respectively.

Table no. 16
Summary of above calculation

Name of JVBS	Beta coefficient B	Mean Return	Expected rte of return R_j
NABIL	0.59	16.07%	16.46%
SCBNL	0.42	29.94%	13.59%
HBL	0.35	32.97%	12.41%
NBBL	0.7	94%	18.32%
EBL	0.85	78.67%	20.85%
Industry average	0.58	50.33%	16.33%

In the above table, the industry average beta coefficient is 0.58, which is less than the market index (i.e. 1). The beta coefficient of Everest Bank limited is 0.85 which is the highest among, the five sample joint venture bonus. Therefore Everest Bank Limited has the highest systematic risk in the banking industry. Similarly Himalayan Bank has the lowest beta

coefficient i.e. 0.35 among the five joint venture banks. Calculated value of beta coefficient of NABIL 0.59, which is higher than industry average i.e. $0.7 > 0.58$. NBBL has the second highest beta coefficient and NABIL has third highest beta coefficient. Thus NBBL has second highest systematic risk. SCBNL has the lower beta coefficient i.e. 0.42, which is lower than the market index i.e. 1. It indicates that it has less risky assets.

Single period rate of return is the total return during the holding period. It is denoted by r or HPR. It is simply the total return on what the investor would receive during the holding period stated as a percent of investment price at the start of the holding period. The mean return of Nepal Bangladesh Bank (NBBL) has the highest i.e. 94%, among the five joint venture banks in Nepal. Mean return is the average of capital gain yield and dividend yield. The industry average means return is 50.33%. NABIL Bank has the lowest mean return of 16.07% and SCBNL has the second lowest return of 29.94% and HBL has mean return of 32.97%. These three banks have lower mean return than industry average i.e. $16.07\% < 50.33\%$, $29.94\% < 50.93\%$, $32.97\% < 50.33\%$. So it indicates that NABIL banks performance has been very poor during the fiscal year 2001/02-2006/07, as compared to other joint venture banks.

Everest bank limited has the highest beta coefficient, i.e. 0.85 thus requires highest return i.e. 20.85% and HBL has the lowest beta coefficient i.e. 0.35, therefore requiring less return i.e. 12.41.

4.17 Statistical Tools

4.17.1 Coefficient of correlation

Correlation analysis is that statistical tool which can be used to describe the degree to which one variable is linearly related to another. It measures the relationship between variables and denoted by ' r '. The result of coefficient of correlation is always between +1 or -1. When $r = +1$, it means there is

perfect relationship between two variables vice versa. When $r=0$, it means that there is no relationship between two sets of figures. The Pearson's formula

$$r_w = \frac{(X - \bar{X})(Y - \bar{Y})}{\sqrt{(X - \bar{X})^2 (Y - \bar{Y})^2}}$$

correlation coefficient between investment in government securities and portfolio return (Detail in Annex M)

Correlation coefficient between investment and portfolio return measures the relationship between these two variables. In this analysis, investment is the independent variable x , and portfolio return is the dependent variable.

we have

$$\begin{aligned} \text{correlation coefficient } r_{xy} &= \frac{(X - \bar{X})(Y - \bar{Y})}{\sqrt{(X - \bar{X})^2 (Y - \bar{Y})^2}} \\ &= \frac{X \frac{Z 2806.5}{\sqrt{3567 | 4600.7}}}{X \frac{Z 2806.5}{4051.01}} \\ &= XZ69\% \end{aligned}$$

... r_{xy} XZ0.69

From the above calculation of coefficient of correlation between investment in government securities and portfolio return of sample joint venture banks in Nepal comes out to be r_{xy} X0.69. Thus it indicates that there is negative correlation between investment in government securities and portfolio return of joint venture banks. Thus it indicates that there is negative correlation between investment in government securities and portfolio return of joint venture banks. It indicates that if the independent variable. Investment is increased it will result in decrease of portfolio return and if the investment is decreased the resulting factor i.e. portfolio return will be increased.

Correlation coefficient between loans and advances in private sector and portfolio return (Detail in Annex N)

Correlation coefficient between loans and advances in private sector and portfolio return measures the relationship between these two variables. Here, loans and advances in private sector is the independent variable and portfolio return is the dependent variability.

Here,

Correlation coeff.

$$r_{xy} = \frac{(X - \bar{X})(Y - \bar{Y})}{\sqrt{(X - \bar{X})^2 (Y - \bar{Y})^2}}$$

$$= \frac{22806.5}{\sqrt{37.24 \times 4600.7}}$$

$$= \frac{226.22}{414}$$

$$= 0.546\%$$

...r_{xy} = 0.546%

From the above calculation, the correlation coefficient between loans and advances and portfolio return comes out to be r_{xy} = -0.6 which means that there is negative relationship between these two variables. Hence if the independent variable i.e. loans and advances is increased the resulting factor i.e. portfolio return will be decreased and vice versa.

4.18 Test of Hypothesis

Under this topic an effort has been made to test the significance regarding the parameter of the population on the basis of sample drawn from the population. Generally, the following steps are followed for the test of Hypothesis.

- a) Formulation of Hypothesis
 - i. Null hypothesis
 - ii. Alternative hypothesis
- b) Computation of test statistic .

- c) Fixing the level of significance
- d) Finding the criteria region
- e) Deciding the two tailed or one tailed test
- f. Making decision

Test of Hypothesis on Investment to total deposits of NABIL, SCBNL, HBL, NBBL and EBL (Detail in Annex N)

Null hypothesis (H_0) $\sim 1 X \sim 2 X \sim 3 X \sim 4 X \sim 5$ i.e. there is a significant difference between mean ratio of investment and total deposit of NABIL, SCBNL, HBL, NBBL, and EBL.

Alternative hypothesis (H_1) $\sim 1 | \sim 2 | \sim 3 | \sim 4 | \sim 5$ i.e. there is no significant difference between mean ratio of investment to total deposit of NABIL, SCBNL, HBL, NBBL and EBL.

ANOVA TABLE NO. 17

Source of variation	Sum of square	D.F.	Mean square	F ratio MSC/MSF
Between samples	SSC=1574.62	C-1=6-15	MSC=315	315/09.64 2.87
Within Samples	SSE=2631.38	N-C=30.6 24 29	MSF=109.64	

The tabulated value of $F_{0.05}(5,24)=2.62$.

Since the computed value of $F_{0.05}$ i.e. 2.87 is higher than that of the tabulated value i.e. 2.62, Null hypothesis is rejected. Hence it is concluded that there is a significant difference between the mean ratio of investment to total deposit ratio of NABIL, SCBNL, HBL, NBBL an EBL.

Major Findings

Based on the analysis of the various data remarkable findings are drawn up.

The major findings are as follows:

1. Looking at the return on shareholders fund ratio table no.1 the mean return of the shareholders' fund of NABIL is lower than industry average i.e. $19.77\% < 22.36\%$. Among all five joint venture banks, SCBNL has the highest mean return on shareholders fund, i.e. 32.34% . HBL also has higher mean return on shareholders' fund than industry average. The mean return is 27.48% . But NBBL and EBL have a low mean return than industry average i.e. 21.08% and 11.12% respectively. So, Everest bank has the lowest mean return of 11.12% and the reason behind this is the negative return of the first two years i.e. in 2001/02 and 2002/03, the returns were -9.48% and -10.06% respectively. Thus it is concluded that SCBNL and HBL have better position. NBBL and NABIL have a low position in the industry. But Everest bank has a very low position in the industry because of having lowest mean return on shareholders fund resulting from the negative returns in the fiscal years 2001/02 and 2002/03
2. The mean return on total assets shows that NABIL bank has a better position in industry. The mean return on total assets is higher than industry average i.e. $1.89\% > 1.52\%$ and coefficient of variation is lower than industry average i.e. $14.5\% < 19.34\%$. Looking at the other joint venture banks. SCBNL has the highest mean return and EBL has the lowest return i.e. 2.57% and -0.17% . However, HBL and NBBL also have mean return higher than industry average mean i.e. 1.71% and 1.6% . It is, therefore concluded that except EBL, all other four bank i.e. NABIL, SCBNL, HBL and NBBL have good performance.
3. Similarly looking at the ratio of investment to total deposits of joint venture banks. The ratios are in fluctuating trend throughout the review period. The mean investment to total deposit of NABIL bank is slightly lower than the industry average i.e. $16\% < 16.54\%$. Among

other joint venture banks, SCBNL has the highest return of 25.8%, EBL above mean return than industry average i.e.

4. 22.1% > 16.54% and the performance of HBL and NBBL, in this case, are lower industry average. The mean percentages are 14.1% and 4.7%. As compared to HBL, NBBL, NABIL bank has higher mean percentage of investment to total deposit and in the same manner NABIL bank has a lower return as compared to SCBNL and EBL. It indicates that SCBNL and EBL mobilize the funds in investment title is higher than the standard ratio whereas NABIL bank's invested funds is slightly below than the standard ratio.
5. The mean loans and advances to total deposit of NABIL is lower than industry average NBBL and EBL has the higher mean loans and advances than industry average i.e. 80.93% > 60.9%, 63.9% > 60.9% and that of SCBNL and HBL is lower than industry average i.e. 44.4% < 60.9, 56.4% < 60.9% respectively. So it can be concluded that NABIL, SCBNL and HBL are investing low amount of deposits on loans and advances which is lower than industry average and NBBL and EBL have invested a high amount of deposits to loans and advances title which is higher than industry average.
6. Similarly looking at the investment portfolio, the industry average investment on govt. securities is 84% NABIL bank has invested above industry average. Among the JVBs, EBL has invested the highest amount of funds in this title as 99.1%. And NBBL has invested lowest 30.6% other banks i.e. SCBNL and HBL have invested above industry average NBBL is investing highest amount of fund on share and debenture among JVBs i.e. 69.4% and SCBNL and EBL have invested lowest amount of funds on share and debenture i.e. 0.5% and 0.5% NABIL and HBL have invested lower than industry average and the industry average in this case is 14.46%. NABIL bank is investing the highest amount of funds on NRB bond as compared to other JVBs i.e. 3%. The industry average in this case

is 1.58% . NBBL has invested no amount of funds in this title and EBL has invested the lowest of funds i.e 0.4% and SCBNL and HBL have invested above industry average.

7. The industry average EPS is 76.19% and the mean EPS of NABIL is 76% almost equal to industry average. SCBNL has the highest EPS of 133.8% and EBL has the lowest EPS of 15.08%. Similarly HBL also has above mean PS than industry average i.e. $56.96\% < 76.19\%$
8. The beta coefficient of EBL is the highest among the five JVBs. i.e. 0.85% Therefore EBL has the highest systematic risk in the banking industries thus requiring highest return i.e. 20.85%. Himalayan bank has the lowest beta coefficient i.e. 0.35% among the five JVBs which means that the systematic risk of Himalayan bank is the lowest among the JVBs thus requiring lowest return of 12.41%. The portfolio return of NBBL is 94% This return is the average of capital of gain yield and dividend yield.
9. The coefficient of correlation between investment and securities and portfolio return of the five joint venture banks come out to be $r_{xy} = -0.69$. It indicates that there is negative correlation between investment in government securities and portfolio return of joint venture banks. The coefficient of correlation between loans and advances in private sector and portfolio return of joint venture banks come out to be $r_{xy} = -0.06$. Therefore it indicates that there is negative correlation between loans and advances in private sector and portfolio return of five JVBs in Nepal.

Chapter -5

Summary Conclusion and Recommendation

5.1 Summary

In the present study, the various financial tools namely ratio analysis and statistical tools like percentage mean, standard deviation, coefficient of variation, coefficient of correlation have been used for the purpose of analysis and interpretation of data. The data which are used in this study are mainly secondary in nature. These data are obtained from the annual reports of the JVBs and NRB from the F'Y2001/02 to F/Y 2006/07, security board, NEPSE etc.

Joint venture banks are the commercial banks formed by joining two or more enterprises mainly for the purpose of carrying out specific operations such as investment in trade, business and industries by forming a negotiation between various groups of industries. The basic objective of JVBs is always to earn profit and to increase its market value of the firm by investing its funds by granting the funds in the forms of loans and advances to people from trade and business industry etc who are in need of them. How well a bank manages its investment has a lot to do with the economic health of the country because the bank loans support the growth of new business and trade empowering the economic activities of the country.

Now-a-days, there is a very high competition in the banking industries but very less opportunity to make investment. The opportunities are hidden. Thus these JVBs should take initiative action in search of the new opportunities. So that they can easily survive in this competitive banking business world and earn profit.

Mushrooming of joint venture banks is the current situation of the Nepalese financial systems. There is a high flow of money in the market but less viable and invisible projects. Therefore, the introduction of a new bank

is just sharing a cake rather than pumping new capital or new technology, as Nepalese market is almost felt saturated.

NABIL bank has not been able to collect satisfactory level of return on shareholders' fund. Everest bank has a very low return on sharehodlers' fund. But SCBNL has collected highest return on shareholders fund and HBL has collected satisfactory level of return. All four banks except Everest bank has received a satisfactory level of return on total assets. HBL and NBBL have not properly invested their deposits.

NABIL has made better utilization of total deposit however not satisfactory all the banks. So they have to invest funds in profitable sectors. Similarly NABIL, SCBNL and HBL have not properly used their deposits.

Nepal Bangladesh banks investment portfolio has not been found satisfactory because it has invested only 30.6% of its funds in govt. securities whereas the industry average is 84%. Similarly by not investing any amount in NRB bond, it hs invested rest of the funds in shares and debenture at 69.4%. So, it is suggested that this bank should increase the percentage of investment in government securities and NRB bond by decreasing the percentage of investment in shares and debenture.

Similarly NABIL bank, SCBNL , HBL and EBL should increase the percentage of investment in the shares and debentures by lowering the percentage of investment in govt. securities because these banks are investing very high percentage of their funds in government securities. NABIL bank and Everest bank should increase the granting of loans and advances to government enterprises.

Finally , it is suggested that the JVBs should divert their investments, open new branches, play merchant banking roles and invest their risky assets and shareholders' fund to grow highest profit margin.

5.2 Conclusion

Joint venture banks have been operating smoothly and have been successful in becoming the pillars of economic system of the country. These banks are acting as financial intermediaries. Which provide a link between borrowers and lenders by mobilizing the scattered funds towards productive investments. Based on the analysis and the findings of the study, the following conclusion can be drawn.

1. The return on shareholders' fund is effected by the investment portfolio of joint venture banks (ref. table no.5) most of the joint venture banks investment is concentrated into government securities, however higher the scattered percentage in to other securities, better the return to shareholders.
2. Return of the joint venture bank is effected by loans and advances portfolio maintained by the bank. Most of the joint venture bank loans and advances of private sector together with Nabil Bank. However it is concluded that the portfolio weight in other sector than private sector only increase the return.
3. Investment portfolio with heavy weight on loans and advances portfolio on private sector has increased the total risk of investment. Increased portfolio weight on loans and advance portfolio to government enterprises and foreign bills purchase and discount decrease the risk i.e. standard deviation.
4. Required rate of return of most of the joint venture banks is less than expected rate of return. The beta coefficient of the investment return is also less than unit. This shows efficient use of assets and proper allocation in portfolio management.
5. There is negative relationship between the investment portfolio on government securities and total portfolio return. The increment weight of investment portfolio on government securities reduces the weight on other sectors investment portfolio. This reduction ultimately decreases the total return of portfolio.

6. There is very low negative correlation between portfolio return and investment portfolio weight on loans and advances of private sector. The increment or decrement in the portfolio weight on this sector has almost indifferent in the total portfolio return.
7. The financial performance of Nabil Bank Ltd. is at the middle of other joint venture banks financial performance in terms of return and risk. There are some joint venture banks which earns more than Nabil Bank Ltd. and some which earns less than Nabil Bank Ltd. for e.g. SCBNL earns more and EBL earns less.
8. The investment portfolio structure of Nabil Bank Ltd. is almost similar to other joint venture banks investment portfolio. Hence Nabil Bank is also following the market trend in composing investment portfolio. Hence Nabil Bank is also following the market trend in composing investment portfolio in various sector as most of the investment is concentrated into loans and advances to private sector enterprises and securities. Investment is to purchase of government securities. Hence the investment into loans and advances to private sector has maximized the return where as the purchase of government securities decrease the risk. So there is good combination in investment portfolio maintained by Nabil as well as other joint venture banks.
9. While comparing the investment portfolio weight set up by the joint venture banks including Nabil bank with directives given by the central bank, the banks have not followed the directives. Directives direct not to invest more than 50% in one sector but most of the banks have invested more or equal to 90% of their funds into one sector.

5.3 Recommendations

On the basis of the analysis, findings and conclusions, the following suggestions (recommendations) can be forwarded to overcome weakness,

inefficiency and to improve the present fund mobilization and investment of NABIL, SCBNL, HBL, NBBL and EBL.

- The portfolio management of EBL is not good while comparing to other joint venture banks. So to improve the financial performance EBL must maintain its investment portfolio to various sectors.
- The total investment fund, comparing it to total deposit of NBBL is low. So it needs to identify the new investment sectors and make efficient investment in the various sectors so the existing return to shareholders will increase.
- Nabil bank is found to have slightly below average loans and advances to total deposit. Similarly SCBNL & HBL also have lower loans and advances to total deposit ratio. In this case, Nabil bank has 58.8%, SCBNL with 44.46% and HBL with 54.4% mean loans and advances to total deposit ratio. So it is recommended that these three banks should increase the amount of loans and advances from the total deposit. The industry average at this level is 60.9% but NBBL and EBL in this case are found to have better performance.
- Similarly looking at the investment portfolio, except Nepal Bangladesh Bank, all other four joint venture banks including Nabil are focusing on government securities for their investment as a result of various factors, among which the important ones are government policy and regulation framework of the central banks. Therefore, investment on government securities should be decreased and investment on share and debenture should be increased.
- Nepalese joint venture banks experience many difficulties in recovering the loans. It is therefore suggested that with special legislation a 'credit collection Bureau' should be established that would take the responsibility of collection of the loans of the banks.
- Most of the joint venture banks have focused their banking services especially on big clients such as multinational companies, large scale industries, manufacturer and exporters of garments and carpets. The

minimum level bank balance and amount needed to open an account in these banks are very high amount. So small depositors are very far from enjoying the banking facilities provided by such joint venture banks. So, all these banks should open their doors to the small depositors and entrepreneurs for promoting and mobilizing small inventors' fund.

- One of the major objectives of the operation of joint venture banks in Nepal is to bring foreign investment into the country. However from the analysis, these JVBs do not seem to be successful in this aspect. Therefore it is recommended that JVBs should be active in increasing the foreign investment in Nepal by means of their wide international banking networks.
- Portfolio condition of a bank should be regularly revised from time to time. And it should always try to maintain the equilibrium in the portfolio condition of the bank. Basically portfolio management refers to the allocation of funds into different small components of its assets having different degrees of risk, different rates of return in such a way that the conflicting goal of maximum yield(return) minimum risk can be properly achieved . The bank should always try to make continuous efforts to explore competitive and highly yielding investment opportunities to optimize its investment portfolio

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ANNEX 'A'

Calculation of return on shareholders fund of various joint venture banks from the year 2001/02 to 2006/'07

NABIL Bank Ltd.

Rs. in Million

Fiscal Yr.	Net Profit After Tax	Shareholders fund	Ratio %
2001/02	173.907	628.079	27.6%
2002/03	177.108	1011.023	17.5%
2003/04	174.796	1217.635	14.3%
2004/05	266.492	1293.939	20.2%
2005/06	329.105	1480.924	22%
2006/07	291.375	1740.504	16.7%

ANNEX 'A2'

Standard Chartered Bank Nepal Limited (SCBNL)

Rs. in Million

Fiscal Yr.	Net Profit After Tax	Shareholders fund	Ratio %
2001/02	239.239	651.683	36.71%
2002/03	248.106	808.236	31%
2003/04	292.369	1004.192	29.11%
2004/05	359.453	1080.413	33.27%
2005/06	392.593	1195.252	32.85%
2006/07	430.831	1386.282	31.08%

ANNEX A3

Himalayan Bank Ltd. (HBL)

Rs. in million

Fiscal Yr.	Net Profit After Tax	Shareholders fund	Ratio %
2001/02	124.115	320.871	38.68%
2002/03	1380.093	432.361	31.94%
2003/04	135.969	563.415	24.13%
2004/05	165.248	695.103	13.77%
2005/06	199.380	870.535	22.9%
2006/07	280.697	1198.272	23.43%

ANNEX A4

Fiscal Yr.	Net Profit After Tax	Shareholders fund	Ratio %
2001/02	6.557	80.534	8.14%
2002/03	21.137	105.356	20.06%
2003/04	60.786	237.105	25.64%
2004/05	82.728	335.412	24.66%
2005/06	139.535	550.032	25.37%
2006/07	198.752	879.048	22.61%

ANNEX A5

Everest Bank Ltd. (EBL)

Rs. in Million

Fiscal Yr.	Net Profit After Tax	Shareholders fund	Ratio %
2001/02	-9.610	101.38	-9.48 %
2002/03	-11.040	109.73	-10.06 %
2003/04	25.030	118.61	21.1 %
2004/05	25.240	139.92	18.04 %
2005/06	41.270	165.529172	24.93 %
2006/07	69.706	314.611396	22.16 %

ANNEX B

Calculation of Return on Total Assets ratio of JVBs from F/Y 2001/02-06/07

ANNEX B1

NABIL Bank Ltd.

Rs. in Million

Fiscal Yr.	Net Profit After Tax	Total Assets	Ratio %
2001/02	173.91	8587.683	2.03%
2002/03	177.11	9854.448	1.80%
2003/04	174.8	11230.99	1.56%
2004/05	266.49	11837.75	2.25%
2005/06	329.11	15314.74	2.15%
2006/07	291.38	18808.89	1.55%

ANNEX B2

Standard Chartered Bank Nepal Ltd. (SCBNL)

Rs. in Million

Fiscal Yr.	Net Profit After Tax	Total Assets	Ratio %
2001/02	239.239	8102.74	2.95%
2002/03	248.106	9959.059	2.49%
2003/04	292.369	10441.22	2.80%
2004/05	359.453	13448.552	2.67%
2005/06	392.593	17154.935	2.29%
2006/07	430.831	19703.43	2.19%

ANNEX B3

Himalayan Bank Ltd. (HBL)

Rs. in million

Fiscal Yr.	Net Profit After Tax	Total Assets	Ratio %
2001/02	124.115	5004.813	2.48%
2002/03	138.093	6790.416	2.03%
2003/04	135.969	8734.543	1.56%
2004/05	165.248	11244.096	1.47%
2005/06	139.38	15863.74	0.88%
2006/07	280.697	19500.572	1.44%

ANNEX B4

Nepal Bangladesh Bank Ltd. (NBBL)

Rs. in Million

Fiscal Yr.	Net Profit After Tax	Total Assets	Ratio %
2001/02	6.557	1031.006	0.64%
2002/03	21.137	1533.602	1.38%
2003/04	60.786	2768.916	2.20%
2004/05	82.728	4904.17	1.69%
2005/06	139.535	7585.875	1.84%
2006/07	198.752	10593.914	1.88%

ANNEX B5

Everest Bank Ltd. (EBL)

Rs. in Million

Fiscal Yr.	Net Profit After Tax	Total Assets	Ratio %
2001/02	-9.61	992.389	-0.97%
2002/03	-11.04	1003.486	-1.10%
2003/04	25.03	1419.982	1.76%
2004/05	25.24	2293.137	1.10%
2005/06	4.127	3417.851	0.12%
2006/07	69.706	5218.677	1.34%

ANNEX C

Calculation of investment to total deposit ratio of the various joint venture Bank from the year 2001/02-06/07

ANNEX C1

NABIL Bank LTd.

Rs. in million

Fiscal Yr.	Total Investment	Total Deposit	Ratio %
2001/02	1432.5	7116.3	20.13%
2002/03	1770	7752.2	22.83%
2003/04	9541	8737.5	109.20%
2004/05	1420.3	9464.4	15.01%
2005/06	1250.9	12780.1	9.79%
2006/07	2752.7	15838.9	17.38%

ANNEX C2

Standard & Chartered Bank Nepal Ltd. (SCBNL)

Rs in Million

Fiscal Yr.	Total Investment	Total Deposit	Ratio %
2001/02	1831.9	6047.7	30.29%
2002/03	2304.7	7623.2	30.23%
2003/04	1047.6	8535.2	12.27%
2004/05	2689.9	11160.8	24.10%
2005/06	3349.9	12566.4	26.66%
2006/07	4822.2	15430.1	31.25%

ANNEX C3

Himalayan Bank Ltd. (HBL)

Rs. in Million

Fiscal Yr.	Total Investment	Total Deposit	Ratio %
2001/02	693.6	4515.8	15.36%
2002/03	1352.2	5731.6	23.59%
2003/04	974	7715.6	12.62%
2004/05	468.9	9780.4	4.79%
2005/06	2216.4	1408.5	157.36%
2006/07	2235	17613.6	12.69%

ANNEX C4

Nepal Bangladesh Bank Ltd. (NBBL)

Rs. in Million

Fiscal Yr.	Total Investment	Total Deposit	Ratio %
2001/02	54.4	864	6.30%
2002/03	6	1349	0.44%
2003/04	6	2361.9	0.25%
2004/05	708.7	4145.2	17.10%
2005/06	60	6455.6	0.93%
2006/07	2775	8578.8	32.35%

ANNEX C5

Everest Bank Ltd. (EBL)

Rs. in Million

Fiscal Yr.	Total Investment	Total Deposit	Ratio %
2001/02	98.3	168.6	58.30%
2002/03	132.3	471.7	28.05%
2003/04	111.1	1124.9	9.88%
2004/05	187.4	1948.9	9.62%
2005/06	260.1	3057.4	8.51%
2006/07	826.7	4574.5	18.07%

ANNEX D

Calculation of loans and advances to total Deposit ratio of various joint ventures Bank from F/Y 2001/02 to 2006/07

ANNEX D1

Fiscal Yr.	Loans & Advances	Total Deposit	Ratio %
2001/02	4305.7	7116.3	60.50%
2002/03	4625	7752.2	59.66%
2003/04	5294.5	8737.5	60.60%
2004/05	5811.7	9464.4	61.41%
2005/06	7323.6	12780.1	57.30%
2006/07	8437.6	15838.9	53.27%

ANNEX D2

Standard & Chartered Bank Nepal Ltd. (SCBNL)

Rs. in Million

Fiscal Yr.	Loans & Advances	Total Deposit	Ratio %
2001/02	3130.7	6047.7	51.77%
2002/03	3581.7	7623.2	46.98%
2003/04	4170.6	8535.2	48.86%
2004/05	4693.1	11160.8	42.05%
2005/06	4957.4	12566.4	39.45%
2006/07	5924.1	15430.1	38.39%

ANNEX D3

Himalayan Bank Ltd. (HBL)

Rs. in Million

Fiscal Yr.	Loand Advances	&	Total Deposit	Ratio %
2001/02	2981.1		4515.8	66.01%
2002/03	3381.9		5731.6	59.00%
2003/04	4275.5		7715.6	55.41%
2004/05	5372		9780.4	54.93%
2005/06	7423.2		14082.5	52.71%
2006/07	9176.9		17613.6	52.10%

ANNEX D4

Nepal Bangladesh Bank Ltd. (NBBL)

Rs. in Million

Fiscal Yr.	Loand Advances	&	Total Deposit	Ratio %
2001/02	675.9		864	78.23%
2002/03	1200		1349	88.95%
2003/04	1957.6		2361.9	82.88%
2004/05	3258.7		4145.2	78.61%
2005/06	4611.8		6455.6	71.44%
2006/07	7347.4		8578.8	85.65%

ANNEX D5

Everest Bank Ltd. (EBL)

Rs. in Million

Fiscal Yr.	Loand Advances	&	Total Deposit	Ratio %
2001/02	49.1		168.6	29.12%
2002/03	322.2		471.7	68.31%
2003/04	867.6		1124.9	77.13%
2004/05	1354.9		1948.9	69.52%
2005/06	2270.2		3057.4	74.25%
2006/07	3006.6		4574.5	65.73%

ANNEX E

Calculation of Amount invested in Govt. Sec, shares and debentures and NRB Bank for the various joint venture Banks.

ANNEX E1

Nabil Bank Ltd.

Rs. in Million

Fiscal Yr.	Govt. Securities		Shares & Debenture		NRB Bond		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	1164.4	81.30%	10.1	0.70%	258	18.00%	1432.5
2002/03	1769.3	99.40%	10.7	0.60%	0	-	1770
2003/04	943.4	99.00%	10.7	1.00%	0	-	954.1
2004/05	1402.8	98.00%	17.5	2.00%	0	-	1420.3
2005/06	1233.8	98.00%	17.1	2.00%	0	-	1250.9
2006/07	2732.9	99.00%	19.8	1.00%	0	-	2752.7
Average	1539.43	99.00%		1.20%		3.00%	

ANNEX E2

Standard Chartered Bank Nepal Ltd. (SCBNL)

Rs. in Million

Fiscal Yr.	Govt. Securities		Shares & Debenture		NRB Bond		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	1591	96.90%	10.9	0.60%	230	12.50%	1831.9
2002/03	2288.6	99.00%	16.1	0.70%	0	-	2304.7
2003/04	1041.6	99.40%	6	0.60%	0	-	1047.6
2004/05	2678.7	99.60%	11.2	0.40%	0	-	2689.9
2005/06	3338.7	99.70%	11.2	0.30%	0	-	3349.9
2006/07	4811	99.80%	11.2	0.20%	0	-	4822.2
Average		97.40%		0.50%		2.10%	

ANNEX E3

Himalayan Bank Ltd. (HBL)

Rs. in Million

Fiscal Yr.	Govt. Securities		Shares & Debenture		NRB Bond		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	590.6	85.00%	3	0.60%	100	14.40%	693.6
2002/03	1349.2	99.80%	3	0.20%	0	-	1352.2
2003/04	970.9	99.70%	3.1	0.30%	0	-	974
2004/05	459.4	98.00%	9.5	2.00%	0	-	468
2005/06	2206.9	99.60%	9.5	0.40%	0	-	2216.4
2006/07	2224.3	99.50%	10.7	0.50%	0	-	2235
Average		97.00%		0.70%		2.40%	

ANNEX E4

Nepal Bangladesh Bank Ltd. (NBBL)

Rs. in Million

Fiscal Yr.	Govt. Securities		Shares & Debenture		NRB Bond		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	48.4	89.00%	6	11.00%	100	-	54.4
2002/03	0	-	6	100.00%	0	-	6
2003/04	0	-	6	100.00%	0	-	6
2004/05	0	-	708.7	100.00%	0	-	708.7
2005/06	0	-	60	100.00%	0	-	60
2006/07	262.5	94.60%	15	5.40%	0	-	277.5
Average		30.60%		69.40%		-	

ANNEX E5

Everest Bank Ltd. (EBL)

Rs. in Million

Fiscal Yr.	Govt. Securities		Shares & Debenture		NRB Bond		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	95.8	97.50%	0	-	2.5	2.50%	98.3
2002/03	132.3	100.00%	0	-	0	-	132.3
2003/04	111.1	100.00%	0	-	0	-	111.1
2004/05	184.9	98.70%	2.5	1.30%	0	-	187.4
2005/06	257.6	99.00%	2.5	1.00%	0	-	260.1
2006/07	823	99.50%	3.7	0.50%	0	-	826.7
Average		99.10%		0.50%		0.40%	

ANNEX F

Calculation of loans and advances provided to Government enterprises, private sector and foreign bills purchase and discounted of various joint ventures banks from the year 2001/02-06/07

ANNEX F1

Nabil Bank Ltd.

Rs. in Million

Fiscal Yr.	Govt. Securities		Private Sector		Foreign Bills P&D		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	67.3	1.56%	4020	93.40%	218.4	5.00%	4305.7
2002/03	31.9	69.00%	4349.9	94.00%	243.2	5.30%	4625
2003/04	79.6	1.50%	5003.4	94.50%	211.5	4.00%	5294.5
2004/05	62.9	1.08%	5432.6	93.50%	316.5	5.40%	5811.7
2005/06	110.2	1.50%	657.9	93.60%	355.5	4.90%	7323.6
2006/07	101.3	1.20%	871.8	95.70%	264.5	3.10%	8437.6
Average		1.26%		94.11%		4.60%	

ANNEX F2

Standard Chartered Bank Nepal Ltd. (SCBNL)

Rs. in million

Fiscal Yr.	Govt. Securities		Private Sector		Foreign Bills P&D		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	197.5	6.30%	2713	86.66%	220	7.03%	3130.7
2002/03	120.1	3.35%	3194.2	89.50%	267.4	7.47%	3581.7
2003/04	171.7	4.12%	3763.3	90.23%	235.6	5.65%	4170.6
2004/05	150.6	3.20%	4422.8	94.20%	119.7	2.55%	4693.1
2005/06	365.5	7.30%	4394.2	88.64%	197.7	4.00%	4957.4
2006/07	359.9	6.07%	5478.8	92.50%	85.4	1.44%	5924.1
Average		5.00%		90.30%		4.69%	

ANNEX F3

Himalayan Bank Ltd. (HBL)

Rs. in Million

Fiscal Yr.	Govt. Securities		Private Sector		Foreign Bills P&D		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	61.9	2.14%	2739.8	94.80%	89.4	3.06%	2891.1
2002/03	44.4	1.31%	3232.1	95.60%	105.4	3.12%	3381.9
2003/04	60	1.40%	4025	94.10%	190.5	4.46%	4275.5
2004/05	267.7	5.00%	5005.5	93.20%	98.8	1.80%	5372
2005/06	200	2.70%	7096.6	95.60%	126.6	1.70%	7423.2
2006/07	536.4	5.84%	8300.2	90.40%	340.3	3.71%	9176.9
Average		3.07%		93.95%		2.97%	

ANNEX F4

Nepal Bangladesh Bank Ltd. (NBBL)

Rs. in million

Fiscal Yr.	Govt. Securities		Private Sector		Foreign Bills P&D		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	59.4	8.80%	597.5	88.00%	19	3.20%	675.9
2002/03	60.9	8.08%	1077.3	90.00%	61.8	5.00%	1200
2003/04	114.4	5.80%	1756.1	90.00%	87.1	4.45%	1957.6
2004/05	136.8	4.20%	2854.4	87.00%	267.5	9.00%	3258.7
2005/06	180.9	3.90%	4237.5	92.00%	192	4.10%	4611.8
2006/07	318.9	4.34%	6703.4	91.00%	325.1	4.40%	7347.4
Average		5.35%		89.71%		5.03%	

ANNEX F5

Everest Bank Ltd. (EBL)

Rs. in million

Fiscal Yr.	Govt. Securities		Private Sector		Foreign Bills P&D		Invested Amt.
	Amt.	%	Amt	%	Amt.	%	
2001/02	0	-	48.7	99.20%	0.4	0.80%	49.1
2002/03	0	-	314	97.50%	8.2	2.50%	322.2
2003/04	0	-	801.6	92.40%	66	7.60%	867.6
2004/05	0	-	1311.9	96.80%	43	3.20%	354.9
2005/06	0	-	2230.8	98.30%	39.4	1.70%	2270.2
2006/07	0	-	2963.7	98.60%	42.9	1.40%	3006.6
Average		-		97.13%		2.87%	

ANNEX G

Calculation of earnings per share of different joint venture banks from the fiscal year 2001/02-06/07

ANNEX G1

NABIL Bank Ltd.

Rs. in Million

Fiscal Yr.	Net profit after tax	No. of equity Share	EPS (Rs.)
2001/02	173907	130851	132.90
2002/03	177108	261702	67.68
2003/04	174796	392796	44.50
2004/05	266492	392796	67.84
2005/06	329105	392796	83.79
2006/07	291375	491654	59.26

ANNEX G2

Standard Chartered Bank Nepal Ltd. (SCBNL)

Rs. in Million

Fiscal Yr.	Net profit after tax	No. of equity Share	EPS (Rs.)
2001/02	239239000	1500000	159.49
2002/03	248106000	1500000	165.40
2003/04	292369000	2255718	129.61
2004/05	359453000	3395488	105.86
2005/06	392593000	3395488	115.62
2006/07	430831000	3395488	126.88

ANNEX G3

Himalayan Bank Ltd. (HBL)

Rs. in million

Fiscal Yr.	Net profit after tax	No. of equity Share	EPS (Rs.)
2001/02	124115000	1200000	103.43
2002/03	138093000	1200000	115.08
2003/04	135969000	1200000	113.31
2004/05	165248000	1920000	86.07
2005/06	199380000	2400000	83.08
2006/07	280697000		93.57

ANNEX G4

Nepal Bangladesh Bank Ltd. (NBBL)

Rs. in

million

Fiscal Yr.	Net profit after tax	No. of equity Share	EPS (Rs.)
2001/02	6557000	1200000	5.46
2002/03	21137000	1200000	17.61
2003/04	60786000	1200000	50.66
2004/05	82728000	1200000	68.94
2005/06	139535000	1200000	116.28
2006/07	198752000	2400000	82.81

ANNEX G5

Everest Bank Ltd. (EBL)

Rs. in million

Fiscal Yr.	Net profit after tax	No. of equity Share	EPS (Rs.)
2001/02	-96190000	8000000	-12.02
2002/03	-11040000	1200000	-9.20
2003/04	25030000	1200000	20.86
2004/05	25240000	1200000	21.03
2005/06	41270000	1200000	34.39
2006/07	69706000	1970155	35.38

ANNEX H

Calculation of (B_j) and r_j of NABIL Bank Ltd.

Year 1	Pt 2	P _t -1 3	D _t /P _t 4	R _A (3+4)	(R _m - \bar{R}_m) (R _A - \bar{R}_A)
2001/02	881	-	3.97%		
2002/03	900	2.10%	-	2.10%	(-29.53)(-13.97)=412.53
2003/04	500	- 44.40%	-	-44.40%	(-33.54)(-60.47)=2028.16
2004/05	430	- 14.00%	1.48%	-12.52%	(-34.59)(-28.59)=997.8
2005/06	700	62.79%	1.36%	664.15%	(5.29)(48.08)=254.34
2006/07	1200	71.00%	-	71.00%	(92.68)(54.93)=5091
				R _A X80.33 \bar{R}_A X16.07	(R _m - \bar{R}_m) (R _A - \bar{R}_A) =8784

Here,

$$\begin{aligned} \text{Cov}(R_A, R_M) &= (R_m - \bar{R}_m) (R_A - \bar{R}_A) / N \\ &= 8784 / 5 \\ &= 1756.8 \end{aligned}$$

$$\begin{aligned} \text{Beta Coefficient (B}_j) &= \text{Cov}(R_A, R_M) / \sigma_M^2 \\ &= 1756.8 / 2958.13 \\ &= 0.59 \end{aligned}$$

$$\begin{aligned} \text{Required Rate of return } R_j &= R_F + \beta_j (R_M - R_F) \\ &= 6.5 + (23.38 - 6.5) \times 0.59 \\ &= 16.46\% \end{aligned}$$

Hence the required Beta coefficient and required rate of return of Nabil Bank are 0.59 and 16.46% respectively.

ANNEX I

Calculation of β_j and r_j of Standard Chartered Nepal Bank Ltd. (SCBNL)

Year 1	Pt 2	P _{t-1} 3	D _t /P _t 4	R _A (3+4)	(R _m - \bar{R}_m) (R _A - \bar{R}_A)
2001/02	1000	-	3.00%	-	
2002/03	720	- 28.00%	13.9	-14.11%	(-29.53)(-44.05)=1300.79
2003/04	1050	45.83%	8.57	54.40%	(-33.54)(-24.46)=-820.39
2004/05	840	- 20.00%	8.33%	-11.67%	(-34.59)(-41.61)=1452.19
2005/06	1162	38.33%	6.88%	45.21%	(5.29)(15.27)=80.78
2006/07	1985	70.83%	5.04%	75.87	(92.68)(45.93)=4256.79
				R_A X149.7 \bar{R}_A X29.94%	(R _m - \bar{R}_m) (R _A - \bar{R}_A) =6270.16

Here,

$$\begin{aligned} \text{Cov}(R_A, R_M) &= \sum (R_m - \bar{R}_m) (R_A - \bar{R}_A) / N \\ &= 6270.16 / 5 \\ &= 1254.03 \end{aligned}$$

$$\begin{aligned} \text{Beta Coefficient } (\beta_j) &= \text{Cov}(R_A, R_M) / \sigma_M^2 \\ &= 1254.03 / 2958.13 \\ &= 0.424 \end{aligned}$$

$$\begin{aligned} \text{Required Rate of return } R_j &= R_F + \beta_j (R_M - R_F) \\ &= 6.5 + (23.38 - 6.5) \times 0.42 \\ &= 13.59\% \end{aligned}$$

Hence the required Beta coefficient and required rate of return of Standard Chartered Bank Nepal Limited are 0.42 and 13.59% respectively.

ANNEX J

Calculation of (B_j) and r_j of Himalayan Bank Ltd.. (HBL)

Year 1	Pt 2	P _t -1 3	D _t /P _t 4	R _A (3+4)	(R _m - \bar{R}_m) (R _A - \bar{R}_A)
2001/02	590	-	-	-	
2002/03	600	1.69%	5.83%	7.52%	(-29.53)(-25.45)=751.54
2003/04	640	6.67%	7.81%	14.48%	(-33.54)(-18.49)=-620.15
2004/05	755	17.96%	14.50%	32.46%	(-34.59)(-0.51)=17.8
2005/06	1000	32.45%	5.00%	38.45%	(5.29)(4.48)=23.7
2006/07	1700	70.00%	2.94%	72.94	(92.68)(39.97)=3704.42
				R _A X164.85 \bar{R}_A X32.97%	(R _m - \bar{R}_m) (R _A - \bar{R}_A) =5117.61

Here,

$$\begin{aligned} \text{Cov}(R_A, R_M) &= (R_m - \bar{R}_m) (R_A - \bar{R}_A) / N \\ &= 5117.61 / 5 \\ &= 1023.52 \end{aligned}$$

$$\begin{aligned} \text{Beta Coefficient } (B_j) &= \text{Cov}(R_A, R_M) / \sigma_M^2 \\ &= 1023.52 / 2958.13 \\ &= 0.35 \end{aligned}$$

$$\begin{aligned} \text{Required Rate of return } R_j &= R_F + (R_M - R_F) B_j \\ &= 6.5 + (23.38 - 6.5) 0.35 \\ &= 12.41\% \end{aligned}$$

Hence the required Beta coefficient and required rate of return of Himalayan Bank are 0.35 and 12.41% respectively.

ANNEX K

Calculation of (B_j) and r_j of Nepal Bangladesh Bank Ltd.. (NBBL)

Year 1	Pt 2	P _t -1 3	D _t /P _t 4	R _A (3+4)	(R _m - \bar{R}_m) (R _A - \bar{R}_A)
2001/02	-	-	-	-	
2002/03	139	0.00%	0	0	
2003/04	153	10.00%	4.9	14.90%	(-33.54)(-79.1)=2653
2004/05	252	65.00%	6.26%	71.26%	(-34.59)(-22.74)=793.63
2005/06	616	144.00%	2.51%	146.51%	(5.29)(52.51)=277.8
2006/07	1502	143.00%	0.00%	143.00%	(92.68)(49)=4541.3
				R_A X375.67 \bar{R}_A X94%	(R _m - \bar{R}_m) (R _A - \bar{R}_A) =8266

Here,

$$\begin{aligned} \text{Cov}(R_A, R_M) &= (R_m - \bar{R}_m) (R_A - \bar{R}_A) / N \\ &= 8266/4 \\ &= 2066.5 \end{aligned}$$

$$\begin{aligned} \text{Beta Coefficient } (B_j) &= \text{Cov}(R_A, R_M) / \sigma_M^2 \\ &= 2066.5 / 2958.13 \\ &= 0.7 \end{aligned}$$

$$\begin{aligned} \text{Required Rate of return } R_j &= R_F + (R_M - R_F) B_j \\ &= 6.5 + (23.38 - 6.5) 0.7 \\ &= 18.32\% \end{aligned}$$

Hence the required Beta coefficient and required rate of return of NBBL are 0.7 and 18.32% respectively.

ANNEX L

Calculation of (B_j) and r_j of Everest Bank Ltd. (EBL)

Year 1	Pt 2	$P_t - 1$ 3	D_t/P_t 4	R_A (3+4)	$(R_m - \bar{R}_m) (R_A - \bar{R}_A)$
2001/02	-	-	-	-	
2002/03	122	-	0.00%	-	
2003/04	127	4.00%	0.00%	4.00%	$(-33.54)(-74.67)=2504.4$
2004/05	184	45.00%	0.00%	45.00%	$(-34.59)(-33.67)=1175.1$
2005/06	407	121.00%	3.68%	124.68%	$(5.29)(119.39)=631.57$
2006/07	980	141.00%	0.00%	141.00%	$(92.68)(62.33)=5776.74$
				$R_A \times 314.68$ $\bar{R}_A \times 78.67\%$	$(R_m - \bar{R}_m) (R_A - \bar{R}_A)$ $=10087.8$

Here,

$$\begin{aligned} \text{Cov}(R_A, R_M) &= (R_m - \bar{R}_m) (R_A - \bar{R}_A) / N \\ &= 10087.8 / 4 \\ &= 2522 \end{aligned}$$

$$\begin{aligned} \text{Beta Coefficient } (B_j) &= \text{Cov}(R_A, R_M) / \sigma_M^2 \\ &= 2522 / 2958.13 \\ &= 0.85 \end{aligned}$$

$$\begin{aligned} \text{Required Rate of return } R_j &= R_F + (R_M - R_F) B_j \\ &= 6.5 + (23.38 - 6.5) 0.85 \\ &= 20.85\% \end{aligned}$$

Hence the required Beta coefficient and required rate of return of EBL are 0.85 and 20.85% respectively.

ANNEX M

Correlation coefficient between investment in govt. securities and portfolio return.

Name	x	y	x-x	y-y	$(x-x)^2$	$(y-y)^2$	$(x-x)(y-y)$
NABIL	95.78%	16.07%	11.78	-34.26	138.8	1174	-403.58
SCBNL	97.40%	29.94%	13.4	-20.39	179.6	416	-273.23
HBL	97.00%	32.97%	13	-17.36	169.0	301	-225.68
NBBL	30.60%	94.00%	-53.4	43.67	2851.6	1907	-2331.98
EBL	99.10%	78.67%	15.1	28.34	228.0	803	427.93
Average	84.00%	50.33%					
Total					$(x-x)^2$ =35.67	$(y-y)^2$ =4600.7	$(x-x)(y-y)$ =-2806.5

ANNEX N

Correlation coefficient between loans and advances and portfolio return.

Name	x	y	x-x	y-y	$(x-x)^2$	$(y-y)^2$	$(x-x)(y-y)$
NABIL	94.11%	16.07%	1.07	-34.26	1.14	1174	-36.66
SCBNL	90.31%	29.94%	-2.73	-20.39	7.45	416	55.66
HBL	93.95%	32.97%	0.91	-17.36	0.83	301	-15.80
NBBL	89.71%	94.00%	-3.33	43.67	11.09	1907	-145.42
EBL	97.13%	78.67%	4.09	28.34	16.73	803	115.91
Average	93.04%	50.33%					
Total					$(x-x)^2$ =37.24	$(y-y)^2$ =4600.7	$(x-x)(y-y)$ =26.22

ANNEX O

Sample calculation of ANOVA(One way)

Here,

X1=Investment to total deposit ratio of NABIL

X2= Investment to total deposit ratio of SCBNL

X3= Investment to total deposit ratio of HBL

X4=Investment to total deposit ratio of NBBL

X5=Investment to total deposit ratio of EBL

Calculation of (x_1) , (x_2) , (x_3) , (x_4) , (x_5) and $(x_1)^2$, $(x_2)^2$,

$(x_3)^2$, $(x_4)^2$, $(x_5)^2$

Year 1	X1	X2	X3	X4	X5
2001/02	20.00%	30.29%	15.36%	6.29%	58.30%
2002/03	22.80%	30.23%	23.59%	0.44%	28.00%
2003/04	11.00%	12.27%	12.62%	0.25%	9.88%
2004/05	15.00%	24.10%	4.79%	17.10%	9.62%
2005/06	9.78%	26.66%	15.74%	0.93%	8.50%
2006/07	17.38%	31.25%	12.69%	3.23%	18.10%
	X1=95.96%	X2=154.8%	X3=84.79%	X4=28.24%	X5=132.4%

Calculation of $(x_1)^2$, $(x_2)^2$, $(x_3)^2$, $(x_4)^2$, $(x_5)^2$

Year 1	$(X_1)^2$	$(X_2)^2$	$(X_3)^2$	$(X_4)^2$	$(X_5)^2$
2001/02	400.00	917.48	235.93	39.56	3398.89
2002/03	519.84	913.85	556.49	0.19	784.00
2003/04	121.00	150.55	159.26	0.06	97.61
2004/05	225.00	580.81	22.94	292.41	92.54
2005/06	95.65	710.76	247.75	0.86	72.25
2006/07	302.06	976.56	161.04	10.43	327.61
Sum Total	$(X_1)^2$ =1663.55	$(X_2)^2$ = 4250	$(X_3)^2$ = 1383	$(X_4)^2$ = 343.5	$(X_5)^2$ = 4773

Now

$$\begin{aligned} \text{Total } T &= (x_1) + (x_2) + (x_3) + (x_4) + (x_5) \\ &= 95.96 + 154.8 + 84.79 + 28.24 + 132.4 \\ &= 496.2 \end{aligned}$$

$$\begin{aligned} \text{Correlation factor (C.F.)} &= T^2/N \\ &= (496.2)^2/30 = 8207.15 \end{aligned}$$

$$\begin{aligned} \text{The total sum of square (SST)} &= (x_1)^2 + (x_2)^2 + (x_3)^2 + (x_4)^2 + (x_5)^2 \\ &= 1663.55 + 4250 + 1383 + 343.5 + 4773 + 8207.15 \\ &= 4205.9 = 4206 \end{aligned}$$

The sum of square between the sample (SSC) =

$$\begin{aligned} &(x_1)^{2/6} + (x_2)^{2/6} + (x_3)^{2/6} + (x_4)^{2/6} + (x_5)^{2/6} \\ &= 1534.72 + 3993.84 + 1198.22 + 133 + 2922 - 8207.15 \\ &= 1574.62 \end{aligned}$$

The sum of square between the sample, (SSE):

$$\begin{aligned} \text{SST} - \text{SSC} \\ &= 4206 - 1574.62 \end{aligned}$$

$$=263.38$$

The mean squares between samples (MSC)

$$SSC/df=SSC/C-1$$

$$= 157462/6-1$$

$$=314.924$$

$$=315$$

The mean square with in sample (MSE),

$$SSE/df=SSE/N-C$$

$$=2631.38*30-6$$

$$=109.64$$

Finally $F=MSC/MSE$

$$=315/109.64$$

$$=2.87$$

We, have

The tabulated value $F. 0.05(5,25)=2.62$

Since the computed value of f i.e. 2.87 is higher than that of the tabulated value i.e. 2.62, Null hypothesis is rejected, Hence, it is concluded that there is a significant difference between the mean ratio of investment to total deposit ratio of NABIL, SCBNL, HBL, NBBL & EBL.