PORTFOLIO ANALYSIS OF JOINT VENTURE COMMERCIAL BANKS IN NEPAL

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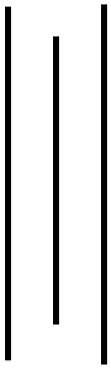

In partial fulfillment of the requirement for the Degree of Master of Business Studies (MBS)

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RECOMMENDATION

This is to certify that the Thesis

Submitted by:

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Entitled:

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

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VIVA-VOCE SHEET

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

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DECLARATION

I hereby declare that the work reported in this thesis entitled **"Portfolio Analysis of Joint Venture Commercial Banks in Nepal**" submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the Degree of Master of Business Studies (MBS) under the supervision of **Asso. Prof. Kishor Maharjan** and **Laxman Raj Kandel** of Shanker Dev Campus.

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SUDIP GAUTAM

Researcher

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ABBREVIATIONS

&	:	and
BC	:	Before Christ
BS	:	Bikram Sambat
C.V.	:	Coefficient of Variation
CAPM	:	Capital Asset Pricing Model
DPS	:	Dividend Per Share
EBL	:	Everest Bank Limited
EPS	:	Earning Per Share
F/Y	:	Fiscal Year
HBL	:	Himalayan Bank Limited
MBS	:	Masters of Business Studies
MPS	:	Market Price Per Share
NA	:	Not Applicable
NABIL	:	NABIL Bank Limited
SCBNL	:	Standard Charted Bank Nepal Limited
SD	:	Standard Deviation
SML	:	Security Market Line
TU	:	Tribhuvan University

CHAPTER – I

INTRODUCTION

1.1 Background of the Study

Nepal is one of the land locked countries in Asia and like other land locked countries it happens to be among the least developed of the developing countries.

Being an underdeveloped country Nepal introduced "Financial Sector Reforms" in 1980 and it helped to establish number of commercial banks and other financial institutions. At the last of 2003 AD there are 17 commercial banks in Nepal. Commercial banks and financial institutions are currently viewed as catalyst in the process of economic growth of a country. A key factor in the development of an economy is the mobilization of domestic resources. As intermediaries, the Commercial banks and financial institutions help the process of resource mobilization. Commercial banks and financial institution transfer the resources by mobilizing them from surplus units and in turn lend these funds to deficit units. In this way, the commercial banks provide savers highly liquid, divisible assets at a lower risk while the investors receive a larger pool of resources. Satisfaction of both lender's and borrower preferences determines the success of intermediary function of an economy.

A portfolio is taken as a combination of investment assets. The portfolio is the holding of securities and investment in financial assets i.e. bond, stock. Portfolio management is related to the efficient portfolio investment in financial assets. Commercial banks should have to invest their funds to different sectors.

The banking sector is largely responsible for collecting household savings in terms of different types of deposits and regulating them in the society by lending these to various sectors and by holding government securities. The banking sector has now reached to the most remote areas of the country and has experienced a good deal in the growth of the economy. The lending of their resources in small-scale industries under intensive banking programme has enabled the banks to share in the economic growth of the country. Their lending in priority sectors is according to small industry regulations because of which the banks have to lend certain percentage of their deposit in those sectors regardless of the income (repayment) from it.

The guidelines given by Nepal Rastra Bank (policy and legal constraints) play a significant role in the composition of bank portfolio. Since the constraint framework provided by the central bank is for economic enhancement, it can be hypothesized that the composition of bank portfolio has considerable impact on national economy; accredited by national income (GNP) or domestic product (GDP).

William James and M.G. Quibria in their study have identified various problems in resources mobilization by commercial banks and financial institutions in Nepal. They stated that the most important problem is poor investment climate prevailing in Nepal due to heavy regulatory procedure, government price fixing, grave uncertainty regarding fiscal policies and a penchant for government monopolising potentially profitable fields of endeavour, undoubtedly reduce investment demand below what otherwise would be. The problem they identified also includes highly protectionist trade policies, favourable investment in important substitution industries, but such opportunities are extremely limited given Nepal's small domestic market.

Nepal being listed among developing countries, the commercial banks has played a catalytic role in the economic growth. Its investments range from small-scale cottage industry to all types of social and commercial loans and large industries. In making investment in loans and government securities, one may always wonder which investment is better. The researchers Paul S. Anderson, William Silber, Tim S. Campbell and many others have compared the contribution of loans and advances and the investment on securities on the national income.

They assume that the increase in loans and advances will increase the money supply more than that by investment. Increase in money supply will enhance the economic activities that lead to economic growth. In case of a loan, the borrower spends money quickly on real goods and services, whereas the seller of the security may not spend on real goods and securities immediately and may purchase rather another financial security.

It can be, therefore, hypothesized that bank portfolio variables, loans, investments, cash reserves, deposits and borrowings affect the national income. And also, how the government policy affects these variables, such as, the effect of interest rates on the bank portfolio variable is of great concern. Therefore, when monitoring money and credit conditions, the central bank has to keep an eye on the bank portfolio behaviour.

1.2 Statement of Problem

The investment planning of the commercial banks in Nepal heavily depend upon the rules and regulations provided by the central bank. The composition of asset portfolio of the banks is influenced by the policy of the central bank.

The competition is burning issue, at this time, in the country due to emergence of 57 finance companies and about a dozen of rural banks and corporate securities in a short span of time. It has threatened the entire banking system. It has also warned the commercial banks to improve and manage their productivity. The credit policy, the discount rate policy, the interest rate ceilings and certain percentage of deposits to be lent to the productive sectors, all these policies 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 volumes of investment are causing lower growth of gross domestic product and hence foreign trade deficit is increasing day by day. Commercial banks are also directly affected by this economic turmoil and are facing difficulties in furnishing their loans & advances towards the profitable sectors. Moreover, as a result of economic recession, only few entrepreneurs are able to survive and others, who are less competitive, are backing out from the market. In this kind of situation, banks to on a safer side, investment their surplus funds in the government backed investments such as treasury bills or government securities, which yield lower rate of interest in comparison to credit.

Due to economic recession, commercial banks do not like to make an investment on such rural and priority sectors where they should bear more risk. Commercial banks should have to invest their deposits to different sectors due to chance of being loss. In the condition of economic recession, banks would like to make an investment to such sectors where they will get more return. So they invest their funds to government securities and provide loans & advances to private sectors. The banks should have to bear low risk to make an investment on government securities and will get higher return from loans & advances to private sectors.

The research seeks to find out the investment of commercial banks with the analysis of these banks market return & financial statements.

This attempt has been to sort out the answers to the following questions.

(a) What are the existing situations of financial position of commercial banks in Nepal?
(b) How far have commercial banks been able to transfer monetary resources from savers to users?
(c) Which bank has the largest degree of financial risk measured in terms of portfolio risk?
(d) How do the bank portfolio variables behave?
(e) How does the portfolio investment manage by the commercial banks?

1.3 Objectives of the Study

The general objective of this study is to identify the situation of portfolio management of commercial banks in Nepal. The specific objectives of the research are as follows:

(a) To survey the existing situation of portfolio management of commercial banks under study.
(b) To evaluate the investment, loans & advances portfolio management of commercial banks.
(c) To evaluate the financial performance of commercial banks.
(d) To analyse the risk & return ratios of commercial banks.
(e) To provide a suggestive package based on the analysis of the data.

1.4 Definition of Variables

According to Helfert, "Many different individuals and groups are involved in the success or failure of a given business. The most important are owners/investors, managers, lenders and creditors, employees, labour organizations, government agencies and society in general (the public). These groups differ in their view of business results and performance & will often go beyond financial data to include values in their assessments" (Helfert; 1987, 21)

Various variables have been included to analyze the portfolio management of commercial banks. Among them, some variables are being explained as follows:

1.4.1 Efficient Portfolio

In the words of Cohen, Zingbarg & Zeikel, Efficient portfolios are portfolios, which offer the highest expected return for given levels of risk. The plot of expected returns for an efficient portfolio against their efficient portfolio against their respective standard deviations is called the market line."(Cohen, Zingbarg, Zeikel; 1987: 694)

In the words of Francis, “An efficient portfolio then is any asset or combination of assets that has (a) the maximum expected return in its risk class, or conversely, (b) the minimum risk at its level of expected return.”(Francis; 236)

1.4.2 Beta

Beta reflects that part of a portfolio’s returns and variation in returns is attributable to the overall movement of the market rather than to any unique characteristics of the portfolio.

1.4.3 Beta Coefficient

A relative measure of the sensitivity returns on the market portfolio. Mathematically, the beta coefficient of a security is the securities covariance with the market portfolio divided by the variance of the market portfolio.

$$Cov(R_j, R_m) = \frac{B_j}{¢^2_m}$$

Where, B_j = Beta of an asset

$Cov(R_j,R_m)$ = Covariance of returns with market

δ^2_m = Variance of market return.

The greater the beta of a security, the greater the risk & vice-versa.

1.4.4 Expected Rate of Return

The rate of return on a security (or portfolio) that an investor anticipates receiving over a holding period.

$$E(\overline{R_j}) = R_f + (R_m - \overline{R}_f)B_j$$

Where, $E(R_j)$ = Expected return on asset j.

R_f = Risk-free rate of return

$\overline{R}_m$ = Average market rate of return

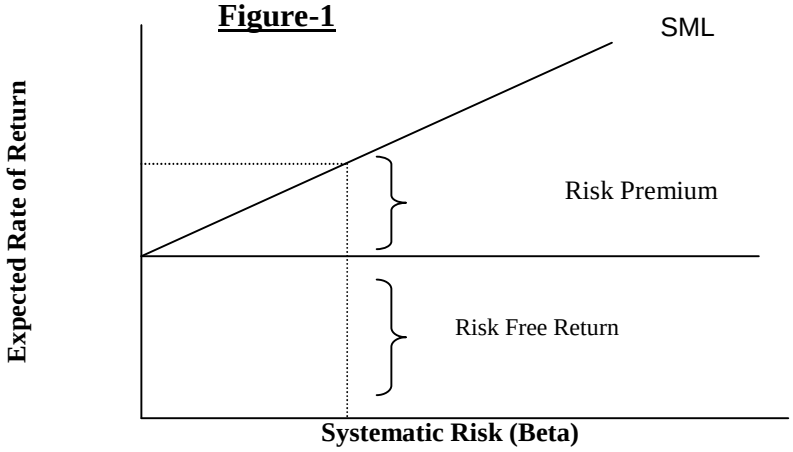
B_j = Coefficient of beta

1.4.5 Security Market Line(SML)

According to Van Horne, “In market equilibrium, the relationship between an individual security’s expected rate of return & its systematic risk, as measured by beta, will be linear. The relationship is known as the security market line.” (Van Horne; 1997, 73)

The security market line is given in Figure-1.

Figure-1



The SML is a straight line connecting the R_f (Risk-Free) point of market portfolio. Since the risk premium is proportionate to stock betas, the risk-free securities, such as the treasury bills which have zero beta, command no premium. On the other hand, the market portfolio whose beta is 1 commands the risk premium of R_m - R_f. The figure shows that the SML moves upwards, indicating higher premium for higher risk as beta increases.

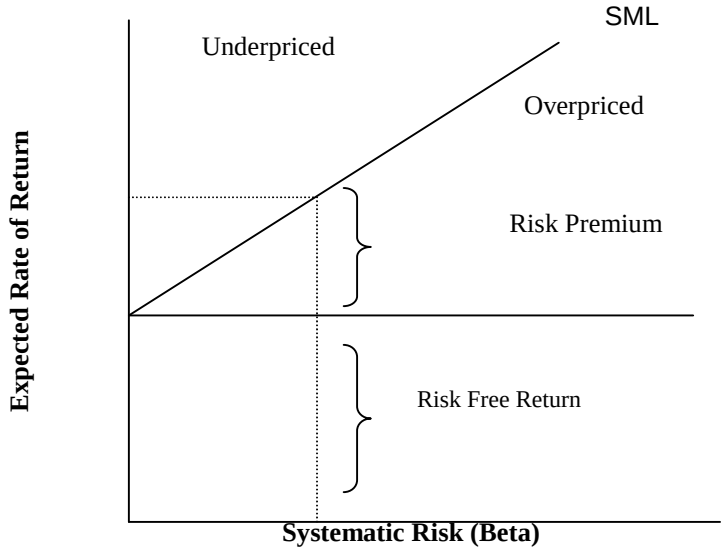
1.4.5.1 Underpriced

According to Surendra Pradhan, ‘Stocks that lie above the SML are underprice indicating rates of return higher than what actually are required for the level of risk involved. In other words these stocks are over rewarded accepted (Pradhan; 1992, 283)

According to Van Horne, “Underpriced provides an expected return in excess ofthat required by the market for the systematic risk involved. As a result the security will be attractive to investors. Accordingly to the theory the expected demand will cause the price to rise.” (VanHome; 1997, 74-75)

These Carries positive alpha .It is shown in.

Figure-2



1.4.6 Overpriced

In the words of Surendra Pradhan, "The stocks which lie below the SML are said to be overpriced for the reason that the rates of return on them are inadequate (less then whet actually should have been with reference to the SML) for the level of risk involved. Hence these Stocks are under rewarded A normally they are rejected "(Pradhan; 1992, 283)

In the words of Van Horne, "An overpriced security is unattractive .A investors holding it will sell it and those not holding it will avoid it. The price will fall." (Van Horne; 1997, 74-75)

These carries negative alphas. It is shown in Fig-2

1.4.7 Diversification

The process of adding securities to a portfolio in order to reduce the portfolio's unique risk and there by the portfolio's total risk.

1.4.8 Systematic Risk

Systematic risk is often referred to as market risk uncertainties about returns which affect all securities. Such risk can not be eliminated by diversification but by purchasing a risk-free security.

1.4.9 Unsystematic Risk

Unsystematic risk is often referred to as firm unique-uncertainties about returns on one firm which can be offset by holding other firms in the portfolio.

1.4.10 Ratio Analysis

Ratio analysis is one of the most frequently used tools to evaluate the financial health, operating results and growth.

In the words of Gitman, "Ratio analysis is used to compare a firm's financial performance & status to that of other firms or to itself overtime." (Gitman; 1998, 275)

In this context, it is clear that ratio analysis involves the methods of calculating and interpreting financial ratios in order to access the firm's performance and status.

1.4.11 Statistical Tools

The statistical tools selected for the analysis of portfolio management of commercial banks are ad follows.

1.4.10.1Arithmetic Mean

Arithmetic Mean of a given set of observation is their sum divided by then number of observations. In their general x_1, x_2---x_n are the given 'n' Observation then their arithmetic mean, usually demoted by x is given by

$$\overline{X} = \frac{X_1 + X_2 + X_3 + ... + X_4}{N}$$

1.4.10.2 Coefficient of Variation (C.V)

The Coefficient of variation is the relative measure of dispersion, comparable across distribution, which is defined as the ratio of the standard deviation of the mean expressed in percent.

1.4.10.3 Least square linear Trend

In the words of Gupta, "The straight line trend implied that irrespective of the seasonal and cyclical swings and irregular fluctuation the trend values increase or decrease by a constant absolute amount 'b' per unit of time. Hence the linear trend values from a series in arithmetic

progression the common difference being 'b' the slope of the trend line. (Gupta S.C; 1992, 769)

To compute the straight line trend by following notations:

$Y = a+bX$

Where, Y= Values of total deposits/Values of loans & investment of each selected commercial banks.

X= t-2000,i.e origin is at 2000 & X unit = 1 year.

a = Constant which is computed Y-Value

When $\sum X=0$, i.e. $a=\frac{\sum Y}{n}$

b= Constant which is change in Y corresponding to the change in X by one unit.

i.e

$$b = \frac{\sum XY}{\sum X^2}$$

1.5 Limitation of the Stu

The study or research will have the following limitation.

(a) Simple techniques have been used in analysis.

(b) Limited variables have been selected.

(c) Only secondary data have been used to analysis of portfolio.

(d) The data observed in the study are only from mid July 2003/04 to mid July 2007/08.

(e) The study focused on Himalayan Bank Limited, Nabil Bank Limited, Standard Chartered Bank Nepal Limited, and Everest Bank Limited only.

CHAPTER – II

REVIEW OF LITERATURE

This section is devoted to the review of major related literature concerning the portfolio analysis. The concept of portfolio management and its analysis would be clear from the following studies. This study includes two parts conceptual framework and the relevant studies & thesis work, which would be helpful to manage and analyse the portfolio.

2.1 Concept of Portfolio Management

Portfolio is defined as the composite set of ownership rights to financial assets in which the investor wishes to investment. Portfolio are thus, composed of securities and their expected returns and risk of their component securities.

In the words of Weston & Copeland, "A portfolio is collection of investment securities. Portfolio deals with the selection of optimal portfolios; that is portfolios that provide the highest possible return for any specified degree of risk or the lowest possible risk for any specified rate of return." (Weston & Copeland; 1992, 302)

In the words of Weston & Brigham, "A portfolio simply represents the practice among the investors of having their funds in more than one asset. The combination of investment asset is called a portfolio" (Weston & Brigham; 1982, 100)

In the words of Gitman, "Portfolio means a collection or group of asset." (Gitman; 1988, 343)

In the words of Raymond, "The term 'portfolio' simply means collection of investments. For an investor through the stock exchange the portfolio will be a collection of shareholdings in different companies. For a property, investor has portfolio will be collection of a real capital projects. It will be apparent that the actual nature of the components of a portfolio depends on the portfolio of opportunities from which the selection has been made. (Raymond; 1990, 148)

Portfolio management is related to the efficient portfolio investment in financial assets i.e. bond, stock. Portfolio management is the process of selecting a bundle of securities that provides the investing organizations or an individual a maximum yield for a given level of risk for a given level of return. These investing are the results of individual or organizational preferences and decisions regarding risk and return. Portfolio management can also be taken as risk and return management. It aims to determine an appropriate assets mix, which attains optimum level of risk & return.

In the words of Cohen, Zingberg & Zeikel, "Portfolio management is the art of handling a pool of funds so that it not only preserves its original worth but also over time appreciates in value & yields an adequate return consistent with the level of risk assumed."(Cohen, Zinberg & Zeikel; 591)

In the words of Keith, "Portfolio management concerns itself with selecting 'good' stocks or bonds are fading." (Keith; 1974 P)

Portfolio management of bank assets basically means allocation of funds to different components of banking assets having different degree of risk & varying rates of return in such a way that balance the conflicting goal of maximum yield & minimum risk. In the process of portfolio management of bank assets, various factors such as availability of fund, liquidity requirement, central bank's norms etc. are to be considered. As the task of portfolio management of bank assets is to be carried out within the given macroeconomic environment, the manager should carefully watch related macroeconomic indicators such as, inflation, interest rate, monetary aggregates, national income, saving ratio etc. Assets of a bank can be broadly classified into (a) investments (b) loans & (c) other non-banking assets, which normally constitute a very small portion of total assets.

2.2 Objectives of the Portfolio Management

The emphasis of the portfolio management varies from investor to investor. Some investing companies may desire higher earnings, other capital gains and still others a combination of both. Despite these variations, there are several objectives, which should be considered as basic to a well-executed investment program.

The following are the important objectives of the portfolio management.

i. Safety of funds,
ii. Income by way of dividend and interest,
iii. Liquidity,
iv. Return,
v. Marketability,
vi. Capital Growth

The portfolio management is a complex task. Investment matrix is one of the many approaches, which may be used in this connection. The various considerations involved in investment decisions liquidity, safety and yield of the investment.

2.3 Portfolio Management Policies

Policies regarding management of investment portfolio may vary from organization to organization. Here some of the more common types of policies that are usually followed in the portfolio management.

i. Aggressive Policy
ii. Defensive Policy
iii. Aggressive- Defensive Policy
iv. Income vs. Growth Policy

2.4 Meaning of Commercial Bank

The commercial banks are those which pool together the savings of the community and arrange them for the productive use. Commercial banks transfer monetary sources from savers to users. They accept deposit from the public on the condition that they be repayable. They provided loans and advances from the money, which they receive through deposits. Apart from financing, they also render services like collection of bills and Cheque, safe keeping of the valuables, financial advising etc. to their customers.

2.4.1 Functions of Commercial Bank

There are many functions of commercial banks. The following are the main functions performed by the commercial banks.

(A)Accepting Deposits:

Commercial bank accepts deposits in three forms, namely –current, saving, and fixed deposit.

i. Current deposits

Current deposit is also known as demand deposits. Under this any amount may be deposited in this account. The bank does not any interest on such deposits.

ii. Saving Deposits

Saving deposit is one of the deposits collected from small depositors and low income depositors. The bank usually pays small interest to the depositors against their deposits. This also called saving account.

iii. Fixed Deposits

Fixed deposits is the one in which a customer is required to keep a fixed amount with bank for a specific period generally by those who do not need money for a stipulated period. The bank pays the higher interest on such deposits.

(B)Advancing Loans

Commercial bank provides loans and advances from the money, which it receives by way of deposits. Direct loans and advances are given to all types of persons against the security of movable and immovable properties. Banks in four forms grant loans, namely:

- Overdrafts,
- Direct Loans,
- Cash Credit, and
- Discounting Bills of Exchange

(C)Agency services

Commercial bank undertakes the payment of subscriptions, insurance premium, rent etc. It collects Cheque, bills, dividends, interest, pensions etc. on behalf of the customers. The bank charges a small amount of commission for those services. It undertakes to buy and sell securities on behalf of its customers. Commercial bank also acts as a trustee, executor and administrator.

(D) Credit Creation

Credit creation is very important function of the commercial banks. They accept deposits and advance loans. When the bank advances loans, it opens an account to draw the money by Cheque according to his needs. By granting loans, the bank creates credit or deposit.

(E) Other Functions

Other functions of commercial banks can be explained as follows:

- Assist in Foreign Trade

Commercial bank discounts the bills of exchange drawn by Nepalese exporters or the foreign importers and enables the exporters to receive money in the native currency. Similarly, the bank also accepts the bills drawn by foreign exporters.

- Offers Security Brokerage Services

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

- Financial Advising

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

2.5 Development of Commercial Banks in Nepal

Nepal's banking history had begun with the establishment of Nepal Bank Ltd. in 1937. At that time, this bank had authorized capital of Rs.10 million and paid up capital of Rs. 842 thousand. Nepal Bank Ltd. was the first commercial bank with 51% government equity. 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.

In 1980, 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. The joint venture bank was Nepal Arab Bank Ltd. It was established in 1984 and it has changed its name into Nabil Bank Ltd. Later on, the following joint ventures were established respectively:

Nepal Indo-Suez Bank Limited	1986
Nepal Grindlays Bank Limited	1987
Himalayan Bank Limited	1993
Nepal SBI Bank Limited	1993
Nepal Bangaladesh Bank	1994
Bank of Kathmandu	1995
Nepal Bank of Ceylon	1996
Lumbini Bank Ltd.	1998
Nepal Industrial & Commercial Bank Ltd.	1998
Machhapuchhre Bank Ltd.	2000
Kumari Bank Ltd.	2000
Laxmi Bank Ltd.	2001
Siddhartha Bank Ltd.	2001
Everest Bank Ltd.	2004
Global Bank Ltd.	2007
Sunrise Bank Ltd.	2008
Bank of Asia	2008

2.6 Role of Joint Venture Banks in Nepal

In 1980, 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 forwards financial liberalization was undertaken the F/Y 1987/88, within the objectives of expediting the process of economic development under structural adjustments program and major reforms including liberalization of interest rate, strengthening of banking operation and a shift from direct to indirect monetary control instruments. The various roles of the joint venture banks being performed in Nepal can be classified as follows:

(a)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 improve their services and efficiency.

(b)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 practice. The joint venture banks help the multinational companies to build up their confidence for investment by providing necessary information and financial support.

(c)New Banking Techniques

Modern banking services are being provided to Nepalese financial system by new joint venture banks. New banking techniques such as tele-banking, computerization, fee based activities; hypothecation etc. scenarios are the important contributions of joint venture banks to the gradually changing commercial banking.

2.7 The Markowitz Study

According to Markowitz,"the portfolio theory establishes a relationship between a portfolio expected return and its level of risk as the criterion for selecting the optimum portfolio. Thus Markowitz suggested two measures for evaluating the merits of a portfolio; i.e. (a) the expected return from the portfolio & (b) level of risk exposure associated with the portfolio. So as to find the efficient set of portfolios & select the most efficient one, the portfolio manager will need to know the expected returns & the risk of these returns for the individual securities."(Markowitz; 1959, 77-91)

2.7.1Portfolio Theory Assumptions:

The portfolio selection model developed by Markowitz is based on the following assumptions:

(1) The expected return from an asset is the mean value of a probability distribution of future returns over some holding period.

(2) Investors depend solely on their estimates of return and risk in making their investment decisions.

(3) Investors prefer assets with a higher expected return to assets with a lower expected return; for assets with the same expected return, investors prefer lower to higher risk.

(4) The risk of an individual asset or portfolio based on the variability of returns (i.e. the standard deviation or variance).

According to the Markowitz, the expected return of the portfolio is the weighted average of the expected returns of the individual assets in the portfolio. The weights are defined as the portion of the investor's wealth invested in a particular asset.
This is described symbolically as:

$r_p = r_1x_1+r_2x_2+r_3x_3+\ldots\ldots\ldots\ldots+r_nx_n$

or

$r_p=\sum r_i x_I$

Where, r_p = Expected return on portfolio

r_i = Expected return on security

x_I = The proportion of total invested in security.

Alongside the expected return to the portfolio, the portfolio manager must also consider the risk associated with the portfolio.

According to the Markowitz, the risk of the portfolio consists of the riskiness of the individual securities and the covariance between the returns of the securities among all possible combinations of them. Thus, the portfolio risk can be calculated as follows:

$\sigma_p^2 = x_1^2\sigma_1^2+x_2^2\sigma_2^2+2\, x_1\, x_2\, \rho_{12}\, \sigma_1\, \sigma_2$

Where, σ_p^2 = Variance of the portfolio

x_1 = Proportion invested in security 1

X_2 = Proportion invested in security 2

σ_1^2 = Variance of security 1

σ_2^2 = Variance of security 2

ρ_{12} = Correlation between security 1 & 2

The variance or its square root, the standard deviation, of returns, measures portfolio risk.

2.8 The Sharpe & Litner Study

Unlike the Markowitz study, William Sharpe, & John Litner, also deals with the relationship between the expected return, unavoidable risk & the valuation of securities.
(Sharpe, William F.; 1996, 261-278) and (Litner, John; 1965, 13-37)

Sharpe & Litner developed "The Capital Assets Pricing Model" (CAPM). This model provides the intellectual basis for a number of the current practices in the investment industry. Although many of these practices are based on various extensions and modifications of the CAPM, a sound understanding of the original version is necessary in order to understand them. CAPM is based on the following assumptions:

(a) All investors have the same one period horizon.
(b) Information is freely and instantly available to all investors.
(c) There is risk-free rate, at which an investor may either lend (i.e. invest) money or borrow money.
(d) The risk-free rate is the same for all investors.
(e) Taxes and transaction costs are irrelevant.
(f) Investors are never satiated, so when given a choice between two otherwise identical portfolios they will choose the one with the higher expected return.
(g) Investors are risk averse, so when a choice between two otherwise identical portfolios, they will choose the one with the lower standard deviation.
(h) Individual assets are infinitely divisible meaning that an investor can bye a fraction of a share if he or she so desires.
(i) Investors evaluate portfolios by looking at the expected returns & standard deviations of the portfolios over a one period horizon.
(j) Investors have 'homogeneous expectation' meaning that they have the same perceptions in regard to the expected returns, standard deviations, and covariance of securities.

<u>Computation of Expected Return under the CAPM Model</u>

The study states that, for the individual security, the relevant risk is not the standard deviation of the security itself (total risk), but the marginal effect the security has on the standard deviation of an efficiently diversified portfolio (Systematic risk). As a result, a security's expected return should be related to its degree of systematic risk, not its degree of total risk.

Systematic risk, not its degree of total risk. Systematic risk is the thing that matters to an investor holding a well-diversified portfolio.

If we assume that unsystematic risk is diversified away, the expected return for stock j is,

$$R_j = R_f + \left(\overline{R}m - R_f\right)B_j$$

Where, R_j $= \overline{\text{Expected return on stock j.}}$

R_f = Risk-free rate of return

$\overline{R_m}$ = Expected overall return for the market portfolio

Bj = Beta coefficient for security j, which can be calculated as;

$$B_j = \frac{Cov\left(\overline{R}j, \overline{R}m\right)}{¢^2_m}$$

Where B_j = Beta coefficient for security j.

$Cov\left(\overline{R}j, \overline{R}m\right)$ = Covariance between the returns on security j and the returns on the market.

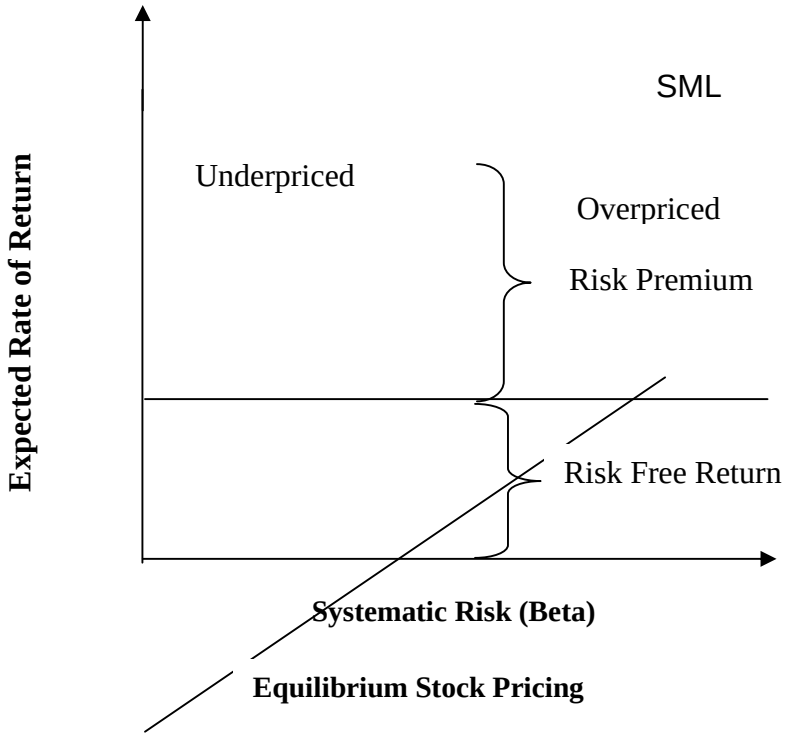
According to Sharpe & Litner (CAPM) study, the greater the beta of a security, the greater the risk and the greater the expected return required. Such as lower the beta, the lower the risk, the more valuable it becomes and the lower the expected return required.

The Security Market Line

In market equilibrium, the relationship between an individual security's expected rate of return and its systematic risk, as measured by beta, will be linear. The relationship is known as 'Security Market Line'. Under the assumptions of the Sharpe & Litner i.e. the CAPM, all securities lie on along this line.

The security market line can be illustrated as follows:

Figure-3



The study states that, the SML is a straight line connecting the R_f (Risk-Free) Point of Market portfolio. Since the risk premium is proportional to stock betas, the risk free securities, such as the treasury bills, which have zero betas, commanding no premium. On the other hand, the market portfolio whose beta is 1 commands the risk premium or R_m-R_f. The figure shows that the SML moves upwards, indicating higher premium for higher risk as beta increase.

The Sharpe & Litner study presents a useful analysis but management of investment portfolio is a difficult and a complete task. It requires not only a critical evaluation and appraisal of general economic conditions, relative position of different industries, financial and other strengths of a particular firm but also an understanding of the pattern of behaviour of stock exchange prices.

2.9 **The Baumol's Study**

Prof. W.J. Baumol suggested a method, which helps an investor to decide between the various portfolios making up the efficient set. In this method, Baumol argued that the investor is required to establish confidence limits for the expected returns. This method assumes the distribution of returns from the normal portfolios. For example, there is less than a 100:16 chance that the return from a portfolio will be more than one, standard deviation below its expected value and a less than 100:1 chance that return will be more than three standard deviations below the expected value. If the expected return 'minus' one standard deviation is more than the expected value 'plus' one standard deviation of another portfolio. A, in the efficient set and if this level of confidence is to the satisfaction of the investor, portfolio A can be discarded from the efficient set. Once an investor has specified his level of significance; the efficient set can be reduced in accordance with the above procedure. In the given example Baumol argues that no investor would select portfolio A because its best realistic return (10%) is lower than the worst realistic return (11%) for portfolio B. The confidence limit set in example is one standard deviation & this quantifies the word realistic: (Baumol; 1963)

	Portfolio A	Portfolio B
E	8	15
σ	2	4
$E+\sigma$	10	19
$E-\sigma$	6	11

2.10The Stephen Study

The Stephen A Ross developed "Arbitrage Pricing Theory" (APT) is an equilibrium theory of expected returns.

The APT is said to be superior and more general than Capital Asset Pricing Model (CAPM). The CAPM assumes the rate of return on a security is influenced by only one factor, which is the average market performance. The Stephen i.e. APT assumes that the rate of return on a marketable security is a linear function of the movement of a set of economic factors (F_k) common to all securities. The random rate of return under APT model is a linear function of K factors as follows: (Stephen A. Ross; 1976, p 341-360)

$$R_{j=}E\ (R_j) + b_{j1}F_1 + b_{j2}F_2 + \ldots\ldots\ldots\ldots + b_{jk}F_k + e_j$$

Where R_j =Random rate of return on stock j.

$E\ (R_j)$ =Expected rate of return on stock j.

b_{jk} =Sensitivity of stock j's return to k^{th} factor.

F_k =Mean zero k^{th} factor common to the return of all assets under consideration.

e_j =Random error term indicating the unique effect on return.

The F_k is the mean zero random variable of k^{th} factor and it is the result of the deviation of realized value from the expected value (i.e. $F_k = F_k - F_k$). The error term, e_j is the unique or unsystematic risk which can be eliminated through diversification and does not affect the stock rate of return. Therefore, the APT model is re-written as follows:

$$R_{j=}E\ (R_j) + bj1(F1 - F1) + b_{j2}(F2 - F2) + \ldots\ldots\ldots\ldots + b_{jk}(Fk - Fk)$$

The name Arbitrage refers to the market condition where two or more securities of identical factor sensitivities are priced differently, providing opportunities to make profit by selling overpriced securities short and buying underprice securities long. Such transactions are called arbitrage, and they allow market participation to make profit without investment and without assuming any risk through short selling and buying long for the amount equivalent to the short selling. Such opportunities rarely exist in an efficient market and no one can benefit from arbitrage transactions. Otherwise, prices will continue to change until the expected return from such transactions is zero. Therefore, the expected arbitrage profit is zero in the long run if the market functions efficiently. The APT is based on this very principle of "No investment, no risk, and no return".

The Stephen in his Arbitrage Pricing Theory states that if no arbitrage opportunities exist in the market, the asset pricing is a function of risk free rate and a set of relevant factors related risk premium. It is, therefore, true that the APT is not different from the CAPM which also states that the return on a security is equal to the risk free rate and risk premium for the market related factor. The market rate of return is, in fact, influenced by various economic

factors, such as inflation, GDP, tax laws etc. Hence, accounting of market rate of return does reflect the consideration of many economic factors that influence all assets in the market. Given this argument, the researcher can say that there should not be significant difference in expressing the rate of return either using only the market rate of return or using especially all the factor that affect the market return.

Along with this line, the APT model can be expressed through some mathematical manipulation in the CAPM format as follows:

$$R_{j=}R_f + b_{j1}[E(F_1) - R_f] + b_{j2}[E(F_2) - R_f] + \ldots\ldots + b_{jk}[E(F_k) - R_f]$$

Thus, the researcher can find can see that the APT logic is not much different from the logic used in the CAPM. Similar to CAPM, only the set of systematic risk is priced in the above model and no price is assigned for the diversifiable risk. The risk premium for the systematic risk of each factor is determined as the market price per unit of risk [i.e.the excess of the expected value of the factor under consideration over the risk free rate, i.e. $[E(F_k)-R_f]$] multiplied by the degree of factor's systematic risk (i.e. the sensitivity of security j to k^{th} factor,b_{jk}).

In another words, $r_{p=}b_{jk}[E(F_k)-R_f]$

2.**11Review of Relevant Thesis Works**

There is a few numbers of relevant thesis works on particular topic portfolio management. Even though some relevant thesis works on portfolio, portfolio management of commercial banks and other related studies on commercial banks are concluded as follows:

Rabindra Joshi in his thesis entitled "A comparative study of investment policy of SCBNL and EBL" has made an endeavour to examine and interpret the investment policy adopted by SCBNL in comparison to EBL.

- To compare the investment policy of concerned banks and discuss the fund mobilization of the sample banks.
- To find out the empirical relationship between total investment , deposit and loan and advance ; net profit and outside asset and compare them.

- To analyse the deposit utilization and projection for next five years of SCBNL and EBL.
- To evaluate comparatively the profitability and risk position liquidity asset management efficiency of SCBNL and EBL.
- To provide the package of possible guideline to improve investment policy , its problem and way to solve problems and provide suggestions and recommendations on the basis of the study.

The major findings of the study

- Both the banks have good deposit collection. EBL has higher but fluctuating liquidity position. It is in good position to meet daily cash requirements and current obligation.
- SCBNL has successfully maintained and managed its asset towards different income generating activities.SCBNL has invested high position of total working fund in government securities and share and debentures of other companies.
- The profitability positions of SCBNL is comparatively better than EBL. (Joshi ,2006)

Rajesh Dhital has conducted a thesis research on "A comparative study on investment policy of SCBNL and BOKL"

The major objectives of the research are

- To find out the relationship between total investment , deposits , loans and advances , net profit and outside asst and compare them.
- To compare investment policies of concerned banks and discuss the fund mobilization of sample banks .
- To analyse deposit utilization trend and its protection for five years of SCBNL and BOKL.
- To provide the package of possible guideline to improve investment policy , its problem and way to solve problems and provide suggestions and recommendations on the basis of the study.
- To analyse risk position of SCBNL and BOKL.

The major findings of the study are

- SCBNL has better liquidity position and profitability of SCBNL better than BOKL.
- SCBNl has lower liquidity risk and credit risk than that of BOKL
- Growth rate deposits of SCBNL is less than BOKL (Dhital, 2007).

Dipak Pandit has conducted a research entitled Investment policy analysis of joint venture bank(with special reference to NSBIL and EBL)

The objectives of the study were

- To evaluate liquidity management , assets management efficiency , Profitability position , risk position and investment policies of NSBIL,BOKL and EBL.
- To find out the relationship between deposit and total investment , deposit and loans & advances , net profit and outside assets.

The major findings are

- NSBIL has better liquidity position .It is in a good position to meet its daily cash requirement and current obligation .Liquidity positions of EBL and BOKL have not been satisfactory.
- The profitability position of all the banks is not satisfactory . The banks have not adopted sound investment policy in utilizing their surplus funds.

Commercial banks have huge deposit collection. These deposits need to be properly utilized .Effective utilization of collected fund is possible only through implementation of sound investment policy.(Pandit,2008)

Shrestha “Portfolio behaviour of commercial banks in nepal” where he took five commercial banks of nepal.viz. nepal bank limited , Rastra banijya bank, Nabil bank , nepal credit and commerce bank.Data are collected from various sources 2001 to 2005 A.D. The objective of the research was to evaluate the financial performance of the commercial banks, to analyse the investment pattern of commercial banks on securities and loans, to observe the relationship of bank portfolio variables with national income and other fiscal variables. Among these objectives financial performances of the commercial banks and observe bank portfolio variables is some how related to this research.(Shrestha,2007)

Likewise Uttam Raj Pant, in his thesis paper entitled, "A Study of Commercial Banks Deposits & its Utilization" has made an attempt to highlight on the discrepancy between resources collection and utilization. He concluded that commercial banks' failure in resource utilization was due to their lending confined for short term only. So he recommended that commercial banks should give emphasis on long term lending for the deposits. (Pant; 2003)

2.12Review of Relevant Studies

Some relevant studies, written about the investment, resources utilization of commercial banks, deposits & its utilization etc are concluded as follows:

Mahat,L.D.(2004) has published an article on the Kathmandu post daily of 28th April 2004 entitled "Efficient Banking" , in his article he has accomplished the efficiency of banks can be measured using different parameters. The concept of productivity and profitability can be applied while evaluating efficiency of banks .The term productivity refers to the relationship between the quantity of inputs employed and the quantity of outputs produced. An increasing productivity means that more output can be produced from the same inputs or the same outputs can be produced from fewer inputs. Interest expense to interest income ratio shows the efficiency of banks in mobilizing resource at lower cost .An investing in high yielding asset. In other words it reflects the efficiency in use of funds.

The analysis of operational efficiency of banks will help one in understanding the extent of vulnerability of banks under the changed scenario and deciding whom to bank upon. This may also help the inefficient banks to upgrade their efficiency and be winner in the situation developing due to slow down in the economy.The regulators should also be concerned on the fact that the banks with unfavourable ratio may bring catastrophe in the banking industry.

Thapa C. (2003) has published on the Kathmandu post daily on seventh march 2003 entitled "Managing Banking Risk" ,in his article he has accomplished the subsequent issues.

Banking and financial service are among the fasted growing industries on developed world and are also emerging as corner stones in other developing and undeveloped nations as well. Bank primary function is to trade risk. Risk cannot be avoided by the bank but can only be minimized. There exists two types of risks. The first is the diversifiable risk or the term specifically can be mitigated by maintaining an optimum and diversified portfolio. This is

due to the fact that when one sector doesnot do well the growth in another might offset the risk . Thus depositor must have the knowledge of the sectors in which their banks have made the lending. The second is un diversifiable risk and is correlated across borrower , countries and industries. Such risk is not under control of the firm and bank.

On the basis of his article risk management of the banks is not only crucial for optimum trade off between risk and profitability but is also one of the main factors for overall business investment lending to growth of banking . Managing risk not only needs share professionalism at the organizational level but appropriate environments also need to develop. Some of the major environmental problems of Nepalese banking sectors are under government intervention, relatively weak regulatory fame , if we consider the international standard, meagre corporate government and the biggest of all is lack of professionalism. The only solution to mitigate the banking risk is to developed the badly needed commitment eradication of corrupt environment especially

In the disbursement of lending and formulate prudent and conductive regulatory framework.

Brennan and Caw (2005) “International Portfolio Investment flows” Critically analysed and develop a model of international equity portfolio investment flows based on differences in informational endowments between foreign and domestic investors. It is shown that when domestic investors possess cumulative information advantage over foreign investors about their domestic market, investors tend to purchase foreign assets in periods when the return on foreign assets is high and to sell when the return is low.

Following are the conclusion from the article

- The article has developed a model of international equity portfolio flows that relies on informational differences between foreign and domestic investors.
- The model predicts that if foreign and domestic investors are differentially informed their portfolio flows between two countries will be a linear function of the contemporaneous returns on all national market indices. And if domestic investors have a cumulative information advantage over foreign investors market return will be positive.

- Portfolio flows are associated with returns on national market indices as the symmetric information hypothesis implies.
- The examination of US portfolio investment is emerging markets sows the strong evidence that US purchases are positively associated with local market returns in many countries .
- This model is able to explain only a small proportion of the variance of international equity portfolio flows.

2.13Justification of the study

The research gap identified by the review of literature has justified the need of this study. The researcher has been fully assumed that this research one of the most demanded and most valuable research under the financial sector of Nepal.

CHAPTER-III
RESEARCH METHODOLOGY

3.1 Research Design

The research design is followed basically to analyze the "Investment and Loans & Advances Portfolio Management" of commercial banks. Analytical and descriptive approaches are used to evaluate the investment and loans & advances portfolio management of commercial banks on the basis of secondary data and financial statements.

3.2 Sources & Types of Data

The data, used for the study will be secondary in nature. The researcher will collect the data from the annual reports of the concerned banks, Nepal Stock Exchange and Nepal Rastra Bank.

3.3 Population & Sample

Seventeen commercial banks both domestic and foreign collaborated, opening in Nepal will be the population of this study and Himalayan Bank Limited, Nabil Bank Limited, Standard Chartered Bank Nepal Limited and Everest Bank Limited are selected as samples for the study. Similarly, financial statements of five(5) years from mid 2003/04 to 2007/08 are selected as sample for the purpose of the study.

3.4 Tools and Techniques of Analysis

The data thus collected and observed are tabulated after adjusting necessary amounts of each overhead appeared in annual reports. However, for the analysis of the data following tools are basically used.

(a) Financial Tools

There are several financial tools, which can be applied in order to analyze the portfolio of commercial banks. Under the financial tools, the researcher will use the following categories for the analysis:

- Financial Ratios
- Beta Coefficients

- Expected Return on Portfolios

(b) Statistical Tools

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

- Mean
- Standard Deviation
- Coefficient of Variation
- Coefficient of Correlation

Arithmetic Mean

Arithmetic Mean of a given set of observation is their sum divided by then number of observations. In their general x_1, x_2---x_n are the given 'n' Observation then their arithmetic mean, usually demoted by x is given by

$$\overline{X} = \frac{X_1 + X_2 + X_3 + ... + X_4}{n}$$

Standard Deviation

The measurement 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 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:

$$S\tan dardDeviation = \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2}$$

Coefficient of Variation (C.V)

The Coefficient of variation is the relative measure of dispersion, comparable across distribution, which is defined as the ratio of the standard deviation of the mean expressed in percent.

It is calculated as follows:

$$CV = \frac{S.D}{Mean} \text{X}100$$

Coefficient of Correlation (r)

Correlation is the statistical tool that is used to describe the degree in which one variable is linearly related to another.

The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's 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 used and vice-versa. When r = 0, it means there is no relationship between two variables.

The Pearson's formula is

$$r = \frac{\sum\left(\text{X} - \text{X}\right)\left(\text{Y} - \text{Y}\right)}{\sqrt{\sum\left(\text{X} - \text{X}\right)^2\left(\text{Y} - \text{Y}\right)^2}}$$

CHAPTER-IV
ANALYTICAL FRAMEWORK

The main purpose of this chapter is to compare and analyse the financial performance of selected commercial banks Himalayan Bank Limited, Nabil Bank Limited, Standard Chartered Bank Nepal Limited and Everest Bank Limited over the fiscal year 2003/04 through 2007/08.

This chapter has five parts. The first part is to calculate and analyse the various ratios i.e. investment to total deposit ratio, loans & advances to total deposit ratio, loans & advances to total assets ratio, cash & bank balance to total deposits ratio, return on total assets ratio, return on shareholders' fund ratio, net worth to total assets ratio.

The second part deals with investment portfolio analysis where composition of marketable securities is divided into government securities, shares & debentures and NRB Bond. The third part is to calculate and analyse the loans & advances portfolio. The fourth part deals with risk & returns analysis of the selected banks and at the end computation of trend analysis and analyse on the basis of investment, loans & advances and total deposit of selected banks.

4.1 Analysis of Ratios

Ratio analysis is one of the most important tools to evaluate the financial performance. Financial ratios are calculated from the profit & loss account and the balance sheet of the selected commercial banks.

In this section only important financial ratios are computed to compare and analyse the financial performance of the selected banks.

4.1.1Investment to Total Deposit Ratio

Investment to total deposit ratio can be calculated by dividing investments (investments include government securities, special bond of government, treasury bills & others) by total deposits (total deposits include current deposits, saving deposits, fixed deposits, call deposits and other deposits).

This ratio measures the extent to which the banks are successful in mobilising the total deposits on investment. Bank can not utilise its total fund raised through deposits and borrowings into loans & advances. To fulfil the gap between borrowings and lending, the bank invests its fund to securities, special bond of government, treasury bills and others.

The following table shows the ratios of investment to total deposit of selected banks.

Table -1
Investment to Total Deposits Ratio

F/Y	Particulars	HBL	NABIL	SCBNL	EBL
2003/04	Ratio(%)	42.21	27.44	53.68	31.44
2004/05	Ratio(%)	47.11	29.32	50.11	21.08
2005/06	Ratio(%)	41.10	31.93	55.70	30.43
2006/07	Ratio(%)	39.34	38.32	54.99	27.41
2007/08	Ratio(%)	41.89	31.14	46.74	21.11
Mean(%)		42.33	31.62	52.24	26.29
S.D(%)		2.59	3.75	3.42	4.47
C.V(%)		6.12	11.85	6.54	17.00
Industry Average		38.12			
Industry C.V		10.38			

Source : Annual report of selected commercial Banks

The ratio of Investment to Total Deposits computed in the above table no. 1 shows that the ratios of HBL, NABIL, SCBNLand EBL are in fluctuating trend throughout the review period. The mean investment to total deposit ratio of Standard Chartered Bank Nepal Limited is the highest, i.e.52.24% among the four commercial banks. Similarly Himalyan Bank Limited has the second highest mean investment to total deposits ratio i.e.42.33%. Similarly Nabil Bank Limited stood at third position with 31.62% mean ratio and Everest Bank Limited is in fourth position with 26.29% mean ratio. The industry average mean is 38.12%. HBL and SCBNL are above than industry mean i.e. 42.33>38.12 and 52.24>38.12. Similarly NABIL and EBL are below than industry i.e. 31.62<38.12 and 26.29<38.12.

From the above computation, Himalayan Bank Limited has the lowest coefficient of variation i.e. 6.12%. It means that the variability of the ratios of Himalayan Bank Limited is the most consistent among the four commercial banks. Similarly Everest Bank Limited has the highest coefficient of variation i.e. 17.00%. It indicates that the variability of the ratios of this bank is the least consistent among the four commercial banks. Standard Chartered Bank Limited,

Nabil Bank Limited and himalyan Bank Limited have the variability of the ratios as 6.54%, 11.85% and 6.12% respectively.

From the above description, it can be concluded that Standard Chartered Bank Nepal Limited is the most successful in utilising its resources on investment among the four selected commercial banks. Himalayan Bank Limited and Nabil Bank Limited are moderate in utilising their resources on investment among the four selected commercial banks. Likewise, Everest Bank Limited is the least successful in utilising its resources on investment among the four commercial banks.

4.1.2Loans & Advances to Total Deposits Ratio

Loans & Advances consist of loans, advances, cash credit, overdrafts, local & foreign bills purchases and discounts. The total deposit consists of current deposits, saving deposits, fixed deposits, money at call & short notice and other deposits.

This ratio measures the extent to which the banks are successful to mobilise the outsider's fund, i.e. total deposits in loans & advances for the purpose of profit generation.

Loans & Advances to Total Deposits Ratio is calculated by dividing loans & advances by total deposits. This can be stated as:

$$\frac{\text{Loans \& Advances}}{\text{Total Deposits}}$$

Loans & Advances to Total Deposits Ratio of HBL, NABIL, SCBNL and EBL is presented in table no. 2.

Table -2

Loans & Advances to Total Deposits Ratio

F/Y	Particulars	HBL	NABIL	SCBNL	EBL
2003/04	Ratio(%)	54.30	61.53	30.29	75.59
2004/05	Ratio(%)	50.07	72.57	42.05	78.23
2005/06	Ratio(%)	55.27	66.79	38.74	73.43
2006/07	Ratio(%)	56.56	66.59	42.61	77.43
2007/08	Ratio(%)	61.23	60.94	46.12	78.56
Mean(%)		55.48	66.88	39.96	76.65
S.D(%)		3.69	3.57	5.38	1.83
C.V(%)		6.65	5.34	13.48	2.38
Industry Average Mean			59.74		
Industry Average C.V.			6.96		

Source : Annual report of selected commercial Banks

The table listed in table no. 2 shows that the mean loans & advances to total deposits ratio of Everest Bank Limited is the highest, i.e. 76.65% among the four commercial banks over the review period. NABIL and HBL have the moderate mean loans & advances to total deposits ratio. Similarly, SCBNL has the lowest mean i.e. 30.29% loans & advances to total deposits ratio among the four selected commercial banks. The industry average mean is 59.74%. NABIL and EBL are above than industry average i.e. 66.88>59.74 and 76.65>59.74. Similarly HBL and SCBNL are below than industry average i.e. 55.48<59.74 and 39.96<59.74.

However, the coefficient of variation in the ratios of EBL is the lowest i.e. 2.38%. It means that the ratio of EBL is the most uniform among the four commercial banks. Similarly, the coefficient of variation in the ratios of SCBNL is the highest i.e. 13.48%. It indicates that the variability of the ratios of SCBNL is the least uniform among the four commercial banks. The variability of the ratios of HBL and NABIL are moderate taking 6.65% and 5.34% respectively.

From the above description, it can be concluded that EBL has mobilised its funds to loans & advances most effectively among the four commercial banks. HBL and NABIL are moderate

in mobilising its deposits to loans & advances. Likewise SCBNL has mobilised its deposits to loans & advances least effectively among the four commercial banks.

4.1.3Loans & Advances to Total Assets Ratio

Loans & advances consist of loans, advances, cash credit, overdrafts, local & foreign bills purchases & discounts. The denominator total assets include total assets of on balance sheet items.

Higher ratio indicates the higher utilisation of resources in relation to total assets & yields a higher return for the banks.

This ratio is calculated by using the following formula:

$$\frac{\text{Loans \& Advances}}{\text{Total Assets}}$$

The following table no. 3 shows the ratios of loans & advances to total assets of HBL, NABIL, SCBNL and EBL.

Table -3

Loans & Advances to Total Assets Ratio

F/Y	Particulars	HBL	NABIL	SCBNL	EBL
2003/04	Ratio(%)	48.15	59.92	27.11	61.23
2004/05	Ratio(%)	44.62	62.03	37.38	64.93
2005/06	Ratio(%)	49.70	87.00	34.66	61.41
2006/07	Ratio(%)	51.12	57.04	36.73	63.75
2007/08	Ratio(%)	53.89	57.53	41.15	67.54
Mean(%)		49.49	58.88	35.41	63.77
S.D(%)		3.18	1.79	4.61	2.40
C.V(%)		6.56	3.04	13.04	3.77
Industry Average Mean		51.89			
industry Average C.V		6.60			

Source : Annual report of selected commercial Banks

The above comparative table shows that the ratios of commercial banks are in fluctuating trend throughout the review period. The mean loans & advances to total assets ratio of EBL

has the highest i.e. 63.77% among the four commercial banks. NABIL has the second highest mean loans & advances i.e. 58.88% among the four banks. Similarly, HBL has the moderate mean ratio. SCBNL has the lowest mean loans & advances ratio among the four commercial banks. The industry average mean is 51.88%. NABIL and EBL are above than industry average i.e. 58.88>51.88 and 63.77>51.88 Similarly HBL and SCBNL are below than industry average i.e. 49.49<51.88 and 35.41<51.88.

However, the coefficient of variation in the ratios of NABIL is the lowest i.e.3.04%. It means that the ratio of NABIL is the most consistent among the four banks, namely HBL, NABIL, SCBNL and EBL. Similarly, the coefficient of variation in the ratios of SCBNL is the highest i.e. 13.04%. It indicates that that ratio of SCBNL is the least consistent among the four commercial banks. The variability of the ratios of HBL and EBL are moderate taking 6.56%, and 3.77%.

Thus, it can be concluded that the NABIL activity position is the most satisfactory among the four banks. The activity position of SCBNL is the weakest among the four commercial banks. Likewise, HBL and EBL are in moderate activity position.

4.4 Return on Total Assets Ratio

It measures the profitability with respect to total assets. Thus, it seems to be vital for measuring the financial performance of the bank. The higher ratio of the firm indicates the efficiency of the bank in using its resources. This ratio is calculated by dividing net profit after tax by total assets. This is stated as:

$$\frac{\text{Net Profit after Tax}}{\text{Total Assets}}$$

The following table no. 4 shows the ratios of return on total assets of HBL, NABIL, SCBNL, & EBL.

Table -4
Return on Total Assets Ratio

F/Y	Particulars	HBL	NABIL	SCBNL	EBL
2003/04	Ratio(%)	2.20	5.33	0.51	2.40
2004/05	Ratio(%)	2.48	5.32	6.58	2.20
2005/06	Ratio(%)	3.12	5.24	7.63	2.30
2006/07	Ratio(%)	2.89	4.62	6.75	2.10
2007/08	Ratio(%)	3.26	3.96	6.24	2.40
Mean(%)		2.79	4.83	7.19	2.28
S.D(%)		0.39	0.91	0.84	0.12
C.V(%)		13.97	18.84	11.76	5.11

Industry Average Mear 4.27
industry Average C.V. 12.42

Source : Annual report of selected commercial Banks

The above comparative table no. 4 shows that the mean return of SCBNL is the highest i.e. 7.19%, which is above than industry average i.e. 4.27%. Similarly, the mean return of EBL is the lowest i.e. 2.28%, which is below than industry average. The mean return on total assets of NABIL is above than industry i.e. 4.83>4.27%. The mean return on total assets of HBL is below than industry i.e. 2.79<4.27

The C.V of NABIL is the highest among thefour commercial banks i.e. 18.84%. Similarly the C.V of EBL is the lowest among the four commercial banks i.e. 5.11%. The industry average C.V is 12.42%. The mean C.V of NABIL is above than industry average C.V i.e. 18.84>12.42. It indicates that the variability of the ratios of NABIL is the least uniform among the four commercial banks. Likewise the C.V of EBL is below than industry average i.e. 5.11<12.42. It indicates that the variability of the ratios of EBL is the most uniform among the four commercial banks. The variability of the ratios of HBL and SCBNL are in moderate position i.e. 13.97%, and 11.76%.

From the above analysis, It can be concluded that the SCBNL is in the best profitability position in relation to return on total assets ratio among the four commercial banks. NABIL and HBL are in moderate profitability position. Likewise EBL is in the poor profitability position in relation to total assets ratio among the four commercial banks.

4.5 Return on Shareholders' Fund Ratio

The ratio is calculated by dividing net profit available to equity shareholders bythe total shareholders fund. This can be stated as:

$$\frac{\text{Net Profit after Tax}}{\text{Shareholders' Fund}}$$

The numerator indicates with portion of incomes is left to the internal equities after all costs, charges, expenses have been deducted. The shareholders' fund includes paid up capital, general reserves, retained earnings of surplus and general loan loss provision.

This ratio measures the capability of the banks to utilise its owner's fund. It reflects whether the firm has earned a satisfactory return for its equity holder or not. So higher ratio is favourable of the stockholders.

The following table no. 5 shows the ratios of return on shareholders' fund of HBL, NABIL, SCBNL and EBL.

Table -5
Return on Shareholders' Fund Ratio

F/Y	Particulars	HBL	NABIL	SCBNL	EBL
2003/04	Ratio(%)	25.30	30.62	32.85	23.48
2004/05	Ratio(%)	22.91	32.76	32.68	24.80
2005/06	Ratio(%)	25.90	33.88	37.55	24.64
2006/07	Ratio(%)	19.99	31.37	43.16	20.20
2007/08	Ratio(%)	19.86	28.90	35.95	21.10
Mean(%)		22.79	31.50	36.43	22.84
S.D(%)		2.56	1.83	3.91	1.92
C.V(%)		11.25	5.80	10.74	8.40
Industry Average Mean		28.39			
Industry Average C.V		9.05			

Source : Annual report of selected commercial Banks

The comparative table no. 5 shows that the ratios of return on shareholders' fund of four commercial banks are in fluctuating trend throughout the review period. The mean ratio of

SCBNL is the highest i.e. 36.43%. The ratios of NABIL and EBL are in moderate position i.e. 31.50%, and 22.84%. The ratio of HBL is the lowest among the four commercial banks i.e. 22.79%. The industry average is 28.39%. The ratio of SCBNL is above than industry average i.e. 36.43>28.39. The ratios of HBLand EBL are below than industry average i.e. 22.79<28.39 and 22.84<28.39.

Likewise, the coefficient of variation of NABIL is the lowest and below than industry average i.e. 5.80<9.05. This shows that the variability of the ratios of NABIl is the most uniform among the four commercial banks. The coefficient of variation of HBl is the highest and above than industry average i.e. 11.25>9.05. It indicates that the variability of the return on shareholders' fund ratio of HBL is the least uniform. The variability of the return on shareholders' fund ratios of SCBNL and EBL are in moderate position i.e. 10.74% and 8.40%.

From the above description, it can be concluded that the NABIL is in the best profitability position in relation to shareholders' fund among the four commercial banks. EBL and SCBNL have moderate position in relation to shareholders' fund. Similarly, HBL is in the lowest profitability position in relation to shareholders' fund among the four commercial banks.

4.6 Investment Portfolio Analysis

The purpose of this chapter is to compare and analyse the investment portfolio of selected commercial banks i.e. HBL, NABIL, SCBNL and EBL.

Commercial banks can not utilise whole of its fund, raised through deposits and borrowings into loans & advances. In order to fill this gap between borrowings and lending, bank rather goes for investments such as government securities, shares & debentures and NRB bonds.

In this chapter, investment portfolio of selected commercial banks is analysed. Basically, commercial banks are investing their funds in government securities, shares and debentures.

The following table shows the investment portfolio of HBL, NABIL, SCBNLand EBL.

Table No. 6
Investment Portfolio of Selected Commercial Banks

S.N	Commercial Banks	Govt. Sec.	Shares & Deben.	NRB Bonds
1	Himalayan Bank Limited	96.78	3.22	0.00
2	Nabil Bank Limited	91.00	9.00	0.00
3	Standard Chartered	67.55	32.44	0.00
5	Everest Bank Limited	95.21	4.78	0.00
Industry Average		**87.63**	**12.36**	**0.00**

Source : Annual report of selected commercial Banks

The above table no. 6 shows the average investment portfolio of commercial banks from fiscal year 2003/04 to 2007/08. The government securities stood at the first position. The industry average of government securities is 87.63%. Himalayan Bank Limited has invested the highest amount of its funds in the government securities with 96.78%. Similarly EBL and NABIL have invested 95.21% and 91.00% of their funds in the government securities. On the contrary, SCBNL has invested very low amount of its funds in government securities and invested percentage is 67.55%. SCBNL is investing their funds in government securities below than industry average.

Similarly, shares & debentures stood at second position with the industry average of 12.36%. Standard Chartered Bank Nepal Limited has invested the highest amount of its funds on shares & debentures with 32.44% which is very high as compared to other selected commercial banks.. Similarly NABIL and EBL have invested their funds 9.00% and 4.78% on shares & debentures which are below than industry average. Himalayan Bank Limited has invested very low amount of its funds on shares & debentures with 3.22%

The above table shows that any of the selected commercial banks have not invested their funds on NRB bonds.

4.6 Loans & Advances Portfolio Analysis

The major portion of short-term investment of commercial bank is loans & advances provided to various sector of the market. Commercial banks provide loans & advances from the money which it receives by way of the persons against the personal security of the

borrowers or against the security of movable and immovable properties. Specially, commercial banks are providing their funds to the government enterprises, private sector and foreign bills purchases & discounts.

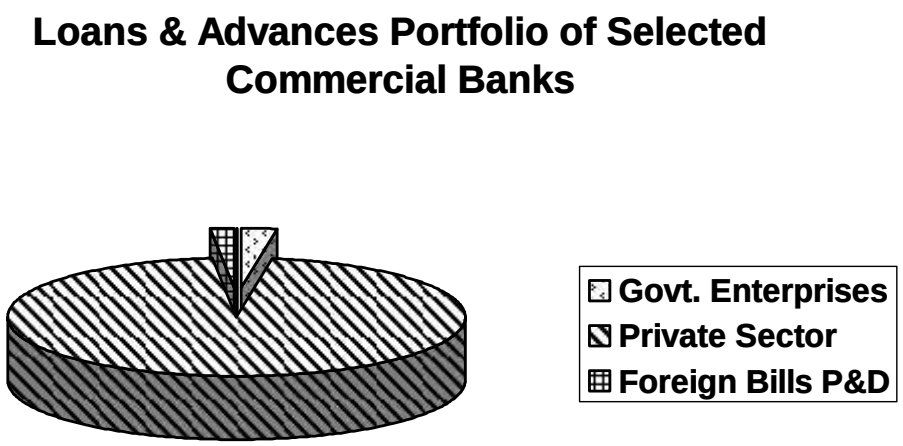
The following table shows the loans & advances portfolio of selected commercial banks.

Table No. 7
Loans & Advances Portfolio of Selected Commercial Banks

Commercial Banks	Govt. Ent.	Private Sec.	For. Bills P & D
Himalayan Bank Limited	5.43	93.72	0.85
Nabil Bank Limited	0.67	95.30	4.03
Standard Chartered	3.07	95.45	1.48
Everest Bank Limited	0.63	99.00	0.37
Industry Average	**2.45**	**95.87**	**1.68**

Source : Annual report of selected commercial Banks

Chart - 1



The above table no. 7 shows that the commercial banks are providing very high amount of its loans & advances to the private sector. The mean percentage of loans & advances to the private sector is 95.87%. Similarly the mean percentage of government securities and foreign bills p&d is 2.45% and 1.68% respectively.

Everest Bank Limited has invested a very high amount of its loans & advances to the private sector. The mean percentage of EBL is 99.00%, which is the highest as compared to other commercial banks. EBL has given second priority to government enterprises. The mean percentage of government enterprises is 0.63%. EBL has given least priority to foreign bills p&d. The mean percentage is 0.37%.

Similarly Nabil Bank Limited is providing a very high amount of its loans & advances to private sector. The mean percentage is 95.30%. Nabil has given second priority to foreign bills p&d. The mean percentage is 4.03%. Nabil has given third priority to government enterprises. The mean percentage is 0.67%.

Standard Chartered Bank Nepal Limited is providing a very high amount of its loans & advances to private sector. The mean percentage is 95.45%. SCBNL has given second priority to government enterprises. The mean percentage is 3.07%. SCBNL has given least priority to foreign bills p&d. The mean percentage is 1.48%.

Himalayan Bank Limited is providing a high amount of its loans & advances to private sector. The mean percentage is 93.72%. HBL has given second priority to government enterprises. The mean percentage is 5.43%. HBL has given a least priority to foreign bills p&d. The mean percentage is 0.85%.

Finally it is concluded that loans & advances to private sector stood at first position with industry average of 95.87%. In this case, Everest Bank Limited is providing above the industry average i.e. 99.00% . Whereas Standard Chartered, Nabil and Himalayan Bank Limited are providing below the industry average i.e. 95.45%, 95.30% and 93.72%.

Similarly government enterprises stood at second position with the industry average 2.45%. HBL and SCBNL are providing loans & advances above the industry average i.e.5.43% and 3.07%. EBL and NABIL are providing loans & advances below than industry average i.e. 0.63% and 0.67%.

And finally foreign bills p&d stood at third position with the industry average 1.68%. NABIL is providing loans & advances above than industry i.e. 4.03% SCBNL, HBL and EBL are providing loans and advances below than industry average i.e. 1.48%, 0.85% and 0.37%.

4.7 Earning per Share (EPS)

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

It is calculated by using the following formula,

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

2003/04	49.05	92.61	143.55	46.60
2004/05	47.91	105.49	143.14	54.20
2005/06	59.24	129.21	175.84	62.80
2006/07	60.66	137.08	167.37	78.40
2007/08	62.74	108.31	131.92	91.82
Mean(%)	55.92	114.54	152.36	66.76
S.D (%)	6.18	16.27	16.51	16.40
C.V (%)	11.06	14.21	10.83	24.57

Source: Annual Reports of Selected Commercial Banks

Industry Average Mean = 97.39%

Industry Average C.V. = 15.16%

From the table no. 8, it is found that SCBNL has the highest mean EPS of 152.36% with very low CV i.e. 10.83%. The mean EPS of SCBNL is above the industry average i.e. 152.36>97.39. The CV ratio is very low than industry average C.V. i.e. 10.83<15.16. This indicates that SCBNL is very highly uniform throughout the period.

Similarly NABIL has the highest EPS than industry average i.e. 114.54>97.39 and lowest C.V. than industry average i.e. 14.21<15.16. It indicates that the data are more uniform.

HBL has the lowest EPS than industry average i.e. 66.76<97.39 and lowest CV than industry average i.e. 11.06<15.16. It indicates that the data of HBL are satisfactory.

EBL has the lowest mean EPS of 66.76% which is below than industry average. It has 24.57% C.V. which is below than industry average c.v. It indicates that there have been high fluctuations of data throughout the review period.

4.8 Investment Portfolio to Return on Shareholders Fund

Making comparison between Investment Portfolio to Return on Shareholders Fund helps researcher 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 and at what percentage coefficient of variation (risk) that return collected. Making comparison between selected commercial 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 are collected from the fiscal year 2003/04 to 2007/08, from different books and statistics, to some extent the data may not tally with each other.

Table-9
Comparative of Investment portfolio to ROSF

Banks	Investment Portfolio			Return on Shareholders Fund (ROSF)		
	Govt. Sec.	Shares & Deben.	NRB Bond	Mean (X)	S.D	C.V
HBL	96.78	3.22	0.00	22.79	2.56	11.25
NABIL	91.00	9.00	0.00	31.50	1.83	5.80
SCBNL	67.55	32.44	0.00	36.43	3.91	10.74
EBL	5.21	4.78	0.00	22.84	1.92	8.40

Source: Appendix

From the above comparative table no. 9, it is found that HBL has given first priority in making investment to government securities i.e. 96.78 %. The second priority is given to shares & debentures i.e. 3.22%. The bank has not made any investment to NRB bond throughout the review period. While doing this portfolio the bank has earned 22.79% as mean return on shareholders fund with 11.25% coefficient of variation and 2.56% standard deviation. Since the c.v. is high (11.2%), it indicates that the bank is less uniform throughout the review period.

Nabil Bank Limited has given first priority in making investment to government securities i.e. 91.00% and second priority to shares & debentures i.e. 9.00%. The bank has not made any investment to NRB bond. The bank has earned 31.50% as mean return on shareholders fund with 5.80% of coefficient of variation and 1.83% of standard deviation while making this portfolio. The coefficient of variation is lowest among others i.e. 5.80%. It indicates that the bank is highly uniform throughout the review period.

Standard Chartered Bank Nepal Limited has given first priority in making investment to government securities i.e. 67.55% and second priority to shares & debentures i.e. 32.44%. The bank has not made any investment to NRB bond throughout the review period. While doing this portfolio the bank has earned 36.43% as mean return on shareholders fund involving 10.74% of coefficient of variation and 3.91% of standard deviation. The coefficient of variation is low i.e. 10.74%. It indicates that the bank is uniform throughout the review period.

Everest Bank Limited has given first priority in making investment to government securities i.e. 95.21% and second priority to shares & debentures i.e. 4.78%. The bank has not made any investment to NRB bond throughout the review period. The bank has earned 22.84% as mean return on shareholders fund with 8.40% of coefficient of variation and 1.92% of standard deviation. The c.v. is low(8.40%), it indicates that the bank is uniform throughout the review period.

4.9 Investment Portfolio to Return on Total Assets Ratio

Comparison of investment portfolio to return on total assets 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 & 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 - 10
Comparative of Investment portfolio to ROA

Banks	Investment Portfolio			Return on Total Assets (ROA)		
	Govt. Sec.	Shares & Deben.	NRB Bond	Mean (X)	S.D	C.V
HBL	96.78	3.22	0.00	2.79	0.39	13.97
NABIL	91.00	9.00	0.00	4.83	0.91	18.84
SCBNL	67.55	32.44	0.00	7.19	0.84	11.76
EBL	95.21	4.78	0.00	2.28	0.12	5.11

Source: Appendix

From the above comparative table no. 10, it is found that HBL has given first priority in making investment to government securities i.e. 96.78%. The second priority is given to shares & debentures i.e. 3.22%. The bank has not made any investment to NRB bond throughout the review period. The bank has collected 2.79% as mean return on total assets with 13.97% coefficient of variation and 0.39% standard deviation. Since the coefficient of variation is high i.e. 13.97%, indicating of high fluctuations of data throughout the review period.

Nabil Bank Limited has given first priority in making investment to government securities i.e. 91.00% and second priority to shares & debentures i.e. 9%. The bank has not made any investment to NRB bond. The bank has collected 4.83% as mean return on total assets with 18.84% of coefficient of variation and 0.91% of standard deviation. The coefficient of variation is high i.e. 18.84%. It indicates that the high fluctuations of data throughout the review period.

Standard Chartered Bank Nepal Limited has given first priority in making investment to government securities i.e. 67.55% and second priority to shares & debentures i.e. 32.44%. The bank has not made any investment to NRB bond throughout the review period. The bank has collected 7.19% as mean return on total assets involving 11.76% of coefficient of variation and 0.84% of standard deviation. The coefficient of variation is lower, it indicates that the bank is more uniform and the data are less fluctuating throughout the review period.
Everest Bank Limited has given first priority in making investment to government securities i.e. 95.21% and second priority to shares & debentures i.e. 4.78%. The bank has not made any investment to NRB bond throughout the review period. The bank has collected 2.21% as mean return on total assets with 5.11% of coefficient of variation and 0.12% of standard

deviation. The coefficient of variation is lowest of all other selected banks i.e. 5.11%, it indicates that the bank is highly uniform and the data are less fluctuating throughout the review period.

4.10 Investment Portfolio to Earning Per Share

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

Table - 11
Comparative of Investment portfolio to EPS

Banks	Investment Portfolio			Earning Per Share (EPS)		
	Govt. Sec.	Shares & Deben.	NRB Bond	Mean (X)	S.D	C.V
HBL	96.78	3.22	0.00	55.92	6.18	11.06
NABIL	91.00	9.00	0.00	114.54	16.27	14.21
SCBNL	67.55	32.44	0.00	152.36	16.51	10.83
EBL	95.21	4.78	0.00	66.76	16.40	24.57

Source: Appendix

From the above comparative table no. 11, it is found that HBL has given first priority in making investment to government securities i.e. 96.78%. The second priority is given to shares & debentures i.e. 3.22%. The bank has not made any investment to NRB bond throughout the review period. While making this portfolio the bank involved with mean EPS 55.92% with 11.06% coefficient of variation and 6.18% standard deviation. Since the coefficient of variation is high i.e. 11.06%, indicating less uniform and high fluctuations of data throughout the review period.

Nabil Bank Limited has given first priority in making investment to government securities i.e. 91.00% and second priority to shares & debentures i.e. 9.00%. The bank has not made any investment to NRB bond. While making this portfolio the bank is involved with 114.54% mean EPS with 14.21% of coefficient of variation and 16.27% of standard deviation. The coefficient of variation is high i.e. 14.21%. It indicates that the less uniformity and high fluctuations of data throughout the review period.

Standard Chartered Bank Nepal Limited has given first priority in making investment to government securities i.e. 67.55% and second priority to shares & debentures i.e. 32.44%. The bank has not made any investment to NRB bond throughout the review period. While making this portfolio the bank involved with 152.36% mean EPS with 10.83% of coefficient of variation and 16.51% of standard deviation. The coefficient of variation is lower, it indicates that the bank is more uniform and the data are less fluctuating throughout the review period.

Everest Bank Limited has given first priority in making investment to government securities i.e. 95.21% and second priority to shares & debentures i.e. 4.78%. The bank has not made any investment to NRB bond throughout the review period. While making this portfolio the bank is involved 66.76% mean EPS with 24.27% of coefficient of variation and 16.40% of standard deviation. The coefficient of variation is high i.e. 24.27%, it indicates that the bank is less uniform and the data are fluctuating throughout the review period.

4.2Loans & Advances Portfolio to Return on Shareholder Fund

Preparing a comparative table of loans & advances portfolio to return on shareholders fund helps us to know that by providing certain percentage of loans & advances to government enterprises, 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.

Comparative of Loans & Advances portfolio to ROSF

Banks	Loans & Advances Portfolio			Return on Shareholders Fund (ROSF)		
	Govt. Ent.	Private Sec.	For. Bills P&D	Mean (X)	S.D	C.V
HBL	5.43	93.72	0.85	22.79	2.56	11.25
NABIL	0.67	95.30	4.03	31.50	1.83	5.80
SCBNL	3.07	95.45	1.48	36.43	3.91	10.74
EBL	0.63	99.00	0.37	22.84	1.92	8.40

Source: Appendix

From the above comparative table no.12, it is found that HBL is providing very high amount of its loans & advances to private sector i.e. 93.72% and 5.43% & 0.85% to government enterprises and foreign bills p&d respectively. While giving priorities to these sectors, it has earned 22.79% of return on shareholders fund with 11.25% of coefficient of variation and 2.56% of standard deviation. But it has high coefficient of variation i.e. 11.25%, which

indicates that the investment is not uniform and high fluctuations of data throughout the review period. The standard deviation is 2.56%, which is also high indicating less consistency of the bank.

Nabil Bank Limited has given first priority to private sector with mean percentage of 95.30%, second priority to foreign bills p&d with 4.03% and finally government enterprises with 0.67%. While incurring this, the bank is earning 31.50% of mean return on shareholders fund involving 5.80% of coefficient of variation and 1.83% of standard deviation. The coefficient of variation is low which indicates that the data are less fluctuating throughout the review period.

Standard Chartered Bank Nepal Limited has given first priority to private sector with mean percentage of 95.45%, second priority to government enterprises with 3.07% and finally foreign bills p&d with 1.48%. While doing this portfolio the bank has collected very high percentage of mean return to shareholders fund among the selected commercial banks i.e. 36.43%. The standard deviation is high among the other banks i.e. 3.91% indicates that the bank is less consistent. Similarly, it has low coefficient of variation i.e. 10.74% indicates that the bank is uniform. In this case it is very profitable to have lower coefficient of variation.

Everest Bank Limited has given first priority to private sector with mean percentage of 99.00%, second priority to government enterprises with 0.63% and finally foreign bills p&d with 0.37%. While making this portfolio the bank has earned 22.84% of mean return on shareholders fund with 8.40% of coefficient of variation and 1.92% of standard deviation. It has high amount of coefficient and standard deviation i.e. 8.40% & 1.92% respectively. It indicates that the bank is less uniform and the data are fluctuating.

4.3 Loans & Advances Portfolio to Return on Total Assets

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

Table - 13

Comparative of Loans & Advances portfolio to ROA

Banks	Loans & Advances Portfolio			Return on Total Assets (ROA)		
	Govt. Ent.	Private Sec.	For. Bills P&D	Mean (X)	S.D	C.V
HBL	5.43	93.72	0.85	2.79	0.39	13.97
NABIL	0.67	95.30	4.03	4.83	0.91	18.84
SCBNL	3.07	95.45	1.48	7.19	0.84	11.76
EBL	0.63	99.00	0.37	2.28	0.12	5.11

Source: Appendix

From the above comparative table no.13, it is found that HBL is providing very high amount of its loans & advances to private sector i.e. 93.72% and 5.43% & 0.85% to government enterprises and foreign bills p&d respectively. While giving priorities to these sectors, it has earned 2.79% of return on total assets with very high coefficient of variation i.e. 13.97% and 0.39% of standard deviation.

Nabil Bank Limited has given first priority to private sector with mean percentage of 95.30%, second priority to foreign bills p&d with 4.03% and finally government enterprises with 0.67%. While incurring this, the bank is earning 4.83% of mean return on total assets involving 18.84% of coefficient of variation and 0.91% of standard deviation.

Standard Chartered Bank Nepal Limited has given first priority to private sector with mean percentage of 95.45%, second priority to government enterprises with 3.07% and finally foreign bills p&d with 1.48%. While doing this portfolio the bank has collected very high percentage of mean return to shareholders fund among the selected commercial banks i.e. 7.19% with coefficient of variation of 11.76% and standard deviation of 0.84%.

Everest Bank Limited has given first priority to private sector with mean percentage of 99.00%, second priority to government enterprises with 0.63% and finally foreign bills p&d with 0.37%. While making this portfolio the bank has earned 2.28% of mean return on total assets with 5.11% of coefficient of variation and 0.12% of standard deviation.

4.4 Loans & 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 & advances to government enterprises, private sector and foreign bills p&d. It helps us to know that which bank has collected highest mean EPS and what kinds of loans & advances portfolio help to collect that EPS.

Table - 14
Comparative of Loans & Advances portfolio to EPS

Banks	Loans & Advances Portfolio			Earning Per Share (EPS)		
	Govt. Ent.	Private Sec.	For. Bills P&D	Mean (X)	S.D	C.V
HBL	5.43	93.72	0.85	55.92	6.18	11.06
NABIL	0.67	95.30	4.03	114.54	16.27	14.21
SCBNL	3.07	95.45	1.48	152.36	16.51	10.83
EBL	0.63	99.00	0.37	66.76	16.40	24.57

Source: Appendix

From the above comparative table no.14, it is found that HBL is providing very high amount of its loans & advances to private sector i.e. 93.72% and 5.43% & 0.85% to government enterprises and foreign bills p&d respectively. The bank has collected 55.92% of mean return on earning per share with 11.06% of coefficient of variation.

Nabil Bank Limited has given first priority to private sector with mean percentage of 95.30%, second priority to foreign bills p&d with 4.03% and finally government enterprises with 0.67% has collected 114.54% of mean return to earning per share with 14.21% of coefficient of variation.

Standard Chartered Bank Nepal Limited has given first priority to private sector with mean percentage of 95.45%, second priority to government enterprises with 3.07% and finally foreign bills p&d with 1.48% has earned very high mean return of 152.36% to EPS with 10.83% of coefficient of variation.

Everest Bank Limited has given first priority to private sector with mean percentage of 99.00%, second priority to government enterprises with 0.63% and finally foreign bills p&d with 0.37% has earned mean return of 66.76% with 24.57% of coefficient of variation

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Finally it is concluded that SCBNL has the highest mean return i.e. 152.36% with lowest coefficient of variation i.e. 10.83% among the four selected commercial banks. HBL has the lowest mean return i.e. 55.92% with 11.06% of coefficient of variation.

4.14 Beta Coefficient

The beta coefficient is an index of systematic risk. Beta reflects that pert of portfolio's return 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 asset is defensive assets, if the beta is greater than 1, the asset is more volatile than the market and is called an aggressive assets. The greater the beta of a security, the greater the risk and vice-versa.

4.15 Estimates Market Parameter

Market return and market standard deviation is the most important factors to analyse the risk and return. For that purpose the selected four commercial banks are taken into consideration.

Return is combination of capital gain yield and dividend yield. Capital gain (loss) yield can be calculated by difference between this year's price and last year's price with respect to the last year's 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 analyse the beta coefficient of the study. Standard deviation helps the investor to take the decision over the investment.

Table - 15

Estimated Market Parameter of selected banks

S.N	Organizations	2004		2005		2006		2007		2008	
		Pt (Rs.)	D/Pt (%)	Pt (Rs.)	D/Pt (%)	Pt (Rs.)	D/Pt (%)	Pt (Rs.)	D/Pt (%)	Pt (Rs.)	D/Pt (%)
1	Himalayan Bank Ltd.	8.40	0.00	920.00	1.26	1100.00	2.73	1740.00	0.86	1980.00	1.26
2	Nabil Bank Limited	1000.00	6.50	1505.00	4.65	1240.00	6.85	5050.00	1.98	5275.00	1.14
3	Standard Chartered	1745.00	6.30	2345.00	5.12	3775.00	3.44	5900.00	1.35	6830.00	1.17
4	Everest Bank Limited	680.00	2.94	870.00	0.00	1379.00	1.18	2430.00	0.41	3132.00	0.64
No. of Observations (n)		4.00		4.00		4.00		4.00		4.00	
Pt (Rs.)		4265.00		5640.00		7494.00		15120.00		17217.00	
Dt/Pt (%)			15.74		11.03		14.20		4.60		4.21
Pt/n		1066.25		1410.00		1873.50		3780.00		4304.25	
[D/Pt]/n			3.94		2.76		3.55		1.15		1.05

Source : Auunal Report of Commercial Banks

In the above table no. 15

Pt = Closing Market Price per Share

Dt/Pt = 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 - 16
Estimated Market Return

Year (1)	Pt (2)	Pt-1 (3)	Dt/Pt (4)	Rm (3+4) 5	Rm-Rm	(Rm-Rm)2	Rf
2004	4265.00		15.74				2.93
2005	5640.00	32.24	11.03	43.27	-9.67	93.51	2.46
2006	7494.00	32.87	14.20	47.07	-5.87	34.46	2.84
2007	15120.00	98.76	4.60	103.36	50.42	2542.18	2.42
2008	17217.00	13.86	4.21	18.07	-34.87	1215.92	3.33
				211.77		3886.06	13.98

ERm= 211.77
Rm = ERm/N = 211.77/4 = 52.94
E(Rm-Rm)2= 3886.058
ERf =13.98
Rf = ERf/N = 13.98/5 = 2.796

Here,

$$¢m^2 = \frac{\sum(Rm - Rm)^2}{N-1} = \frac{3886058}{4-1} = 1295352\%$$

Variance of market return = 12.95
Standard Deviation of market return

$$¢\ m = \sqrt{¢\ m^2}$$

$$= \sqrt{1295.352}$$

$$35.99\%$$

In the above table, market return (R_m) of the stock is 52.94%, the required market standard deviation of the stock is 35.99% and average risk free rate of the stock is 2.79%.

Calculation of Beta Coefficient B_j and Expected Rate of Return $\sum (R_j)$ of Himalayan Bank Limited

$Cov(R_A, R_m) = \sum(R_m - \overline{R_m})(R_A - \overline{R_A})/N = 1865.30/4 = 466.32$

Beta Coefficient (B_j) = $Cov(R_A, R_m)/\delta m^2 = 466.32/1295.35$
= 0.36

Required Rate of Return $\sum(R_j) = R_f + (R_m - \overline{R_f})B_j$

$= 2.79 + (52.94\text{-}2.79)0.36$

$= 20.84\%$

$\therefore$ The required beta coefficient (B_j) = 0.36

$\therefore$ The required rate of return of HBL $\sum(R_j) = 20.84\%$

Calculation of Beta Coefficient B_j and Expected Rate of Return $\sum (R_j)$ of Nabil Bank Limited

$Cov(R_A, R_m) = \sum(R_m\text{-}R_m)\ (R_A\text{-}R_A)/\overline{N} = 2746.14/4 = \overline{686.53}$

Beta Coefficient (B_j) = $Cov(R_A, R_m)/\delta m^2 = 686.53/1295.35$

$=0.53$

Required Rate of Return $\sum(R_j) = R_f + (R_m - \overline{R_f})B_j$

$= 2.79 + (52.94\text{-}2.79)0.53$

$= 29.37\%$

$\therefore$ The required beta coefficient (B_j) = 0.53

$\therefore$ The required rate of return of HBL $\sum(R_j) = 29.37\%$

Calculation of Beta Coefficient B_j and Expected Rate of Return $\sum (R_j)$ of Standard Chartered Bank Nepal Limited

$Cov(R_A, R_m) = \sum(R_m\text{-}R_m)\ (R_A\text{-}R_A)/\overline{N} = 1658.05/4 = \overline{414.51}$

Beta Coefficient (B_j) = $Cov(R_A, R_m)/\delta m^2 = 414.51/1295.35$

$= 0.32$

Required Rate of Return $\sum(R_j) = R_f + (R_m - \overline{R_f})B_j$

$= 2.79 + (52.94\text{-}2.79)0.32$

= 18.84%

∴ The required beta coefficient (B_j) = 0.32

∴ The required rate of return of HBL $\sum(R_j)$ = 18.84%

Calculation of Beta Coefficient B_j and Expected Rate of Return $\sum (R_j)$ of Everest Bank Limited

$Cov(R_A, R_m) = \sum(R_m-\overline{R_m}) (R_A-\overline{R_A})/N = 2072.56/4 = 518.14$

Beta Coefficient (B_j) = $Cov(R_A, R_m)/\delta m^2 = 518.14/1295.35$

= 0.40

Required Rate of Return $\sum(R_j) = R_f + (R_m - R_f)B_j$

$= 2.79 + (52.94-2.79)0.40$

= 22.85%

∴ The required beta coefficient (B_j) = 0.40

∴ The required rate of return of HBL $\sum(R_j)$ = 22.85%

Table No. 17

Summary of above calculations

Banks	Beta Coefficient (Bj)	Mean Return ($\overline{R}$)	Required Rate of Return E(Rj)
HBL	0.36	10.67	20.84
NABIL	0.53	28.71	29.37
SCBNL	0.32	25.00	18.84
EBL	0.40	17.26	22.85
Industry Average	**0.40**	**20.41**	**22.97**

In the above table, the industry average beta coefficient is 0.40, which is less than the market index (i.e. 1.00). The beta coefficient of NABIL is 0.53, which is the highest beta coefficient among the four selected commercial banks. Therefore NABIL has the highest systematic risk in the industry. Similarly, SCBNL has the lowest beta coefficient among the four commercial

banks i.e. 0.32. It indicates that the SCBNL has the lowest systematic risk and less risky assets. EBL has the second highest beta coefficient i.e. 0.40, which is equal the industry average i.e. 0.40>0.40. It indicates that the EBL has the second highest systematic risk among the selected commercial banks. Similarly, HBL has the low beta coefficient, which is below than industry average i.e. 0.36<0.40. It indicates that the HBL has the less systematic risk.

Single period rate of return is the total return during the holding period. It is denoted by 'R' of Holding Period Rate of Return. 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 industry averages mean return is 20.41%. The mean return of NABIL is the highest i.e. 28.71%, which is the highest and above than the industry average i.e. 28.71>20.41 among the four commercial banks. Mean return is the average of capital gain yield and dividend yield. HBL has the lowest mean return i.e. 10.67%, which is below than industry average 10.67<20.41. It indicates that HBL's performance has been very poor during the study period as compare to other commercial banks. SCBNL has the highest mean return than industry average i.e. 25.00>20.41. EBL has the second lowest mean return among the four commercial banks i.e. 17.26<20.41.

NABIL has the highest beta coefficient i.e. 0.53, thus it requires highest return i.e. 29.37% among the selected commercial banks. Similarly EBL has second highest beta coefficient i.e. 0.40, so it has second highest return i.e. 22.85%. HBL has the beta coefficient of 0.36 and has earned return in respect to beta coefficient i.e. 20.84%. Similarly, SCBNL has the lowest beta coefficient i.e. 0.32, thus it requires lowest return i.e. 18.84% among the selected commercial banks.

4.2tatistical Tools

4.2 Coefficient of Correlation

Correlation analysis is the statistical tool generally used to describe the degree to which one variable is linearly related to other variables. Two or more variables are said to be correlated if change in the value of one variable appears to be related or linked with the change in the other variables. It is 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 and vice-versa. When r = 0, it means there is no relationship between two variables.

The most widely used in practice for calculating correlation coefficient between two variables is "Karl Pearson's correlation coefficient". The Pearson's formula is

$$r_{xy} = \frac{\sum\left(X - \overline{X}\right)\left(Y - \overline{Y}\right)}{\sqrt{\sum\left(X - \overline{X}\right)^2\left(Y - \overline{Y}\right)^2}}$$

Correlation Coefficient between Investment in Govt. Securities and Portfolio Return (Details in Annex)

It measures the relationship between these two variables i.e. investment and portfolio return. In this analysis, investment is the independent variable X and portfolio return is the dependent variable Y.

We have,

Correlation Coefficient $r_{xy} = \frac{\sum\left(X - \overline{X}\right)\left(Y - \overline{Y}\right)}{\sqrt{\sum\left(X - \overline{X}\right)^2\left(Y - \overline{Y}\right)^2}}$

$= \frac{182.21}{\sqrt{349.00 X 396.74}}$

$= 0.49\%$

$r_{xy} = 0.49\%$

From the above calculation of coefficient of correlation between investment in government securities and portfolio return of sample commercial banks in Nepal comes out to be r_{xy} = 0.49%. It indicates that there is low degree of correlation between investment in government securities and portfolio return of selected commercial banks. It indicates that independent variable (investment in govt. securities X) is increased it will result less increase of dependent variable (portfolio return Y) and the investment is decreased, portfolio return will be decreased.

Correlation Coefficient between Loans & Advances to Private Sector and Portfolio Return (Details in Annex)

It measures the relationship between these two variables i.e. loans & advances and portfolio return. In this analysis, loans & advances is the independent variable X and portfolio return is the dependent variable Y.

We have,

Correlation Coefficient $r_{xy} = \frac{\Sigma\left(X - \overline{X}\right)\left(Y - \overline{Y}\right)}{\sqrt{\Sigma\left(X - \overline{X}\right)^2\left(Y - \overline{Y}\right)^2}}$

$$= \frac{-13.53}{\sqrt{15.71 X 396.74}}$$

$$= - 0.17\%$$

$r_{xy} = - 0.17\%$

From the above calculation, the correlation coefficient between loans & advances and portfolio return comes out to be $r_{xy} = - 0.17$, it indicates that there is negative relationship between these two variables.

If the independent variable (loans & advances X) is increased that will result to decrease in portfolio return and vice-versa.

4.3 Major Findings

1. From the ratio of **Investment to Total Deposits** of commercial banks, the ratios of HBL, NABIL, SCBNLand EBL are in fluctuating trend throughout the review period. The mean investment to total deposit ratio of Standard Chartered Bank Nepal Limited is the highest, i.e.52.24% among the four commercial banks.It indicates that SCBNL has made high amount of its investment through deposits . Similarly Himalyan Bank Limited has the second highest mean investment to total deposits ratio i.e.42.33%. Similarly Nabil Bank Limited stood at third position with 31.62% mean ratio and Everest Bank Limited is in fourth position with 26.29% mean ratio.So EBL has made

low investment from its deposit. The industry average mean is 38.12%. HBL and SCBNL are above than industry mean i.e. 42.33>38.12 and 52.24>38.12. Similarly NABIL and EBL are below than industry i.e. 31.62<38.12 and 26.29<38.12.

2. The mean **loans & advances to total deposits ratio** of Everest Bank Limited is the highest, i.e. 76.65% among the four commercial banks over the review period.It can be concluded that EBL has provided high amount of loans and advances through its deposit. NABIL and HBL have the moderate mean loans & advances to total deposits ratio. Similarly, SCBNL has the lowest mean i.e. 30.29% loans & advances to total deposits ratio among the four selected commercial banks.Hence it has provided low amount of loans and advances through its deposit. The industry average mean is 59.74%. NABIL and EBL are above than industry average i.e. 66.88>59.74 and 76.65>59.74. Similarly HBL and SCBNL are below than industry average i.e. 55.48<59.74 and 39.96<59.74.
3. The mean **loans & advances to total assets ratio** of EBL has the highest i.e. 63.77% among the four commercial banks. NABIL has the second highest mean loans & advances i.e. 58.88% among the four banks. Similarly, HBL has the moderate mean ratio. SCBNL has the lowest mean loans & advances ratio among the four commercial banks. The industry average mean is 51.88%. NABIL and EBL are above than industry average i.e. 58.88>51.88 and 63.77>51.88 which shows they have invested high amount of loans and advances through its total assets. Similarly HBL and SCBNL are below than industry average i.e. 49.49<51.88 and 35.41<51.88.which shows they have invested low amount of loans and advances through its total assets.

4. According to calculation of ratio of **return on total assets** ,mean return of SCBNL is the highest i.e. 7.19%, which is above than industry average i.e. 4.27%. Similarly, the mean return of EBL is the lowest i.e. 2.28%, which is below than industry average. The mean return on total assets of NABIL is above than industry i.e. 4.83>4.27%. The mean return on total assets of HBL is below than industry i.e. 2.79<4.27

5. The ratios of **return on shareholders' fund** of four commercial banks are in fluctuating trend throughout the review period. The mean ratio of SCBNL is the highest i.e. 36.43%. That indicates SCBNL's shareholder has got highest amount of return. The ratios of NABIL and EBL are in moderate position i.e. 31.50%, and 22.84%. The ratio

of HBL is the lowest among the four commercial banks i.e. 22.79%.so its shareholder has earned low amount of return. The industry average is 28.39%. The ratio of SCBNL is above than industry average i.e. 36.43>28.39. The ratios of HBLand EBL are below than industry average i.e. 22.79<28.39 and 22.84<28.39.

6. Looking at the **investment portfolio**, The government securities stood at the first position. The industry average of government securities is 87.63%. Himalayan Bank Limited has invested the highest amount of its funds in the government securities with 96.78%. Similarly EBL and NABIL have invested 95.21% and 91.00% of their funds in the government securities. On the contrary, SCBNL has invested very low amount of its funds in government securities and invested percentage is 67.55%. SCBNL is investing their funds in government securities below than industry average. Similarly, shares & debentures stood at second position with the industry average of 12.36%. Standard Chartered Bank Nepal Limited has invested the highest amount of its funds on shares & debentures with 32.44% which is very high as compared to other selected commercial banks.. Similarly NABIL and EBL have invested their funds 9.00% and 4.78% on shares & debentures which are below than industry average. Himalayan Bank Limited has invested very low amount of its funds on shares & debentures with 3.22%.But any of the selected commercial banks have not invested their funds on NRB bonds.

7. The commercial banks are providing very high amount of its **loans & advances** to the private sector. The mean percentage of loans & advances to the private sector is 95.87%. Similarly the mean percentage of government securities and foreign bills p&d is 2.45% and 1.68% respectively. Everest Bank Limited has invested a very high amount of its loans & advances to the private sector. The mean percentage of EBL is 99.00%, which is the highest as compared to other commercial banks. EBL has given second priority to government enterprises. The mean percentage of government enterprises is 0.63%. EBL has given least priority to foreign bills p&d. The mean percentage is 0.37%.Similarly Nabil Bank Limited is providing a very high amount of its loans & advances to private sector. The mean percentage is 95.30%. Nabil has given second priority to foreign bills p&d. The mean percentage is 4.03%. Nabil has given third priority to government enterprises. The mean percentage is 0.67%.Standard Chartered Bank Nepal Limited is providing a very high amount of its loans & advances

to private sector. The mean percentage is 95.45%. SCBNL has given second priority to government enterprises. The mean percentage is 3.07%. SCBNL has given least priority to foreign bills p&d. The mean percentage is 1.48%.Himalayan Bank Limited is providing a high amount of its loans & advances to private sector. The mean percentage is 93.72%. HBL has given second priority to government enterprises. The mean percentage is 5.43%. HBL has given a least priority to foreign bills p&d. The mean percentage is 0.85%.Finally it is concluded that loans & advances to private sector stood at first position with industry average of 95.87%. In this case, Everest Bank Limited is providing above the industry average i.e. 99.00% . Whereas Standard Chartered, Nabil and Himalayan Bank Limited are providing below the industry average i.e. 95.45%, 95.30% and 93.72%.Similarly government enterprises stood at second position with the industry average 2.45%. HBL and SCBNL are providing loans & advances above the industry average i.e.5.43% and 3.07%. EBL and NABIL are providing loans & advances below than industry average i.e. 0.63% and 0.67%.And finally foreign bills p&d stood at third position with the industry average 1.68%. NABIL is providing loans & advances above than industry i.e. 4.03% SCBNL, HBL and EBL are providing loans and advances below than industry average i.e. 1.48%, 0.85% and 0.37%.

8. Calculation of **EPS** shows that , SCBNL has the highest mean EPS of 152.36% with very low CV i.e. 10.83%. The mean EPS of SCBNL is above the industry average i.e. 152.36>97.39. The CV ratio is very low than industry average C.V. i.e. 10.83<15.16. This indicates that SCBNL is very highly uniform throughout the period.Similarly NABIL has the highest EPS than industry average i.e. 114.54>97.39 and lowest C.V. than industry average i.e. 14.21<15.16. It indicates that the data are more uniform.HBL has the lowest EPS than industry average i.e. 66.76<97.39 and lowest CV than industry average i.e. 11.06<15.16. It indicates that the data of HBL are satisfactory.EBL has the lowest mean EPS of 66.76% which is below than industry average. It has 24.57% C.V. which is below than industry average c.v. It indicates that there have been high fluctuations of data throughout the review period.

9. The **beta coefficient** of NABIL is 0.53, which is the highest beta coefficient among the four selected commercial banks. Therefore NABIL has the highest systematic risk in the industry. Similarly, SCBNL has the lowest beta coefficient among the four commercial

banks i.e. 0.32. It indicates that the SCBNL has the lowest systematic risk and less risky assets. EBL has the second highest beta coefficient i.e. 0.40, which is equal the industry average i.e. 0.40>0.40. It indicates that the EBL has the second highest systematic risk among the selected commercial banks. Similarly, HBL has the low beta coefficient, which is below than industry average i.e. 0.36<0.40. It indicates that the HBL has the less systematic risk.

10. The coefficient of correlation between investment on government securities and portfolio return of the selected commercial banks is found to r_{xy} = 0.49%. It indicates that there is low degree of correlation between investment on government securities and portfolio returns of the banks. The coefficient of correlation between loans & advances to private sectors & portfolio return is found to be r_{xy} = -0.17%. It indicates that there is negative correlation between loans & advances to private sectors and portfolio return.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This research attempts to analyse the portfolio management of commercial banks in Nepal. This chapter presents conclusion derived from the analysis of the study. Summary of the study has been presented in the first section. The second section has been designed for the conclusions drawn from the study. The recommendations to erase the weakness and drawbacks of portfolio management of commercial banks have been presented in the third section.

5.1 Summary

Portfolio management is the challenging task for the commercial banks. Without proper management of portfolio, banks can not compete effectively in the present competitive market. Proper analysis and management of portfolio reduces risk and increase return of the company. Commercial banks as well as other financial institutions are the backbone of the nation for the economic development. Commercial banks mobilise their invest able funds in different sectors where return can be maximised with low risk. Effective portfolio management plays a vital role in development of national economy. Nepalese capital market has been passing through the transaction phase with various inconsistencies and hindrances.

The main objective of present research is to examine and study the existing situation of portfolio management especially investment and loans & advances portfolio of the commercial banks. As per the nature of the study, secondary type of study is followed with analytic and descriptive way. The data are collected from annual report of the concerned banks, NEPSE and Quarterly Economic Bulletin, Banking & Financial Statistics published by Nepal Rastra Bank.

Four commercial banks are taken into considerations to analyse the risk & returns of portfolio with the help of secondary data. For this financial tools as well as statistical tools are used. Information are tabulated and presented as per the requirement of the study. From the analysis, it is found that those bank who done better in portfolio management get better result because diversification of portfolio investment lowers the systematic risk of the portfolio.

5.2 Conclusions

Commercial 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 mobilising the scattered funds towards productive investments. Based on the analysis and findings of the study, the following conclusions can be drawn.

1. The investment portfolio of commercial banks affects the return on shareholder's fund. Most of the commercial banks have concentrated into government securities, however the scattered percentage into other securities, better the return to shareholders.

2. Return on commercial banks is affected by loans & advances portfolio maintained by the bank. Most of the commercial banks have provided loans & advances to private sectors. It is concluded that the portfolio weight in other sector than private sector only increases the return.

3. Investment portfolio with heavy weight on loans & advances portfolio on private sector has increased the total risk of investment. Increased portfolio weights on loans & advances portfolio to government enterprises and foreign bills p&d decrease the risk i.e. standard deviation.

4. Required rate of return of most of the commercial banks is more than expected rate of return (mean return). The beta coefficient of the investment return is less than 1. It indicates that efficient use of assets and proper allocation in portfolio management.

5. There is positive relationship between the investment on government securities and portfolio return. The increment weight on investment portfolio on government securities reduces the weight on the other sector investment portfolio. This reduction of investment on other sector ultimately decreases the return on portfolio.

6. There is very low negative correlation between loans & advances to private sectors and portfolio return. The increment or decrement in the portfolio weight on this sector has almost indifferent in the total portfolio return.

7. The financial performance of most of the commercial bank is satisfactory in terms of risk & return.

8. The investment portfolio structure of most of the bank is almost similar to each other. Most of them have following the market trend in composing investment portfolio in various sectors, as most of the investment is concentrated to purchase government securities and loans & advances to private sectors. Increase in loans & advances to private sector will maximise the return where as the purchase of government securities reduce the risk. So there is good combination in investment portfolio maintained by the selected commercial banks.

9. While comparing the investment portfolio weight set up by the commercial banks with directives given by the central bank, the banks have not followed the directives. The direction of central bank is, not to invest more than 50% in one sector but most of the banks have made an investment more or equal to 90% of their funds into one sector i.e. government securities & private sectors.

10. Comparing the earning per share of the selected commercial bank, most of the banks have earned better mean EPS with low risk.

11. In the context of portfolio risk and return of Nepalese commercial banks conclude, to increase little bit of portfolio return, bank has to bear higher portfolio risk.

5.3 Recommendations

Based on findings and conclusions of the study, following recommendations are proposed in order to solve the problem corporate investors' (commercial banks) related to portfolio management in the Nepalese context.

1. The total investment fund, comparing it to total deposit of NABIL & EBL is below than average investment to total deposits. 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.

2 The loans & advances to total deposits of HBL & SCBNL are below than average loans & advances. It is recommended to increase in loans & advances, which will help to increase return.

3 Looking at the investment portfolio, most of the banks have made an investment to government securities results decrease in risk but it will also decrease in returns too. Making investment in one sector more than 50% is against the rules & regulations of central banks. So it is recommended that the banks should make an investment to other sectors like shares & debentures along with government sectors results increase in returns.

4 Nepalese commercial 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.

5 Most of the commercial banks have focused their banking services especially on big clients such as multinational companies, large – scale industries, manufactures and exporters of garments and carpets. The minimum level bank balance and amount needed to open an account in these banks are very high. So, small depositors are very far from enjoying the banking facilities provided by such commercial banks. So all these banks should open their doors to the small depositors and entrepreneurs for promoting and mobilising small investors' fund.

6 One of the major objectives of the operation of commercial banks in Nepal is to bring foreign investment into the country. However from the analysis, these commercial banks do not seem to be successful in this aspect. Therefore it is recommended that commercial banks should be active in increasing the foreign investment in Nepal by means of their wide international banking networks.

7 Portfolio condition of a bank should be regularly revised time to time and it should always try to maintain the equilibrium in the portfolio condition of the banks. Basically portfolio management refers to all the allocation of funds into different small components of its assets having different degrees of risk and returns in such a way that the conflicting goals of maximum yield (return) at minimum risk can be properly achieved. The banks should always try to make continuous efforts to explore competitive and highly yielding investment opportunities to optimise its investment portfolio.

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APPENDIX

Investment Portfolio

Banks	Govt. Sec.	Shares & Deben.	NRB Bond
HBL	96.78	3.22	0.00
NABIL	91.00	9.00	0.00
SCBNL	67.55	32.44	0.00
EBL	5.21	4.78	0.00

Return on Shareholders Fund (ROSF)

Banks	Mean (X)	S.D	C.V
HBL	22.79	2.56	11.25
NABIL	31.50	1.83	5.80
SCBNL	36.43	3.91	10.74
EBL	22.84	1.92	8.40

Return On Total Assets(ROA)

Banks	Mean (X)	S.D	C.V
HBL	2.79	0.39	13.97
NABIL	4.83	0.91	18.84
SCBNL	7.19	0.84	11.76
EBL	2.28	0.12	5.11

Earnings Per Share (EPS)

Banks	Mean (X)	S.D	C.V
HBL	55.92	6.18	11.06
NABIL	114.54	16.27	14.21
SCBNL	152.36	16.51	10.83
EBL	66.76	16.40	24.57

Computation of average treasury bills rate (Risk free rate ,Rf)

F/Y	Risk free rate (Rf)
2004	2.93
2005	2.46
2006	2.84
2007	2.42
2008	3.33
Total	13.98
Average	2.80

Source : Banking & Statistics Division,Nepal Rastra Bank

Used Formulae

Beta Coefficient

$$Cov(R_j, R_m) = \frac{B_j}{¢^2_m}$$

Where, B_j = Beta of an asset

$Cov(R_j, R_m)$ = Covariance of returns with market

δ^2_m = Variance of market return.

Expected Rate of Return

$$E(\bar{R}_j)=R_f+(\bar{R}_m - R_f)B_j$$

Where, $E(R_j)$ = Expected return on asset j.

R_f = Risk-free rate of return

$\bar{R}_m$ = Average market rate of return

B_j = Coefficient of beta

Least square linear Trend

$Y = a+bX$

Where,

Y= Values of total deposits/Values of loans & investment of each selected commercial banks.

X= t-2000,i.e origin is at 2000 & X unit = 1 year.

a = Constant which is computed Y-Value

When $\sum X=0$, i.e. $a=\overline{\sum Y}{N}$

b= Constant which is change in Y corresponding to the change in X by one unit.

i.e

$$b = \frac{\sum XY}{\sum X^2}$$

Computation of Expected Return under the CAPM Model

If we assume that unsystematic risk is diversified away, the expected return for stock j is,

$$R_j = R_f + \left(\bar{R}m - R_f\right)B_j$$

Where, $\overline{R_j}$ = Expected return on stock j.

R_f = Risk-free rate of return

R_m = Expected overall return for the market portfolio

Bj = Beta coefficient for security j, which can be calculated as;

$$B_j = \frac{Cov(\overline{R}_j, \overline{R}_m)}{¢^2_m}$$

Where B_j = Beta coefficient for security j.

$Cov(\overline{R}_j, \overline{R}_m)$ = Covariance between the returns on security j and the returns on the market.

Arithmetic Mean

$$\overline{X} = \frac{X_1 + X_2 + X_3 + ... + X_4}{n}$$

Standard Deviation

$$S\tan dardDeviation = \sqrt{\frac{\Sigma X^2}{N} - \left(\frac{\Sigma X}{N}\right)^2}$$

Coefficient of Variation (C.V)

It is calculated as follows:

$$CV = \frac{S.D}{Mean} X100$$

Coefficient of Correlation (r)

The Pearson's formula is

$$r = \frac{\sum\left(X - \bar{X}\right)\left(Y - \bar{Y}\right)}{\sqrt{\sum\left(X - \bar{X}\right)^2\left(Y - \bar{Y}\right)^2}}$$