PORTFOLIO MANAGEMENT OF LISTED COMMERCIAL BANKS IN NEPAL

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INTRODUCTION

Background of the Study

A bank is an institution, which deals in money, receiving it on deposit from customers, honoring customers drawing against such deposits on demand, collection cheques for customers and lending or investment surplus deposits until they are required for payment. In the result days, various types of banks are established for instance industrial bank, commercial bank, agriculture ban, joint stock bank, cooperative bank and development bank. Modern banks are more advanced than the ancient ones. This is because of the growth in population changes occurred in the industrial field and trade, the beginning of the competitive age and changes in the peoples ideology and due to the dependence on each other. (Bhandari, 2003:1)

A portfolio is a combination of investment assets. The portfolio is the holding of securities and investment in financial assets i.e. bonds, stock portfolio management is related to the efficient portfolio investment in financial assets. The portfolio analysis of reformed to develop a portfolio that has the maximum return at whatever level of risk and an investor thinks appropriate. If portfolio is being constructed they can reduce unsystematic risk without loosing considerable return, therefore we need to extend our analysis of risk and return of portfolio context.

Portfolio management is concerned with efficient management of portfolio investment in financial assets, including shares and debentures of companies. The management may be by professionals, by others or by individual or a corporate unit is the holding of securities and investment in financial assets. These holding are the result of individual preferences and decisions regarding risk and return. The process of portfolio

management is closely and directly linked with process of decision-making the correctness of which cannot be ensured in all cases.

A portfolio is the collection of investment securities. Portfolio theory deals with the selection of optimal portfolio; that is, portfolios thus provide risk for any specified degree of risk for any specified rate of return.

According to the Weston and Brigham (1982), "A portfolio simply represents the practice among the investors of having their funds in more than one asset. The combination of the investment assets is called a portfolio."

According to Cohen, Zinbarg and Zeikel (1978), "Portfolio management is the art of handling a pool of funds so that it not only preserves its original worth but also overtime appreciates in value and yields an adequate return consistent with the level of risks assumed.

According to Keith Ambachtscheer, "Portfolio management concerns itself with selecting 'god' stocks or bonds are funding." Portfolio management of bank assets basically means allocation of funds to different components of banking assets having different degree of risk and varying rates of return in such a way that balance the conflicting goal of maximum yield and minimum risk.

Investment is the employment of the funds with the aim to achieving addition income of growth in value. It involves the commitment of the resources that have been saved or put away from consumption, for the future. Investment involves long-term commitment and waiting for the reward. An investor involves in the sacrifice of current rupees for the future rupees. The sacrifice takes place in the present and is certain while the reward comes later and is uncertain. The investor can invest the fund

in the two types of assets. They are real assets and financial assets. Real assets investment involves some kind of tangible assets such as building, machinery, auto-mobiles, etc. Financial investment is pieces representing and indirect claim to real assets held by someone else. These pieces of paper are common stock, bond, debentures, etc. which represents as the liquid assets.

Frank and Reilly defines "An investment is the current commitment of funds for a period of time to derive a future flow of funds that will compensate the investing units for the time funds are committed, for the expected rate of inflation and also for the uncertainty involves in the future flow of the funds."

Every investor has a wide area of investment avenue such as common stock, preferred stock, debt securities, derivative securities, hybrid securities, real assets; mutual fund, etc. Common stock represents ownership position in a corporation. It has a residual claim means after the payment of the creditors and preference shareholders and all the other claims only when the common stockholder gets the value. In bankruptcy, common stockholders are, in principle, entitled to the assets remaining after all prior claimants have been satisfied. The risk is the highest with common stock investment. When the investors buy the common stock they receive certificate of ownership in the company. The certificates state the number of shares purchased and their paid value. In Nepal, as per the provision of Nepal Company Act 2053, no common stocks are allowed to issue without par value. Its par value must be either Rs.10 or Rs.100. Common stock has one important characteristic. Their investment value and average market price then to increase regularly but persistently over the decades as their net worth builds through the reinvestment of undistributed earnings. However, most of the time,

common stocks are subject of irritations and excessive price fluctuation in either direction as most people are speculative or gambles.

Every investment involves uncertainties that make future investment return risky. Some sources of uncertainty that contribute to the investment risk are interest rate risk, market risk, default risk, call ability risk, convertibility risk, political risk and industry risk.

The Nepalese investor is constrained by a large number of environment influences, which he must consider before making a choice of investment. The Nepalese investment scene has many schemes; it appears that he investor has a wide choice. Nepalese investor doesn't have complete information about the different investment. Many investors have made instantaneous investment and regretted latter. The Nepalese investors find this situation a very complex one. There are few questions that they would like to assess before making choice. The investor as it appears is vulnerable, misguided and misinformed about the techniques of making investment.

A portfolio is a bundle of combination of individual assets or securities. If investor holds a well-diversified portfolio, then his concern should be the expected return and risk of the portfolio return theory provides the normative approach to the investors' decision to investment in assets or securities under risk. The objective of the portfolio analysis is to develop that has the maximum return at whatever level of risk, the investor deems appropriate.

Meaning of the Commercial Banks

Commercial banks are those financial institutions deal with accepting deposits of the person and institutions and giving loan against securities. They provide working capital needs of trade industries and even to

agricultural sectors. Moreover, commercial bank also provides technical and administrative assistance to industries trade and business enterprises. Commercial banks pool together the saving of the community and arrange them for the productive use. They transfer monetary sources from savers to users. In addition to above, the main purpose is to uplift the backward sector of economy.

Commercial bank is a corporation; which accepts demand deposit subject to check and makes short term loans to business enterprises, regardless of the scope of its other services. Commercial banks are the heart of the financial system. They make fund available through their lending and investing activities to borrower, individuals, business and services for producer to customers and financial activities of the government. So, commercial banks are those financial institution which collects loan against proper securities for their productive purpose.

After the announcement of liberal and free market economic based policy, Nepalese banks and financial sectors having greater network had access to the national and international market. They have to go with their portfolio management very seriously and superiority. They are fighting with various challenges in order to increase their regular basis of income as well as to enrich the quality base of service for the attraction of good clients. In this competitive and market oriented open economy, each and every commercial banks and financial institution has a determining role by evidencing various opportunity for the sake of expanding provision of best service to their customers and by making themselves as a strong and potential financial intermediaries as per country's need of present scenario to obtain the desire level of economic development of nation.

No doubt, if commercial banks and financial institutions has to gain prosperity without delay, they should immediately start to improve

customer service quality of high standards to reflect tremendous opportunities in the market for their customer benefit like managing their risk, giving them the advantage of global strength, insights and philosophy because this can make the customer take full confidence to expands their transaction further more with best approach and full secured for each investment made to earn superior returns overtime.

Nepal being listed among least developed countries the commercial banks have play a catalytic role in the economic growth. Its investments range from small-scale cottage industries to all type of social and commercial loans and large industries. Generally the investment of the CBs include the investment on government securities like Treasury Bills, Development Bonds, National Saving Bank, Foreign Government Securities and Shares of Government Owned Companies, Investment on Debentures and similarly the CBs used their funds as loan and advances.

The guidelines given by Nepal Rastra Bank play a significant role in the composition of the bank portfolio. Portfolio management activities of Nepalese bank are in developing stage, however on the other hand most of the joint venture banks are not doing such activities so far.

Objectives of the Portfolio Management

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 These considerations may be taken into account and an overall view obtained through a matrix approach by allotting marks for each consideration totaling them. The investors would like to have the following objectives of portfolio management.

a) Capital
b) Safety or security of an investment’

c) Income by way of dividends and interests,

d) Marketability

e) Liquidity

f) Tax planning- capital gains tax, income tax and wealth tax,

g) Risk avoidance or minimization of risk.

Securities Market

Capital plays a vital role in the economic development of the country. Nepal being one of the least developed countries in the world to make every possible endeavor to efficiently mobilize the available capital. The need of securities market development in Nepal has been an accepted reality; however, it has not been develop at desired rate. The growth of the economy very much depend on the strength and efficiency of its securities markets.

Security market is the place where securities are brought and sold through intermediary networks. It acts as the mechanism for bringing together buyers and sellers of financial assets in order to facilitate trading.

Security market helps in proper mobilization of fund by facilitating the fund transfer between those who have and those who uses hence contribute immensely in economic growth.

The securities markets help to channel public savings to industries and business enterprises. Mobilization of such resources for investment is certainly a necessary condition for economy to tale off, but the quality of their allocation to various investment projects is as important as a factor for growth. Securities market help liquidation, which increases corporate sector productivity. Securities markets also accelerate growth indirectly by reducing risk, which encourage firm investment.

Historical Background of Securities Market

The history of securities market began with the flotation of shares to the general public by Biratnagar Jute Mills and Nepal bank limited in 1937.Introduction of the company Act in 1964, the first issue of Government Bond in 1964 and the establishment of Securities Exchange Center Ltd. In 1976 were other significant development resulting to capital markets. Securities Exchange Center was established with an objective of facilitating and promoting the growth of capital markets. The SEC was the only institution at that time managing and operating primary and secondary of long-term government and corporate securities.

A need to develop different institutional mechanism relating to securities market was strongly felt to avoid potential conflict of interest between the services provided. Therefore in 1993, with a mandate to regulate and develop the securities market, securities board of Nepal (SEBO) was established.

Statement of the Problem

Investment is the exchange of financial claim-stocks and bonds, etc. Investment is the employment of funds with the aim of achieving additional income growth in value. It involves the commitment of resources that have been saved or put away from current consumption in the hope that some benefits will accrue in future. Investment involves long-term commitment and waiting for reward.

There are many individual and institutional investors to assist the process of economic development of country. The main problem of most under developed countries like Nepal is capital formation and proper utilization. In such countries, institutional as well as individual investors have more responsibilities to avoid above problem and they have to contribute to the national economy. In the present situation, Nepalese investors, they may

be individual or institutional do not seem to be capable to invest their funds in more profitable sectors. They are found to be more interested in investment in less risky and liquid sectors only. Nepalese investors have formulated their investment policy in an unorganized manner. They do not consider portfolio optimization. They have no clear idea about portfolio and its method of analysis and they do not have their own clear vision towards investment portfolio. Nepalese investors have made instantaneous investment and regretted later. The investor as it appears is vulnerable misguided and misinformed about the techniques of making investment.

Objectives of the Study

The main objectives of the study are to analyze the risk and return of common stock investment. The specific objectives of the study are as follows:

- To evaluate common stock investment in terms of risks and return.
- To analyze the risk and return using portfolio diversification.
- To analyze the systematic risk and unsystematic risk of individual stocks.
- To evaluate the minimum variance portfolio between two stocks.

Research Questions

- What is the risk and return situations of common stock investment in different banks?
- How can the investors minimize the portfolio risk investing in two stocks?
- How do investors analyze the risk and return using portfolio diversification?
- What are the systematic risk, unsystematic risk and total risk of common stocks for different banks?

Significance of the Study

This study will be concise, practical, usable and valuable to the major parties intended in portfolio management of investors. This will be useful to the management students, researchers and even to the experts. Nepalese investors or institution do not have clear view towards effective investment. They follow traditional and in effective investment policy.

They are found to be interested in investment in less risky assets. Hence, the significance of this study will be minimize risk in common stock investment and maximize return through portfolio analysis, the study will fulfill the need in this aspect. It will help also as a literature for the further study about the related topics of financial performance and portfolio management. Similarly, the firms would follow the suggestion of this to make their policy and strategy more practical and scientific.

Limitation of the Study

In the context of Nepal, availability of the data is major problem for the study. There is a considerable place for arguing about its accuracy and reliability. There are many limitations, which weaken the generalization i.e. inadequate coverage financial sector, time periods takes and other variables. Besides these following specific limitations also mentioned.

- Only financial aspects are analyzed, other performance of the bank is neglected while providing suggestion.
- This study is based on secondary data.
- This study has taken (HBL, SBI, NCC Bank, Nabil Bank and NIBL)
- It is based on data of five year period. i.e. 2005 to 2010.

Organization of the Study

Chapter One

Introduction: the introduction chapter included general background, statements of problems, objectives of the study, significance of the study and limitation of the study.

Chapter Two

Review of literature: the review of literature include review of the theories of the concerned topic, review of supportive text, review of books, review of various experimental studies conducted inside and outside of the country, review of related article and review of legislation related to commercial banks.

Chapter Three

Research methodology: it includes the research methodology to conduct the study and tools and technique used in the analysis of the data as well. This includes research deign, source of data analysis, various financial and statistical tools.

Chapter Four

Data presentation and analysis: it explains the data presentation and analysis, scoring the empirical findings out of the study through definite source of research methodology. Investment operation of banks risk and return on investment are mentioned. It also contains major finding of the study.

Chapter Five

Summary, conclusion and recommendation: it includes the summary of the study, conclusion of the main findings and recommendation for further investment.

Bibliography and appendix are also attached at the end of this dissertation.

Data Analysis Tools

Various financial and statistical tools were used to analyze the data. Holding period return, expected rate of return, standard deviation, co-efficient of variation, correlation co-efficient, portfolio risk and return, beta co-efficient were used in the study. A brief explanations of statistical and financial tools employed in this study is given below.

Financial Tools

In order to analyze various data, different financial tools have been used. They are:

Holding Period Return

Holding period return (HPR) is defined as

$$\text{HPR} = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$$

Where,

P_t = Ending price of stock

P_{t-1} = Beginning price of stock

D_t= Cash Dividend

Portfolio Expected Return

The expected return of the portfolio is the weighted average of the expected returns of the individual assets in the portfolio. The weights are proportion of the investor wealth in each asset, and of the sum of the weights must be equal to one.

Portfolio return (R_p) = $W_A R_A + W_B R_B + \ldots\ldots + W_N R_N$

Where,

R_p = Portfolio return

W_A = Weight of investment invested in stock 'A'

W_B = Weight of investment invested in stock 'B'

R_A = Expected return for stock 'A'

R_B = Expected return for stock 'B'

Portfolio Risk

The calculation of a portfolio risk is not as straightforward as the calculation of portfolio expected return. In order to calculate the risk of a portfolio, consideration must be given not only to the risk of the individual assets in the portfolio and their relative weights but also to the extent to which assets' return move together. We measure the risk of an individual asset by the variances of returns or its square root, the standard deviation. The degree, to which the assets' return moves together, is measured by the covariance or correlation coefficient. By combining the measures of individual assets risk (Variance or standard deviation), relative asset weights and the co-movement of assets' returns (Covariance or standard deviation), the risk of portfolio can be estimated.

The portfolio risk is measured by either variance or the standard deviation of returns. "The portfolio risk is affected by the variance of returns as well as the covariance between the return of individual assets included in the portfolio and respective weights."

The variance of returns from portfolio made up an asset is defined by following equation:

$$\text{Variance } (\sigma p^2) = \sqrt{W_A^2\sigma^2_A + W_B^2\sigma_B^2 + 2W_AW_B \text{ COV } (r_A r_B)}$$

$$\sigma p = W_{A^2}\, \sigma_{A^2} + W_{B^2}\, \sigma_{B^2} + 2\, W_A\, W_B\ \text{COV}\ (r_A\ r_B)$$

Where,

σp = Standard deviation of portfolio rate of return

σ_A = Standard deviation of Stock A

σ_B = Standard deviation of Stock B

W_A = Weight of Stock A

W_B = Weight of Stock B

COV ($r_A r_B$) = Covariance of return between assets A & B

The covariance is related to correlation as shown in equation

COV ($r_A r_B$) = $P_{AB}\ \sigma_A \sigma_B$

Minimum Risk Portfolio

It is the portfolio with the lowest level of risk in the efficient frontier. It is also called risk minimizing weight or optimal weight. In two stocks portfolios, the optimal weight to invest in stock A and B are calculated as follows:

$$W_A = \frac{\pm^2 B - P_{AB} \pm_A \pm_B}{\pm^2 A + \pm^2 B - 2P_{AB} \pm_A \pm_B}$$

Portfolio Beta

The portfolio beta is the weighted average of the individual betas. The portfolio beta is calculated by using the following formula.

Portfolio Beta (βp) = $\Sigma W_j B_j$

Where,

W_j = Proportion of portfolio B_j = Beta coefficient of assets j

Statistical Tools

The following statistical tools have been while making analysis of data. Expected Return (Arithmetic Mean) Expected return is the arithmetic average of the historical returns forecasted for next period. It is obtained by dividing the sum total of the return by the number of the observation. In probability distribution, the expected return is obtained as the weighted average of the probability and the forecasted return.

$$\Sigma(R_m) = \frac{\sum R_m}{N}$$

Standard Deviation

Standard deviation (S.D) is defined as the positive square root of the mean of the deviations taken from the arithmetic mean. It is denoted by σ. It is said to be the best measure of the dispersion as it satisfies most of the requisites of a good measure of dispersion. Standard deviation is an estimate of the likely divergence of an actual return from an expected return. It measures the risk of the return. The higher the standard deviation, more risk will be in the assets.

$$\sigma_m = \frac{\sum (R_m - \bar{R}_m)^2}{N-1}$$

Where,

σ_m = Standard deviation of market

R_m = Risk of market

$\bar{R}_m$ = Expected return of market

N = No. of Observation

Variance

Variance is the square of standard deviation. It is denoted by sigma square (σ^2). It is the sum of the squared deviation from mean divided by no of observations in case of historical returns. In case of probabilities distribution, it is the sum of the squared deviations multiplied by the probabilities.

$$\sigma^2 = \frac{\sum (R_m - \bar{R}_m)^2}{N-1}$$

Where,

σ^2 =Variance

R_m = Risk of market

$\bar{R}_m$ = Expected return of market

N = No. of observation

Co-efficient of variance (CV)

Co-efficient of variance is the standardization measure of risk per unit of return. It is calculated as the standard deviation divided by the expected rate of return. It provides a more meaningful basis for a comparison when two investments of different expected return and standard deviation are to be compared. Other things held constant, the lower the CV, if ER is the arithmetic mean and the standard deviation distribution, then the C.V. is defined by;

$$C.V = \frac{\pm}{R}$$

Where,
σ = Standard Deviation

R = Expected Return

Total Risk

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

Total Risk = Diversifiable Risk + Undiversifiable Risk

Diversifiable Risk / Unsystematic Risk

Diversifiable risk is also known as unsystematic risk. This type of risk is unique to an organization and can be largely eliminated by holding a diversified portfolio of investment. It is caused through the event like,

labor strikes, management errors, invention, advertising campaign, and shifts in consumer taste, availability of raw materials. It can be stated as:

Unsystematic Risk = Total Risk - Systematic Risk

$$\text{Var (e)} = \sigma^2_j - \beta^2_{jm}\ \sigma^2_m$$

Where,

Var (e) = Variance of standard error

Un-diversifiable Risk / Systematic Risk

Un-diversifiable risk is known as the systematic risk. This risk is that portion of total risk variability in return caused by market factor (also called market risk) that simultaneously affects the price of all securities. The risk creates due to the changes in macro economic factor like interest rate, inflation, investors' expectations, gross domestic product (GDP) etc. un-diversifiable risk is that part of total risk that can not be eliminated by allocating capital to a diversified portfolio of investment. It can be stated as:

Systematic Risk = $\beta^2_{jm}\ \sigma^2_m$

$$Proportion\ of\ Systematic\ Risk = \frac{Systematic\ Risk}{Total\ Risk} \times 100$$

Proportion or percentage of systematic risk is also measured by coefficient or determination. Coefficient of determination is the square of correlation coefficient. It can be stated as:

$$\text{Coefficient of determination } (\sigma^2_{jm}) = \frac{Systematic\ Risk}{Total\ Risk}$$

$$= \frac{^2 j \pm ^2 m}{\pm ^2 m}$$

Covariance

Covariance is the statistical measure of the relationship between two random variables. This is a measure of how two random variables, such

as returns on securities 1 and “move together”. A positive value for covariance indicates that the securities returns tend to move in the same direction. A negative covariance indicates the tendency for the returns to offset one another. A relatively small or zero value for the covariance indicates that there is a little or no relationship between return for two securities.

$COV_{AB} = R_{AB} \times \sigma_A \times \sigma_B$

Where,

COV_{AB} = Covariance Between Assets A&B

R_{AB} = Correlation Coefficient Between Assets A&B

Correlation

Correlation is the statistical concept measuring the extent to which two variables tend to move together. Here P_{ij} (the Greek letter rhea) denotes the correlation coefficient between the return on security I and the return on security j. The correlation coefficient rescales the covariance to facilities compassion with corresponding values for the other pairs of random covariance variables. Correlation coefficient always lies between -1 to 1. The value of -1 represents the negative correlation and a value of 1 represents perfect correlation. Most cases lies between these two extremes values. When two values have no relationship, they are uncorrelated, and the correlation coefficient is zero. If the two assets have perfectly negative correlation, the minimum risk of the portfolio of these assets is zero meaning it is possible to create a risk less portfolio by perfectly negative correlated assets. If the assets are perfectly positively correlated, no risk can be reduced by making the portfolio of such assets. If the correlation is less than 1, risk reduction is possible by making the portfolio.”

Correlation co-efficient between two assets returns can be calculated as below:

$$\text{Cor}\,(r_i r_m) = \frac{COV\,(r_i r_m)}{\pm_i \pm_m}$$

$Cor(r_i r_m)$ = Correlation of stock I and market

$COV\,(r_i r_m)$ = Covariance of stock I and market

Beta Coefficient

The beta coefficient, b is used to measure non-diversifiable risk. It is an index of the degree of movement of assets in response to a change in the market return. The beta coefficient of an asset can be found by examining asset's historical returns relative to the returns for the market. The market return is return on the market portfolio of all traded securities." Using the beta coefficient, to measure non- diversifiable risk, the capital assets pricing model (CAPM) is given:

$$\beta_j = \frac{COV\,(r_i r_m)}{\pm^2_m}$$

Where,

β_j = Beta coefficient of stock j

$COV\,(r_j r_m)$ = Covariance of return for assets "I" with the market

$Var(r_m)$ = Variance of return for market portfolio or individual assets

Major Findings

- The expected return of Himalayan bank is 0.0651 i.e. 6.51% which is low in comparison to the risk involved. The standard deviation of the bank is 0.3792 i.e. 37.92% and it can be considered as the moderate level of risk. And the coefficient of the variation of the bank is 5.825, it seems to be risky to invest in the common stock of Himalayan Bank Limited.

- The covariance of HBL is 0.1536. Its beta is less then 1, So it is defensive and the change in the market price doesn't affect the banks stock price correlation between HBL and market is 0.9487, which is almost equal to+1. So return on stock of Himalayan Bank Ltd is highly positively correlated with the return of the market.
- The expected return of Nabil bank is 0.225 i.e. 22.5% which is good in comparison to the risk involved. The standard deviation of the bank is 0.625 i.e. 62.5% and it is risky stock. The coefficient of the variation of the bank is 2.778.
- The covariance of Nabil Bank is 0.2347 & Beta is 1.288. Its beta is greater then the market beta 1, so it is aggressive. Correlation between NABIL Bank and market is 0.8797, which is almost equal to 1. So return on stock of NABIL Bank is positively correlated with the return of the market.
- The expected return of SBI bank is 0.287 i.e. 28.7%, which is satisfactory as the risk involved is high. The standard deviation of the bank is 0.5691 i.e. 56.91% and it can be considered as the more risky. The coefficient of the variation of the bank is 1.983, it seems to be less risky to invest in the common stock of SBI Bank Limited.
- The covariance of SBI bank limited is 0.2053. Its beta is 1.127. The calculated beta is greater then the market beta 1, so it is aggressive. It indicates greater reaction of the stock with the given movement of the market status.
- Correlation between SBI Bank and market is 0.8452, which is almost equal to 1. So return on stock of SBI Bank Ltd is positively correlated with the return of the market.

- The expected return of NIBL is 0.097 i.e. 9.7%, which is low comparison to the risk involved. The standard deviation of the bank is 0.4721 i.e. 47.21% and it can be considered as the moderate level of risky. The coefficient of the variation of the bank is 4.87, it seems to be risky invest in the common stock of Nepal Investment Bank Limited.
- The covariance of Nepal Investment Bank Limited is 0.1767. Its beta is 0.9698. The calculated beta is equal to then the market beta 1, so it is aggressive. It indicates greater reaction of the stock with the given movement of the market status.
- Correlation between Nepal Investment Bank and market is 0.8769, which is almost equal to 1. So return on stock of NIBL is positively correlated with the return of the market.
- The expected return of NCC Bank Limited is 0.3458 i.e. 34.58%, which is good but low comparison to the risk involved. The standard deviation of the bank is 1.0243 i.e. 102.43% and it can be considered as the highest level of risky.
- The coefficient of the variation of the bank is 2.96, it seems to be risky invest in the common stock of NCC Bank Limited.
- The covariance of NCC Bank Limited is 0.1751. Its beta is 0.9610. The calculated beta is equal to then the market beta 1, so it is aggressive. It indicates greater reaction of the stock with the given movement of the market status.
- Correlation between NCC Bank Limited and market is 0.400, so return on stock of NCC Bank Limited is positively correlated with the return of the market.

- The expected return of the NEPSE index is 0.157 i.e. 15.7% which is quite good in comparison to the return of commercial banks. The risk of the NEPSE index is also not so high. Since the standard deviation is 0.4269 i.e. 42.69% we can consider it as an average risk. Similarly, the coefficient of variation is 2.719. The trend of return is good in 2008, but than starts decreasing rapidly from 2009 to 2010.
- The expected return of NCC Bank is 34.58% which is higher in comparison to other banks. Himalayan Banks expected return is the lowest which is 6.51%. Similarly, on the basis of standard deviation investment in the common stocks of NCC Bank Ltd is more risky followed by NABIL Bank Ltd.
- Most of the banks have beta coefficient less than 1, except NABIL Bank Ltd and Nepal SBI Bank Limited, which indicates they are less volatile or less sensitive to the market in comparison to the other commercial banks. Therefore the stocks are said to be average stock in the market.
- Both the banks i.e NABIL Bank and Nepal SBI Banks have beta coefficient of 1.288 and 1.127 respectively that means it is very highly volatile to the market risk. It is also considered as the aggressive stock. The investor who is risk averter can invest in this type of stock.
- All the banks have positive correlation with market return. Although NCC Bank Ltd is positively correlated with the market return but it is not highly correlated as other banks. HBL is highly positively correlated with market return which means it is sensitive to the market return. Since they are positively correlated, no risk can be reduced by making the portfolio of such assets. But

correlation of NCC Bank is 0.400 which is quite low, so risk reduction is possible by making the portfolio such assets.

- Total risk is the composition of systematic risk and unsystematic risk. The above table shows that according to the standard deviation NCC Bank has the highest total risk which is 1.049. So the stock of NCC Bank is considered more risky to invest.
- The stock of HBL is less risky because it has the lowest total risk among the all. Systematic risk is that kind of risk which cannot be eliminated by allocating capital to the diversified portfolio of investments. So in accordance to the systematic risk NABIL Bank Ltd is considered more risk as it has the highest systematic risk which is 0.3022. So if investor considers systematic risk as the decision factor then it is highly risky to invest on the stock of NABIL Bank Ltd.

Summary

Bank and other financial institutions plays vital role in the economic development of the country. Integrated and speedily development of the country is possible only when competitive banking and financial service reach corner of the country. Successful formation of investment is prime essential for the successful performance of the banks and other financial institutions. Good investment policy has a positive impact on the economic development of the country and vice-versa.

In its broad sense, an investment is a sacrifice of the current money or other resources for future benefits. Numerous avenues of investment opportunities are available today. A good investment policy has positive impact on the economic development of the nation and the investor too but some of the sources of uncertainty that contribute to the investment

risk are interest rate risk, market risk, default risk, political risk and industry risk. As an investor, everyone has a wide area of the investment avenues available such as common stock, preferred stock, debt, securities, derivative securities, hybrid securities, real assets, mutual fund etc. among them this study is concerned with common stock and investment on the common stock of banking sector. Common stock represents the ownership position in the corporation.

Investment in common stock leads investment in the stock market and it is also main part of the investment sector. Nepalese people's participation in common stocks investment and stock trading is increasing unexpectedly. But the investment in the common stock is not so easy. Without the sound knowledge about the situation of the market and individual company may cause of loss. Unfortunately most of the Nepalese private investors cannot analyze the securities as well as market properly as a result they are bearing loss.

Portfolio means the selection of the securities among all securities. It represents the practice among the investors having their funds in more then one security and portfolio analysis considers the determination of future risk and return in holding various blends of individual securities.

The main objective of the study is on portfolio analysis of the common stock of different listed commercial banks of Nepal. Expected return, required rate of return, CAPM model and statistical models like mean, standard deviation, coefficient of variation, covariance, correlation and beta are calculated and analyzed. The study is focus on the portfolio analysis of five commercial banks of Nepal; they are Himalayan Bank Limited, Nepal SBI Bank Limited, Nepal Credit and Commerce Bank Limited, NABIL Bank Limited and Nepal Investment Bank Limited.

All the data used in the study are secondary data. The data which are of secondary nature are collected from the NEPSE and SEBON and their respective websites. Other subjective types of information are collected through personal contact with private investors, personnel of companies and officials of SEBON and NEPSE. Financial tools, statistical tools and personal judgment are used. The data gathered for this purpose are presented in table and graphs. This study has been summarized with the help of risk diversification.

Conclusion

The risk and return analysis is the major tools used in this study. Risk and return of the individual banks are calculated and analyzed. It is observed that this analysis can give better results only when the long range of post information is available. But as most of the banks do not have long history, the results might not explain fully what is intended to.

On the basics of the expected return analysis, NCC Bank seems to be more lucrative to invest as it has higher expected return which is 0.3458 i.e. 34.58%. NABIL & Nepal SBI Bank has also high expected return i.e. 28.7% & 22.5% respectively. But the expected returns of HBL & NIBL are 6.51% and 9.7% respectively, which is quite low in comparison to Nepal SBI, NCC Bank and NABIL Bank Limited. Standard deviation is calculated to analyze risk of different individual banks. On the basics of SD, NCC Bank seems to be more risky to invest although it has higher expected return with standard deviation 1.0243. NABIL, SBI and NIBL have moderate level of risk i.e. 0.625, 0.5691 and 0.4721 respectively. Stocks of these banks are also risky to invest. Among all HBL has lowest risk i.e. 0.3792. Calculation of coefficient of variation shows common stock of HBL seems to be more risky. The common stock of NABIL and

Nepal SBI Bank seems to be less risky to invest. But the stock of NIBL and NCC Banks are also risky to invest for the investor.

Most of the banks have beta coefficient less than 1 except NABIL & Nepal SBI Banks, which indicates they are less sensitive to the market. Therefore these stocks are considered as the average stock to invest. Betas of NABIL & SBI are more than 1, so it is an aggressive kind of stock. It indicates the greater reaction to the stock with the given movement of the market status. All the banks have positive correlation with the market return. NABIL, SBI, NIBL and HBL are highly positively correlated which indicates it is sensitive and no risk can be reduced by making portfolio of such assets. But correlation of NCC Bank is quite low, means risk can be reduced by making portfolio with such assets.

In accordance to the systematic risk NABIL and SBI Bank are considered more risky to invest since they have systematic risk of 0.3022 and 0.2314 respectively. Himalayan Bank has the lowest systematic risk i.e. 0.1295. Similarly, NIBL and NCC are considered as average stock and still risky to invest.

The construction of the portfolio between different banks is done to analyze and find suitable portfolio which good expected return and has lower level of risk. The combination of HBL and NABIL, HBL & SBI, HBL & NIBL, HBL & NCC, NABIL & SBI, NABIL & NIBL, NABIL & NCC, SBI & NIBL, SBI & NCC, NIBL and NCC are calculated and analyzed. In accordance to the expected rate of return portfolio between NSBI and NCC has the highest return which is 0.30. So this can be considered as the best portfolio to invest. And the portfolio which has the lowest expected return is 0.0771 of HBL & NABIL. So this portfolio is not suitable for investment.

Portfolio standard deviation which measures the risk is also calculated to analyze the portfolio risk. The entire portfolios have almost same kind of risk. Portfolio standard deviation between NABIL and NCC is highest which is 0.678 i.e. 67.8%. So it is more risky than other portfolio. But the combination of HBL and NIBL is less risky because its standard deviation is 0.3894 i.e. 38.94%. So if the investor wants to take risk than he can invest in NABIL & NCC other wise NIBL & HBL is the best option for the investment.

Recommendation

On the basics of the analysis and findings of the study, following recommendations are suggested to overcome the weakness and inefficiency and to improve the present situation of the concern.

- **NEPSE Should Manage the Trading of Government Securities**

To provide different types of securities at the same place to investors NEPSE should manage the trading of government securities. It will increase the opportunities for well diversification of the funds and it will also increase the private participation in government securities

- **NEPSE Should Gives Correct Information in Time**

NEPSE needs to modernize the trading system and effective information channel. It needs to develop different programs for private investors. These programs will contribute to increase investor's rationality as well as market efficiency. The listed companies should operate their activity smoothly. They should publish their annual reports and information timely and correctly which will help the investors to take the investment decisions on their common stocks.

- **Information should be go there'd & Analyzed**

Information regarding the investment and other opportunities should be gathered and analyzed before making investment. An investor should assure that the price will goes up or it won't fall however the price of the stock does not tackle with the trend values. Before the purchase of the stock investor should be clear about the horizon i.e. long position or short position.

- **Investor should select the best Portfolio**

Investors need to diversify their funds to reduce risk. Efficient portfolio depends on market movement. For the portfolio construction investor should select the stocks that have higher return and negative correlation or moderate positive correlation between stocks of different companies and sectors. Similar stocks cannot diversify risk properly.

Investor should follow the following guidelines: focus on fundamentals but keep an eye on technical, diversify moderately and periodically review and revise of portfolio. It is possible to beat the stock market but proper analysis of individual security, industry and overall market is always essential. General knowledge about economic, political and technological trend if advantageous.

- **Investors Need Knowledge about Portfolio Management**

Finally, investment in common stock is not easy. So investors should learn about the operations of the security market, the characteristics of various investment avenues available to them, the concept of time value and money, the basics models of security evaluation, the approach of fundamental analysis, the tools of technical analysis, the insights provided by modern investment research and the way of resolving the key issues relating to the process of portfolio management.