PORTFOLIO MANAGEMENT OF COMMERCIAL BANKS IN NEPAL

A Dissertation submitted to the Office of the Dean, Faculty of Management in partial fulfillment of the requirements for the Master's Degree

By

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Certification of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled "Portfolio management of commercial banks in Nepal". The work of this dissertation has not been submitted previously for the purpose of conferral of any degree nor has it been proposed and presented as part of requirements for any other academic purposes.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the references sections of the dissertation.

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Report of Research Committee

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Abbreviations

CBs	=	Commercial Banks
COV	=	Covariance
CV	=	Coefficient of variation
DPS	=	Dividend per share
EBL	=	Everest Bank Limited
F/Y	=	Fiscal Years
Govt.	=	Government
HPR	=	Holding Period Return
i.e.	=	That is
IEGS	=	Interest earned from government securities
IELA	=	Interest earned from loan and advance
IGS	=	Investment on government securities
ILA	=	Investment on loan and advance
L/A	=	Loan & advance
Ltd.	=	Limited
MPS	=	Market price per share
NIBL	=	Nepal Investment Bank Limited
NMB	=	NMB Bank Limited
NRB	=	Nepal Rastra Bank
r	=	Correlation coefficient
R^2	=	Coefficinet of determinants
ROA	=	Return on Assets
ROE	=	Return on Equity
ROI	=	Return on Investment
S/D	=	Share and debentures
&	=	And

Abstract

The main objective of the study is to analyze the portfolio investment management of commercial banks in Nepal over the ten years' period. This study used investment portfolio choice (share and debenture, governmenet securities, loan and advance and size) as a proxy for financial performance. In the present study, portfolio investment management has been analyzed by analyzing the government securities, loan & advance and share & debentures. Further, this study also focused on financial position of commercial banks in Nepal. For these purpose, return on investment, return on assets and return on equity are calculated and analyzed. In order to select the sample, judgmental sampling technique is used. The study used secondary data, which were collected from the Economic Bulletins of NRB and sample banks' annual reports from 2009/10 to 2018/19. This study adopts descriptive and analytical research design. The findings from the study showed that the portfolio investment management of commercial banks is not satisfactory. The study also concluded that there is sufficient impact of investment portfolio choice on financial performance of commercial banks in Nepal.

CHAPTER-I

INTRODUCTION

1.1 Background of the Study

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

In most years, banks are the leading buyers of bonds and notes issued by government to finance public facilities, ranging from hospital and football stadium to airport and highways. Moreover, bank reserves the principal channel for government economic policy to stabilize the economy. And banks are also the most important sources of short-term working capital needed for the businesses. They have become increasingly active in recent years in making long-term business loans for new plant and equipment. When businesses and consumers must make payments for the purchase of goods and services, more often they use bank provided cheques, credit or debit cards, or electronic accounts connected to a computer network. It is the banker to whom they turn most frequently for advises and counsel when they need financial information and financial planning (Pokharel, 2009).

An investment in any funds is made to have some positive rate of return. Nobody is ready to bear risk without any return but to have returned one must ready to face some risk. To minimize the risk at the given rate of return the concept of portfolio diversification is necessary. Portfolio is simply a collection of securities gathered to achieve certain investment goals. "Investment positions are undertaken with the goal of earning some expected return. Investors seek to minimize inefficient deviations from this expected rate of return. Diversification is essential to the certain of an efficient investment because it can reduce the variability of returns around the expected return" (Francis, 2003).

A portfolio is a combination of investment 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 is reformed to develop a portfolio that has the maximum return at whatever level of risk and investor thinks appropriate. If portfolio is being constructed, they can reduce unsystematic risk without losing considerable return, therefore we need to expand our analysis of risk and return of portfolio context. "Portfolio means a collection or group of assets. Investment portfolio refers to an investment that combines several assets. It is a collection of securities. Portfolio means the lists of holdings in securities owned by an investor or institution." (John & Edmund, 1997)

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 individuals themselves. A portfolio of an individual or a corporate unit is the holding of securities and investment in financial assets. These holdings are the result of individual preferences and decisions regarding risk and return. The process of portfolio management is closely and directly linked with the process of decision making the correctness of which cannot be ensured in all cases (Jaiswal, 2012).

Portfolio analysis considers the determination of future risk and return in holding blends of individual securities. Portfolio expected return is a weighted average of the expected return of the individual securities. Investment portfolio is one which the income or profit of the banks should never invest its fund in those securities; difference may cause a great loss. "Portfolio means a collection or group of assets. Investment portfolio refers to an investment that combines several assets. It is a collection of securities. "Portfolio means the lists of holdings in securities owned by an investor or institution." (John & Edmund, 1997)

It must not invest its funds into speculative business man who may be bankrupt at once and who may earn millions in a minute. The bank should accept that type of securities which are commercial, durable, marketable stable, transferable and high market prices. A commercial bank can maximize its volume of wealth through maximization of return on their funds' investments and lending. So, they must invest their funds where they gain maximum profit. The profit of commercial banks mainly depends on the interest rate volume, tenure of loan and nature of investment in different securities while investing excess funds in different securities or at the bank in different securities. While

investing excess funds in different securities or at the lending period, the banks should keep in mind that the people deposit money at the bank in different account with confidence that the bank will repay their money on demand. Similarly, a bank should not lay all its eggs on the same basket i.e., to minimize risk, a bank must diversify its investment on different sectors. Diversification of loan or investment helps to sustain loss according to the law of average because if securities of a company deprived, there may be appreciation in the securities of other companies.

1.2 Statement of Problem

The investing planning of the commercial banks in Nepal heavily depends on the rules and regulations provided by the central bank i.e., Nepal Rastra Bank. So, the composition of the assets portfolio of the bank is influenced by the policy of the central bank. Hence, this is the major problem for the investment in portfolio by banks.

In the present scenario of Nepal, the complex political and economic situation, lack of infrastructural facilities and down fall of lots of industries (private or government) have also become the major problems for the portfolio management for the banks as these all factors have obstructed the investment opportunities for the banks.

After the adoption of economic liberalization policy, the competition for commercial banks have become the burning issue as there is emergency of lots of finance companies, co-operative societies and development banks in the short time span. This has threatened the entire banking system and also made managers to improve their productivity. The credit policy, discount rate policy, interest rate and lending policy also effect the investment decisions of the commercial banks.

There is continuous economic recession going on in the country. Lower volume of the investment is causing lower growth of gross domestic product and hence trade deficit is increasing day by day. As a result, very few entrepreneurs are able to survive and others who are less competitive are backing out from market. Commercial banks are also affected directly by this economic turmoil and facing difficulties in furnishing their loans and advances towards the profitable sectors. In such a situation the commercial banks are bound to invest in government investment like T-bills, T-bonds or government securities which yield lower rate of return in comparison to credit.

Moreover, the Nepalese commercial banks concentrate on the urban areas like Birgunj, Kathmandu, Biratnagar, Butwal etc., making the rural and remote areas deprived of its

modern banking facilities where most of the population lives. Despite of the circular passed by NRB for the compulsory investment for 10% of their investment in the rural areas, banks are inclined in such less profitable sectors. This state of affairs cannot contribute much to the economic development of the country and has also become the problem to commercial banks. In order to find out the portfolio behavior and remedies to their problem, studies commercial banks and researches are to be conducted to explore the reality. So, this study would be one of those efforts to find out the investment pattern of commercial banks in portfolio with the analysis of these banks market returns and financial statements. This study seeks the answers of the following specific problems related to portfolio management practices of Nepalese commercial banks.

i. What is the portfolio investment managed by the commercial banks?
ii. What is the existing situation of financial position of commercial banks in Nepal?
iii. How the investment portfolio choices affect the performance of commercial banks?

1.3 Objectives of the Study

The main objective of the study is to examine the portfolio investment management of the commercial banks of Nepal. This study is focused on investment decisions of banks on portfolio. The specific objectives of the study are as given below:

i. To assess the existing situation of portfolio management of Nepalese commercial banks.
ii. To analyze the financial performance of commercial banks.
iii. To examine the effect of the investment portfolio choices in the performance of commercial banks.

1.4 Significance of the Study

With the introduction to the globalization concept, the whole market acts as a single market. The investment is concentrated not only in one area of place. It has widened its scope. Portfolio management is gaining popularity. Managing portfolios investment is quite a challenging task.

Different parties remain under influence from any business directly or indirectly as every business firm's economic activities should be performed taking into

consideration the economic policy of the state which in turn affects the economic policy of the state and financial condition of the firm. All investors invest their fund on share for getting greater return which is achieved by the organization through value maximization objective. Previously, the investors had to concentrate only on shares of government sectors. But today with the introduction of economic liberalization in the country, various joint venture banks have emerged which have brought in ample of opportunities for investment to the investors in the country. This has been arisen the need of depth study and analysis of risk and return, market sensitivity and hence portfolio management is created.

This study has been significant to various aspects of the economy. This study helps the organization to know about all its financial indicators and the trend in their fluctuation. It also helps the organization to have a clear picture regarding its efficiencies and the performance deviations as well. The outcome of the overall research helps the organization to innovate ways to solve the problems if any. The study also makes an aid to the entire banking industry. The tool can be used to almost all the banks and a comparative study can also be done. It ultimately helps to know about the soundness of the banking sector. Last but not the least, it provides literature to the researcher who want to carry out further research in this field.

1.5 Limitations of the Study

Every study is guided under certain limitation but the researcher has tried to include all the necessary information for the conduct of the study as far as possible. Following are some limitations under which this study has been conducted:

i.   This study is fully based on secondary data.
ii. The time factor is the major limitation for this study has to be completed within a short span of time. The study has covered the data of past fiscal years from 2009/10 to 2018/19.
iii. The study only concerns portfolio management while doing the investment decision.

1.6 Chapter Plan

The study has been organized into following different chapters:

Chapter I: Introduction

This chapter includes the background of the study, statement of problem, objectives of the study, significance of the study and limitation of the study.

Chapter II: Literature Review

This chapter introduces the conceptual framework, review of available literature and research gap.

Chapter III: Research Methodology

This chapter includes the research methodology; it deals with research design, population and sample, sources of data, data collection and processing procedure and data analysis tools.

Chapter IV: Results and Discussion

This chapter concerns with data presentation and analysis. This is the core part of the study. Collected data are presented in the tabular and other forms. Different statistical presentations are used for analysis the collected data by using different financial and statistical tools and techniques. It also includes findings and discussion.

Chapter V: Conclusion

It includes the summary of the study, conclusion and implication.

Besides above chapters, this study consists of separate references and appendices for those materials and books which are used in the process of preparing this thesis report. At the end of the chapter references and appendices has been incorporated.

CHAPTER II

LITERATURE REVIEW

Review of literature is the study of past research studies and relevant materials. It is an advancement of existing knowledge and in-depth study of subject matter. It starts with a search of a suitable topic and continues throughout the volumes of similar or related subjects. This is related to the present research adds new dimension to the study. It is an integral and mandatory process in research work. In this part, focus has been made on the conceptual framework and the review of literature that is relevant regarding to the portfolio management. In this regard, various books, journals and articles concerned to this topic have been reviewed. Review of literature is based on available literature in the field of research. Every possible effort has been made to grasp knowledge and information that is available from libraries helps to take adequate feedback to broaden the information to study.

2.1 Theoretical Review

Every investment is done in order to earn some more wealth. An investment is a commitment of money that is expected to generate additional money. Every investment entails some degree of risk which requires a present sacrifice for the future uncertain benefit. Since this thesis is related to portfolio investment management by banks in Nepal, we shall study about the return, risk and then portfolio analysis in detail with this regard.

2.1.1 Investment

"Investment is the current commitment of funds for a period of time to derive a future flow of funds that will compensate the investing unit for the time funds are committed, for the expected rate of inflation and also for uncertainty involved in the future flow of the funds." (Frank and Keith, 2004)

An investment is the portion of saving; employed in such a way that its value is preserved and some additional income can be generated at a future date. Thus, investment is the current commitment of the savings that compensate for the time involved, the expected rate of inflation and uncertainty involved. To state in other words, an investment is any vehicle into which funds can be placed with the expectation that they will generate positive return and/ or their value will be preserved or increased. Investment, in its broader sense, means the sacrifice of current rupees for the future rupees. Two different attributes are generally involved time and risk. The sacrifice takes

place in the present and is certain. The reward comes later, if at all, and the amount of reward is generally uncertain. "Investment may be defined as the purchase by an individual or institutional investor of a financial or real asset that produces a return proportional to the risk assumed over some future investment period." (Cheney and Moses, 1995)

Investment generally involves real assets and financial assets. Real assets investment involves some kinds of tangible assets such as building, land, machinery; factory etc. and financial assets investment are pieces of paper such as stocks, bonds, T-bill etc. representing an indirect claim to real assets held by someone else. Real assets are generally less liquid than financial assets. "Investment brings forth vision of profit, risk, speculation and wealth. For the uninformed, investing may result in disaster. In general sense; investment means to pay out money to get more. But in the broadest sense, investment means the sacrifice of current money for future money. Two different attributes are generally involved time and risk. The sacrifice takes place in the present and is certain. The reward comes later, if at all, and the magnitude is generally uncertain." (Alexander et al., 2000)

2.1.2 Portfolio Management

Portfolio management is basically concerned with efficient management of portfolio investment in financial assets including shares and debentures of companies. Portfolio management assumes periodic supervision of the security in the portfolio. Portfolio of an individual or a corporate unit is the holding of securities and investment in financial assets which is the result of individual's preferences and decision regarding risk and return. The process of portfolio management is directly linked with the process of decision making the correctness of which cannot be ensured in all cases.

"Portfolio analysis is to develop a portfolio that has the maximum return at whatever level of risk the investor deems appropriate. A portfolio is a collection of investment securities." (Weston & Brigham, 1992)

The portfolio management is the art of handling a pool of funds so that it only preserves its original worth but also overtime appreciates in value and yields an adequate return consistent with the level risk assumed. A logical set of steps are involved in the process of portfolio management which are commonly applied to any decision planning, implementation and monitoring. The basic problem of portfolio management is to

establish an investment objective or goal and then decide the best to reach the goal with the available securities. "Portfolio theory deals with selection of optimal portfolios i.e., 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, 2003)

2.1.3 Investment Portfolio

A portfolio is usually defined as a combination of assets. It is a collection of securities. Portfolio means the lists of holding in securities owned by an investor or institution. A portfolio is a collection of investment securities. Example, if you hold some stocks of Nepal Investment Bank Ltd., some of Bottlers Nepal Co., some of Radisson Hotel and some of Standard Chartered Bank Ltd. Your investment portfolio consists of the stocks of these four different companies. Portfolio analysis considers the determination of future risk; and return is a weighted average of the expected return of the individual securities. Portfolio theory deals with the selection of optimal portfolio i.e., the portfolio that provides the highest possible return for any specified degree of risk or the lowest possible risk for any specified rate of return. Portfolio theory has been developed for the financial assets. Thus, making investment from the selected optimal portfolio i.e., the portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio. "A portfolio simply represents the practice among the investors of having their funds in more than one asset. The combination of investment assets is called a portfolio." (Weston & Brigham, 1992)

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

2.1.4 Investment Alternatives

In the market, a wide range of investment alternatives are available to an individual investor. Investment alternatives may be classified as financial asset alternatives and

real asset alternatives. Common stocks, preferred stocks, bonds, convertible, warrants, options, rights, futures etc. are examples of financial asset alternatives. Real estates, precious metals, and collectibles are examples of real asset alternatives. Given the various investment alternatives, every investor has a target to increase gain form investment in kinds of securities depending on their perception and choice of the particular securities. (Cheney & Moses, 1995)

2.1.5 Portfolio Analysis and Diversification

Investment risk can be reduced by including more than one alternative or categories of assets in the portfolio and by including more than one asset from each category. Hence, diversification is essential to the creation of an efficient investment because it can reduce the variability of returns around the expected return.

"This diversification may significantly reduce risk without a corresponding reduction in the expected rate of return on the portfolio." (Weston & Copeland, 2003)

"Investment positions are undertaken with the goal of earning some expected rate of return. Diversification is essential to the creation of an efficient because it can reduce the variability of returns around the expected return." (Francis, 2006)

Diversification is the one important means that control portfolio risk. Investments are made in a wide variety of assets so that exposure to the risk of any particular securities is limited. By placing one's eggs in many baskets, overall portfolio risk actually may be less than the risk of any component security considered in isolation.

Diversification is an attempt to reduce investment risk by investing among various financial instruments and industries. Most investment professionals agree that, although it does not guarantee against loss. Diversification is the most important step to reaching your long-range financial goals minimizing risk.

The common saying "Don't put all your eggs in one basket" is the essence of the principle of diversification. Because all investments carry with them some level of risk, it is important to diversify and spread your money into many different investments.

Since diversification helps to reduce portfolio risk by eliminating unsystematic risk, investor did not compensate for bearing such risk, it happens due to un- professionalism and internal problems. Investor will be rewarded only for taking market risk which is also known as unavoidable risk and systematic risk. Diversification in the investment

or making portfolio in security level or in industry level protect against volatility and uncertainty at rate of return. By choosing securities of different companies in different industries, we can minimize the risks associated with a particular company's "bad luck".

2.1.5.1 Portfolio Risk and Return

Each asset's expected return and risk along with the expected return and risk for other assets and their interrelationships are important inputs in portfolio selection. In order to construct efficient portfolios, the investor must be able to quantify the portfolios expected return and risk. (Cheney & Mosses, 1995)

From an investor's standpoint the fact that a particular stock goes up or down is not very important. What is important is the return on his /her portfolio, and the portfolio's risk. Logically, then the risk and return characteristics of an investment should not be evaluated in isolation: rather, the risk and return of an individual security should be analyzed in terms of how the security affects the risk and return of the portfolio in which it is held.

Portfolio Return

The expected return of a portfolio is the weighted average of the expected returns of the individual assets in the portfolio. The weights are the proportions of the investor's wealth invested in each asset and the sum of the weight must equal to one. (Cheney & Mosses, 1995)

The expected return on portfolio depends upon the amount of funds invested in each security; given expected return on the individual securities. The portfolio expected return is defined in equation as follows:

Portfolio return $(R_P) = W_A \overline{R}_A + W_B \overline{R}_B + \ldots \ldots \ldots \ldots + W_N \overline{R}_N$

Here,

R_P = Return on Portfolio

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

$\overline{R}_A$ = Expected Return of Asset 'A'

$\overline{R}_B$ = Expected Return of Asset 'B'

Portfolio Risk

The calculation of a portfolio risk is not as straight forward as the calculation of a portfolio's 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 the assets' returns move together. We measure the risk of an individual asset by the variance of returns or its square root, the standard deviation. The degree to which the assets' return move together is measured by the covariance or correlation coefficient. By combining the measures of individual asset risk (variance or standard deviation), relative asset weights, and the co- movement asset's return (covariance or correlation), the risk of the portfolio can be estimated. Total risk is measured by either the variance or its square root, the standard deviation of returns. (Cheney & Mosses, 1995)

For two assets case;

$$\sigma_P = \sqrt{W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + 2COV_{AB} W_A W_B}$$

Here,

$\sigma_P =$ Portfolio Risk

$W_A =$ Weight or Proportion of Asset 'A'

$W_B =$ Weight or Proportion of Asset 'B'

$\sigma_A =$ Risk on Asset 'A'

$\sigma_B =$ Risk on Asset 'B'

$COV_{AB} =$ Covariance between Asset 'A' and Asset 'B'

$$COV_{AB} = \frac{\sum[(R_A - \overline{R}_A)(R_B - \overline{R}_B)]}{n-1}$$

For three assets case;

σ_P

$$= \sqrt{W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + W_C^2 \sigma_C^2 + 2COV_{AB} W_A W_B + 2COV_{BC} W_B W_C + 2COV_{AC} W_A W_C}$$

Where,

σ_P = Portfolio Risk

W_A = Weight or Proportion of Asset 'A'

W_B = Weight or Proportion of Asset 'B'

W_C = Weight or Proportion of Asset 'C'

σ_A = Risk on Asset 'A'

σ_B = Risk on Asset 'B'

σ_C = Risk on Asset 'C'

COV_{AB} = Covariance between Asset 'A' and Asset 'B'

COV_{AC} = Covariance between Asset 'A' and Asset 'C'

COV_{BC} = Covariance between Asset 'B' and Asset 'C'

Covariance and Correlation

The calculation of the risk of the portfolio (measured by the variance or the standard deviation of the return) requires the measurement of covariance of the return of assets in the portfolio. We describe the method of calculating the covariance and explore its relationship with the correlation. The covariance simply means the degree of which the returns of the two assets vary together. The covariance between two random variables is equal to the correlation between the two random variables times the product of their standard deviations.

A positive covariance indicates that the returns of two assets move in the same direction whereas a negative covariance indicates that the return of two assets move in opposite direction. If the covariance is zero, it means the rates of return on assets are independent.

2.1.6 Financial performance

Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. The term is also used as a general measure of a firm's overall financial health over a given period. No single measure should be used to define the financial performance of the firm. Financial performance can be measured by the ROA, ROE, ROI, return on capital employed, profit margin,

current ratio etc. In this study, ROA and ROE are used to measure the financial performance.

2.2 Empirical Review

2.2.1 International context

Nanda, Mahanty and Tiwari (2010) investigated a data mining approach for classification of stocks into cluster is presented. After classification, the stocks should be selected from these groups for building a portfolio. It meets the criterion of minimizing the risk by diversification of a portfolio. The clustering approach categorizes stocks on certain investment criteria. They have used stock returns at different times along with their valuation ratios from the stocks of Bombay Stock Exchange for the fiscal year 2007-2008. Results of this analysis show that K-means cluster analysis builds the most compact clusters as compared to SOM and Fuzzy c-means for stock classification data. Then they select from the clusters to build a portfolio, minimizing portfolio risk and compare the returns with that of the benchmark index.

Senthilnathan (2016) suggested that in investment, particularly in the portfolio management, the risk and returns are two crucial measures in making investment decisions. It attempted to provide a brief theoretical explanation with illustrations on determining the returns and associated risk of shares, and of the portfolio of the shares. The illustration of tables and figures can significantly contribute to the understanding of a reader in relation to portfolio management of risk and returns. The illustrative table and figures are the significance of this paper and it is believed that the reader of this paper would gain reasonable knowledge in portfolio management.

Orabi (2017) studied how investors select investments that will give them their required rate of return: they are mainly concerned with the performance alternatives. This study is mainly concerned with the performance of Jordanian Banks in their alternative investments in general and portfolio investment in particular. Study results revealed that banks of Jordan adhere to theories of formation of investment portfolios, in terms of diversification, trade-off between return and risk, and policy in the composition of the portfolios. The principle of convenience is applied to ensure the stability of the investor and the capital return. Study also pointed out that banks of Jordan adhere to the principle of diversification, and are committed to the principle of trade-off between

risk and return and comply with the principles of the policy in the composition of the portfolio, and the principle of ensuring the stability of the investor and the capital return.

Oliinyk and Kozmenko (2017) considered the task of creating an investment portfolio by a financial institution. Funds for creating a portfolio are taken from two sources: enterprises equity funds and borrowed funds. Optimization of the created portfolio is performed. A portfolio of maximum efficiency was obtained with restriction on the measure of risk, which is specified in the form of a VaR indicator. Using the optimization portfolio data, a model of portfolio asset management is being built. Using the Pontryagin maximum principle, optimal strategies of its participants are determined. The optimal function of managing the investment portfolio in the form of a share of the income received is found. Numerical results of optimal management of investments in a financial portfolio from the financial institution as well as from the creditor are presented.

Pasini (2017) applied the method of Principal Component Analysis to three subgroups of stocks of the American Index Down Jones Industrial (DJI) Average. While, the first and second group, are homogeneous, the third one contains heterogeneous stocks. Cumulative Variance and Kaiser's Rule are used to get the principal risk directions. The obtained results show how to optimize portfolios investments to derive the best returns and financial control.

Danesh, Ryan and Abbasi (2018) suggested project portfolio management (PPM) has become a key element of large organizations' service delivery due to the close attention inherently paid to numerous issues in the discipline of project management. Its success is closely associated with the degree of understanding of its issues and the quality of decisions made at the portfolio level which can be addressed using multi-criteria decision making (MCDM) methods. Although several of these MCDM methods have been introduced to support decision-making functions as part of PPM, there has been little assessment of their performances, particularly when combining some of them. This paper identifies the key challenges of PPM, proposes a new framework for classifying PPM MCDM related methods and present a literature review of applications of MCDM methods to PPM.

Mallick (2019) examined bank portfolio management under banking regulation and asymmetric information about borrower types and screening by banks and imperfect

competition in the credit market. A bank tries to maximize expected profits subject to a portfolio variance constraint. The analysis yields the following results: For a monopoly bank, the incentive constraint of the efficient type of borrowers will be binding and the participation constraint of the inefficient type of borrowers will be binding. Further, given the variance constraint being binding, the optimal portfolio will be on the efficiency frontier. The paper also examines duopoly; the optimal portfolio will be on the efficiency frontier. The paper also examines duopoly competition between aggressive (predator) and defensive (prey) banks and potential cooperation and reveals that among the alternatives of natural monopoly, entry deterrence, takeovers and efficient portfolio diversification through mergers or interest swaps, the cooperative efficient portfolio diversification strategy will dominate whenever portfolio returns are negatively correlated between any pair of interesting banks as it reduces portfolio variance for a given package of interest and loans i.e. Sensex.

Platanakis and Urquhart (2019) contributed to the literature on crypto currencies, portfolio management and estimation risk by comparing the performance of native diversification, Markowitz diversification and the advanced Black-Litterman model with VBCs that controls for estimation errors in a portfolio of crypto currencies. They showed that the advanced Black-Litterman model with VBCs yields superior out-of-sample risk-adjusted returns as well as lower risks. Their results are robust to inclusion of transaction costs and short-selling, indicating that sophisticated portfolio techniques that control for estimation errors are preferred when managing crypto currency portfolios.

Badran (2020) analyzed the investment portfolio in banks and how to manage, study and analysis on the Iraqi banks period 2010-2018 to show the impact of the efficiency of the management of investment portfolio on the profitability of commercial banks listed on the Iraqi Stock Exchange. The study was conducted on all Iraqi commercial banks listed in the Iraqi Financial market, where the researcher first calculated the 2012 index and risk of the investment portfolio and return of the investment portfolio, the banks, which represent the independent variable, the return on investment and return on equity, and the risk-free return as control and subsidiary variables. A financial analysis aimed at identifying the effect of the efficiency of the management of the investment portfolio on the profitability of commercial banks. The results of the analysis were identical with the results of the statistical analysis, which was performed

using the simple regression equation and multiple regressions to identify the effect and correlation coefficient Pearson to identify the relationship between the independent variable and the dependent variable. The main results of the study were the absence of statistically significant impact on the level of risk-free return on the return on investment and the return on equity and the absence of statically significant impact at the same level of return on the investment portfolio on both the return on investment and the return on equity and the existence of a statistical impact at the same time Wei risk investment portfolio on both return on investment and return on equity.

Yakubov and Meliboev (2020) discussed the functions of commercial banks as financial intermediaries, theoretical approaches to the "investment activity of commercial banks" and the priorities of increasing the investment activities of commercial banks at the macroeconomic and microeconomic level are presented. The main directions of the participation of commercial banks in the investment process were identified and recommendations were given for the subsequent successful development of the investment activities of commercial banks.

Kumakov (2020) stated that for a stable and sustainable functioning of the bank, both in the short and long term, the formation of the investment strategy of a commercial bank requires a certain method of solving practical issues created in modern competitive and market conditions. A commercial bank from the position of investment activity carries out its activities with a high share of risk in the financial markets. To assess the bank's portfolio, a methodological plan has been drawn up and criteria for the effectiveness of the bank's investment portfolio have been defined.

Agblobi, Kuhorfah and Asamoah (2020) concluded that the banks optimally invest to earn profit as they consider the associated risks with such portfolio management. Portfolio management is a medium by which the banks hold investment due from other banks, purchase Government securities and invest in subsidiaries. This paper investigates the effect of banks' portfolio management on profitability. Five commercial banks that are listed on the Ghana Stock Exchange were randomly selected for the study. Data on the total market value of Government securities, investment in subsidiaries and due from other banks were collected from the Bank of Ghana and the Ghana Stock Exchange between 2008 and 2017. As panel study, we regress portfolio management on profitability. The findings show that holding of government securities and investing in subsidiaries have a significant positive effect on the profitability of the

banks in Ghana. The findings also show that non-performing loans have a significant negative effect on the profitability of the banks. Therefore, it is recommended that banks should develop a balance between holding government securities and investing in subsidiaries to improve upon its profitability. The banks should also double their efforts to reduce their non-performing loans by enhancing the skills of its officers, strengthening its due diligence procedures and intensify monitoring activities.

Mohammed (2021) provided and applied the concept and techniques of multi-criteria decision-making under fuzzy environment in the prioritization and selection of projects in a portfolio management. In this study, the preference weights of the criteria were identified using fuzzy AHP. Then, the weights are embraced in fuzzy TOPSIS to improve the gaps of projects (alternatives) to achieve the organization objectives as well as interactions between projects. Twenty Iraqi Oil Company projects were evaluated against five key criteria. The results showed that in fuzzy TOPSIS technique the measurement of criteria weights is important and they could adjust the ranking for other projects as well as figure out the best project to achieve the desired levels. This research as expected will serve as a helpful tool for stakeholders in improving the quality level of portfolio management projects.

2.2.2 National context

Paudel and Koirala (2006) tested whether or not Markowitz and Sharpe models of portfolio selection offer better investment alternatives to Nepalese investors. It had been done by applying those models in a sample of 30 stocks traded in Nepalese stock market. The study found that the application of these elementary models developed about a half century ago offer better options for making decision in the choice of optimal portfolios in Nepalese stock market.

Parajuli, (2011) studied the bull-run in stock market has stimulated portfolio management services offered by merchant bankers. Anyone who wants to cash in on the ups and downs of the share market but does not have the expertise or time to invest in stock trading can obtain the services of a portfolio management company. Portfolio managers purchase and sell securities on behalf of their clients and manage their investment portfolio. "The number of clients with us has increased as professionals who do not have the time to devote in investment but want to make money from the capital market have recognized the usefulness of having a professional manage their portfolio,"

pointed out chief executive of Nabil Investment Pravin Raman Parajuli. Nabil Investment offers portfolio management services. Among the 14 merchant bankers licensed by SEBON, 11 have been granted license to operate as portfolio managers. Among them, only three are involved in providing portfolio management services. NABIL Investment, Beed Invest and Vibor Capital are the only merchant bankers that are managing the funds of their clients. Beed Invest had started its portfolio management service in 2009.

Shrestha (2013) concluded that investment as utilization of saving for something that is expected to produce profit or benefits. Investment is employment of funds with the aim of achieving addition income or 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 acquire in the future. Investment generally involves real assets and financial assets. Real assets investment involves some kinds of tangible assets such as building, land, machinery and factory etc. and financial assets investment are pieces of paper representing an indirect claim to real assets held by someone else. Real assets are generally less liquid than financial assets.

2.3 Research Gap

Going through the review of various articles, books, publications and also the unpublished research works previously done in this field, portfolio management is the most important part of Finance because they can strong impact of investment (Kumakov, 2020). Thus, it is not very new concept. Many researchers have done research on this aspect. As long as researchers have no specific research has yet been able to go in-depth of the topic and has successfully accomplished the specified objectives of the research work.

The purpose of this research work and previous studies is quite different. Firstly, the studies of portfolio management of banks were made on different period. They had studied the portfolio management of banks on old periods (Parajuli, 2011) (Jaiswal, 2012). It became necessary to do new research study on portfolio management of recent periods. In this research, the data and information of sample banks has included used from 2009/10 to 2018/19. Similarly, the investment portfolio management of three banks (EBL, NIBL and NMB) was not available on previous studies. To overcome this lacking, a new research study was required to evaluate three banks.

2.4 Conceptual Framework

Figure 1: Conceptual Framework for Impact of Investment portfolio choice on financial performance of commercial banks

Independent Variables   Dependent Variable
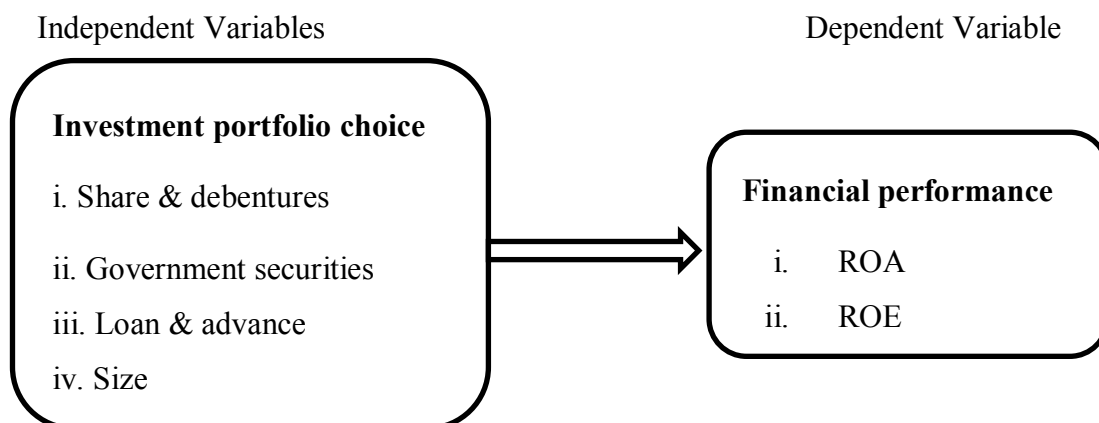
Source: Impact of investment portfolio choice on financial performance of investment companies in Kenya (Kamwaro, 2013)

2.4.1 Financial performance

This study employed financial performance as the dependent variable. Several financial profitability measures have been adopted in financial statements analysis and long term planning. Organizations are held accountable by measuring performance measurement; such become the consequences for performance. Managers need these to improve performance as well as value judgement from customers and citizens. In this study several financial ratios have been adopted. Return on assets (ROA), a measure of profitability which divides the net income by the amount of its assets. ROA measures how well a fund is doing. It indicates how well the fund's assets have been invested used to generate optimal returns. the ROA has emerged as key ratio for the evaluation of profitability and has become the most common measure of profitability in the literature.

ROA provides useful information about profitabilty, however the investors (unit holders) care more about how mnuch the fund is earning on their investment, an amount that is measured by the return on equity (ROE), the net income per rupees of capital.

The ultimate measure of the strength of any financial institution is not its asset size, the number of branches, or the pervasiveness of its electronics rather the true measure is its return on unit holders (ROE). Hence ROE is the preferred method of measuring profitability.

2.4.2 Investment portfolio choice

Effective organizational decision-making is the primary responsibility and the raison of management. Executives do many things in addition to making decisions. But only executives make decisions. The first managerial skill is, therefore, the making of effective decisions. Furhtermore, of all the decisions that business executives must make, none is more challenging than choosing among alternative capital investment opportunities. Here executives must decide to invest some fixed amount today in exchange for an uncertain steam of futurer payoffs. Each investment decision often involeves complexity and uncertainty. Complexity is reflected, in part, by the number of alternative courses of action from which the decision-maker can choose. Uncertainty is inherent in all decision-making but particularly pertinent to the investment decision-maker where the implications of their decisions ae often very significant for the organization. Moreover, executives are usually trying to fulfill multiple objectives in their investment decisions and therefore have to make trade-offs between expected return and riskiness. (Pike and Neale, 1996). Investment portfolio choices may be share, debentures, government securities, loan & advance, mutual fund etc. In this study, investment portfolio choices are the independent variable. share & debentures, government securities

CHAPTER III

RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem. It refers to the various sequential steps that are to be adopted by a researcher during the course of studying the problem with certain objectives. This chapter deals with overall research method used for the purpose of the study. It includes research design, population and sample, sources of data and method of analysis.

3.1 Research Design

The primary objective of this study is to analyze the portfolio investment management of the commercial banks of Nepal. A researcher has collected the valuable data and suitable information relating to portfolio investment to achieve the objectives. This study is mainly based on descriptive and analytical research design. Annual reports of respective banks, statistical reports of NRB were collected from 2009/10 to 2018/19 for the analytical purpose.

3.2 Population and Sample

Under the study of portfolio management of Nepalese commercial banks, the total number of commercial banks operating in Nepal has been the population. At present, there are 27 commercial banks are operating in Nepal. All 27 commercial banks have been considered as the total population of the study. Out of them this study is concerned with three commercial banks as a sample. The sample banks are selected by using judgmental sampling technique. This sampling technique includes the judgment as who can provide the best information to achieve the objectives of the study. Therefore, this study choose the samples which are likely to give the required information. The selected sample banks for the study are as follows:

  i.   Everest Bank Ltd. (EBL)
  ii. Nepal Investment Bank Ltd. (NIBL)
  iii. NMB Bank Ltd. (NMB)

3.3 Nature and Sources of Data

The secondary data has been used to achieve the main theme of the study. The main sources of the secondary are annual reports of the sample commercial banks. The major sources of secondary data are as follows:

    i.   NRB reports from 2009/10 to 2018/19

    ii.   Banking and Financial Statistics from 2009/10 to 2018/19

    iii.   Annual reports of sample banks from 2009/10 to 2018/19

    iv.   Different websites related to the study

3.4 Data Collection and Processing Procedure

Essential financial data have been collected from different websites of the banks. Data used for the study has been collected through annual reports, NRB reports etc. The collected data has been processed as per the need of the study. These data have been grouped in different tables and figures according to their nature.

3.5 Data Analysis Tools and Techniques

There are different tools and techniques for analysis of data. In this study, various financial and statistical tools have been applied to analyze the variables regarding the study. The analysis is also done by using financial and statistical tools. The empirical results have been estimated in the study by using annual data for the fiscal year 2009/10 to 2018/19 period.

3.5.1 Financial Tools

Financial tools basically help to analyze the financial strengths and weaknesses of a firm.

3.5.1.1 Financial Ratios

Ratio analysis is one of the important tools that have been used in the study. A ratio is relation between two or more variables. It expresses the quantitative relationship between any two numbers. Ratio can be expressed in terms of percentage, proportion and as coefficient. Financial ratio is the mathematical relationship between two accounting figures. Even though there are many ratios to analyze and interpret the financial statement, only those ratios that are many related to the investment operation of the bank have been used to complete this research.

    a) **Return on Investment Ratio (ROI)**

        Return on investment ratio shows how efficiently the organization is investing it funds in different sector for generating profit. The higher ratio the better the organization profit. The ROI ratio measures how efficiently the organization

can earn on its investment. It is a kind of technique that measures the profitability position of the organization.

$$\text{ROI} = \frac{\text{Net profit after tax}}{\text{Total Investment}}$$

b) Return on Assets (ROA)

This ratio measures the overall profitability of total assets. It is calculated by dividing net profit/loss by total assets. This can be presented as:

$$\text{ROA} = \frac{\text{Net Profit (Loss)}}{\text{Total Assets}}$$

c) Return on Equity (ROE)

Net worth refers to the owner's claim of a bank. The excess amount of total assets over total liabilities is known as net worth. This ratio measures how efficiently the bank has used funds of the shareholders. This ratio can be computed by dividing net profit by total equity capital (net worth). This can be calculated as:

$$\text{ROE} = \frac{\text{Net Profit (Loss)}}{\text{Total Equity Capital}}$$

3.5.1.2 Risk and Return on Individual Investment Assets and Investment Portfolio

a) Return on Share and Debenture

The return on shares and debenture considers dividend yield and capital gain yield i.e. change in market price.

$$\text{Return on Share and Debenture} = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}$$

Where,

P_t = Closing price per share at period t

P_{t-1} = Closing price per share at period t-1

D_t = Dividend per share at period t

b) Return on Government Securities

The return on government securities is calculated by dividing interest earned from government securities by total investment on government securities. This is illustrated as:

$$\text{Return on Government Securities} = \frac{\text{Interest earned from Government securities}}{\text{Total Investment on Government Securities}}$$

c) **Return on Loan and Advance**

The return on loan and advance is calculated by dividing interest earned from loan and advance by total amount of loan and advance. This is calculated as:

$$\text{Return on Loan and Advance} = \frac{\text{Interest earned from loan and advance}}{\text{Total amount of loan and advance}}$$

d) **Average Rate of Return**

When historical returns are used, following formula is used to calculate an average rate of return:

$$\text{Average rate of return(R)} = \frac{R_1 + R_2 + R_3 + \ldots\ldots\ldots + R_n}{n}$$

Where,

        R_1, R_2, R_3 = Rate of return in different period

        n = Number of periods

e) **Risk on Individual Assets**

Risk is defined as the variability of the return of a period. The one period rate of return is the basic random variable used in measuring an investment's risk. One such nature of risk is the standard deviation. Standard deviation is defined as the positive square root to the mean of the square of the deviation taken from arithmetic mean.

Risk on individual assets or standard deviation for assets can be calculated using historical returns with this equation:

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\Sigma(R - \overline{R})^2}{n}}$$

Where,

        R = Rate of return on individual assets

        $\overline{R}$ = Average rate of return on individual assets

        n = Number of observations

f) **Return on Portfolio**

The return on portfolio is simply the weighted average of the expected returns on the individual assets in the portfolio with the weights being the fraction of the total portfolio investment in each asset.

Return on Portfolio $(R_p) = R_1X_1 + R_2X_2 + R_3X_3 + \ldots\ldots\ldots\ldots + R_nX_n$

Where,

R_p= Expected return to portfolio

R_n= Expected return to asset n

X_n= The proportion of total portfolio invested in asset n

R_1, R_2 and R_3= Expected return for assets 1, 2 and 3

X_1, X_2 and X_3= Weights for assets 1, 2 and 3.

g) **Risk on Portfolio**

Expected risk on a portfolio is a function of the proportions invested in the components, the riskiness of the components and correlation of returns on the component securities. It is measured by standard deviation and calculated by using following formula:

$$\sigma_p = \sqrt{W_A^2 \sigma_A^2 + W_B^2 \sigma_B^2 + W_C^2 \sigma_C^2 + 2W_A W_B r_{AB} \sigma_A \sigma_B + 2W_A W_C r_{AC} \sigma_A \sigma_C + 2W_B W_C r_{BC} \sigma_B \sigma_C}$$

Where,

W_A, W_B and W_C = Weights of securities A, B and C respectively

σ_A, σ_B and σ_C = Standard deviation of A, B and C respectively

r_{AB} = Correlation between assets A and B

r_{AC} = Correlation between assets A and C

r_{BC} = Correlation between assets B and C

3.5.2 Statistical Tools

Various statistical tools can be used to analyze the data available to the researcher. These tools are used in research in order to draw the reliable conclusion through the analysis of financial data. Following statistical tools are used in this study.

3.5.2.1 Average rate of return

Average rate of return is the arithmetic average of the historical returns forecasted for next period. It is obtained by dividing the sum of total of the return by the number of the observation.

$$\Sigma(R_j) = \frac{\Sigma R_j}{n}$$

3.5.2.2 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 byσ. 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.

$$\sigma_j = \sqrt{\frac{\Sigma(R_j - \overline{R}_j)^2}{N-1}}$$

Where,

σ_j = Standard deviation of return from asset j

R_j = Return of asset j

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

N = No. of observations

3.5.2.3 Coefficient of Variation

Co-efficient of variation 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 comparison when two investments of different expected return and standard deviation are to be compared. It is calculated by the following equation:

$$\text{Coefficient of Variation} = \frac{\sigma}{\overline{R}}$$

Where,

σ = Standard deviation

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

3.5.2.4 Correlation of Coefficient

The correlation between the different variables of a bank is compared to measure the performance of these banks. Correlation refers to the degree of relationship between two variables. If between two variables, increase or decrease in one cause increase or decrease in another, then such variables are correlated variables. The reliability of the value of coefficient of correlation is measured by probable error. The correlation coefficient describes the degree of relationship between two variables. It interprets

whether variables are correlated positively or negatively. This tool analyses the relationship between those variables by which it is helpful to make appropriate investment policy for profit minimization. SPSS application has been used to calculate the correlation between two assets. Correlation coefficient between two assets is also calculated by using following formula:

$$\text{Correlation coefficient (r)} = \frac{\text{COV}_{AB}}{\sigma_A \sigma_B}$$

Where,

COV$_{AB}$ = Covariance between return from assets A and B

σ_A = Standard deviation of return from asset A

σ_B = Standard deviation of return from asset B

3.5.2.5 Regression analysis

Regression analysis examine the strength of a relationship or estimating; however in this type of analysis, one variable is considered an outcome (or dependent variable) and the other variable is considered a predictor (or independent variable). It is perhaps the most widely applied data analysis techniques for prediction or estimates. As correlation only tells the direction and strength of relationship, and fail to fet the estimate. The study of regression is very useful in several types of analysis related to the study of the existence of any correlation between two variables. Regression can be calculated by using SPSS software.

The study used the multiple linear regression equation to establish the impact of investment portfolio choice on financial performance of commercial banks.

2.5.2.5.1 Model Specification

The study used a regression to estimate the model with ROA and ROE as the dependent variable and investment portfolio choice as the independent variables.

The economic model used in the study is given as:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon i$...(1)

Where, Y is the dependent variable, β_0 is constant β_1, β_2, β_3, β_4 are the coefficient of the explanatory variable (the determinant attributes), and εi is the error term assumed to

have zero mean and independent across time period. From the economic model in the equation above, equation below will evolve:

Model 1

$$ROA = \beta_0 + \beta_1 \text{ Share \& Debenture} + \beta_2 \text{ Govt. Securities} + \beta_3 \text{ L/A} + \beta_4 \text{ Size} + \varepsilon_i \ldots (2)$$

Model 2

$$ROE = \beta_0 + \beta_1 \text{ Share \& Debenture} + \beta_2 \text{ Govt. Securities} + \beta_3 \text{ L/A} + \beta_4 \text{ Size} + \varepsilon_i \ldots (3)$$

Where,

ROA and ROE	Financial performance of commercial banks,
Share & Debenture	is the amount invested in share & debenture by commercial banks
Govt. securities	is the amount invested in government securities by commercial banks
L/A	is the amount invested in loan and advance by commercial banks
Size	size of commercial banks which will be used as controlling variable and was measured by log of total assets
ε_i	error term

CHAPTER IV

RESULTS AND FINDINGS

The presentation of data is the basic organization and classification of the data for analysis. The main theme of this chapter is to analyze and interpret the data by using financial and statistical tools. In this chapter, the concern is given in the presentation and analysis part of data in detail. As data presentation and analysis is the crucial part of any research, the purpose is to organize the collected data so that it can be used for interpretation whereas analysis of the data is to convert it from a crude form to an easy and understandable presentation. It is so obvious that the presentation of the data and its analysis help us to draw valid conclusion. There are a number of methods which can be used to simplify the data. It is being felt that the easiest way to understand the data is by examining it through tables and graphs.

4.1 Data Presentation and Analysis

4.1.1 Ratio Analysis

A ratio is calculated by dividing one item of the relationship with other. As tool of financial analysis, ratio can be expressed in terms of percentage. Ratio analysis is a very important tool of financial analysis. From the help of ratio analysis, the qualitative judgment can be done very easily and timely regarding financial performance of the firm. The purpose of this chapter is to evaluate and analyze the financial position and performance of the different commercial banks. In this section, only those major ratios which are mainly related to the investment mechanism of commercial banks are calculated and analyzed.

4.1.1.1 Return on Investment (ROI)

Return on investment ratio shows how efficiently the organization is investing it fund in different sector for generating profit. The higher the ratio the better the organization profit. The ROI ratio measures how efficiently the organization can earn on its investment. It is a kind of technique that measures the profitability position of the organization.

Table 4.1

Return on investment of commercial banks in %

Fiscal year	EBL	NIBL	NMB	Average
2009/10	16.61	14.66	5.74	12.34
2010/11	12.02	15.86	8.49	12.12
2011/12	13.87	9.95	2.13	8.65
2012/13	15.88	16.75	16.03	16.22
2013/14	23.83	12.61	9.78	15.41
2014/15	10.42	9.14	8.37	9.31
2015/16	9.51	8.73	13.11	10.45
2016/17	16.77	12.16	14.23	14.39
2017/18	16.60	20.57	19.00	18.72
2018/19	14.03	18.53	21.16	17.91
Average	**14.9542**	**13.8948**	**11.8047**	**13.5512**

Source: Appendix I, II and III

Figure 4.1: Return on investment of commercial banks
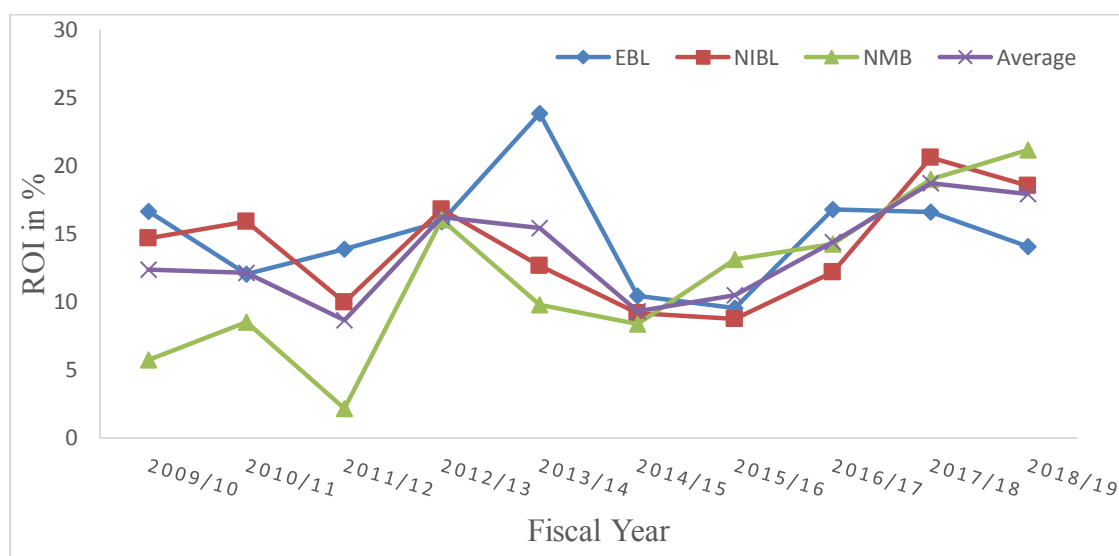
Table 4.1 shows that the return on investment ratio of commercial banks is in fluctuating trend. The average ROI of EBL, NIBL and NMB is 14.9542 %, 13.8948 % and 11.8047 % respectively. EBL has the highest ROI than NIBL and NMB. It indicates that EBL is efficiently investing its funds in different sectors to generate profit. The overall average ROI of CBs is sufficient i.e. 13.5512%. It indicates that the CBs are investing its funds sufficiently in different sector to generate profit.

4.1.1.2 Return on Assets (ROA)

It is the ratio of net profit after interest & tax and total assets. The ratio measures effectively financial resources are invested in firm's assets to generate profitability. Higher ROA reflects the efficiency of bank in using its overall resources.

Table 4.2

Return on assets of commercial bank in %

Fiscal year	EBL	NIBL	NMB	Average
2009/10	2.01	2.21	1.18	1.8
2010/11	2.01	2.02	1.39	1.81
2011/12	1.95	1.58	.28	1.27
2012/13	2.24	2.62	1.43	2.10
2013/14	2.20	2.25	1.36	1.94
2014/15	1.59	1.88	1.21	1.56
2015/16	1.52	1.97	1.49	1.66
2016/17	1.72	2.06	1.74	1.84
2017/18	1.78	2.13	1.65	1.85
2018/19	1.80	1.79	1.67	1.75
Average	**1.8824**	**2.0503**	**1.3401**	**1.7576**

Source: Appendix I, II and III

Figure 4.2: Return on assets of commercial banks
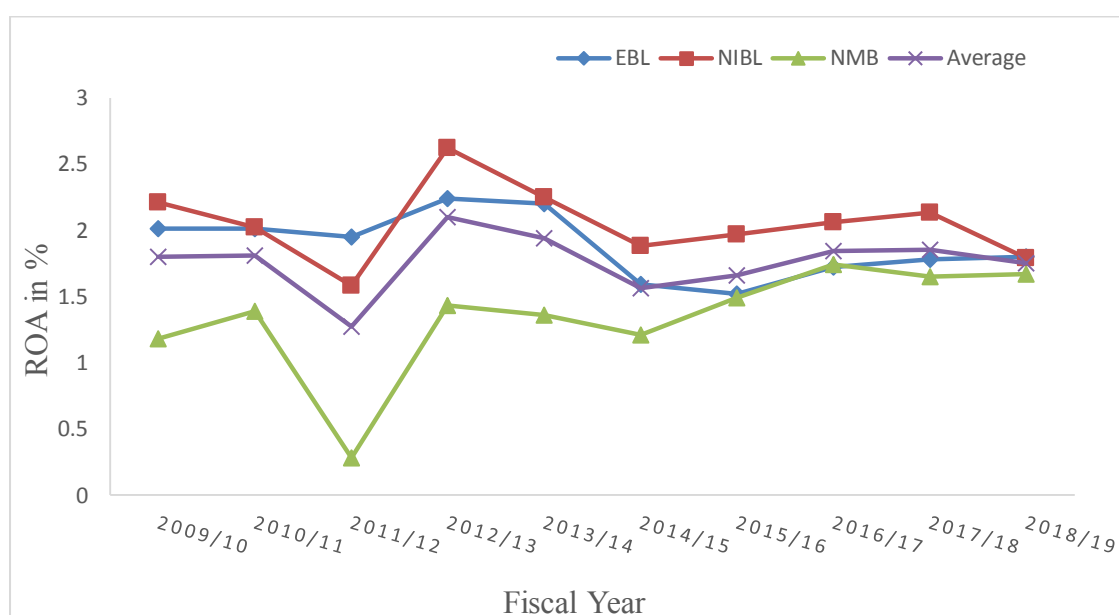
Table 4.2 shows that the sample banks have mixed trend on their return on total assets ratio. The average ROA of EBL, NIBL and NMB is 1.8824 %, 2.0503 % and 1.3401 % respectively. In comparison, NIBL has the highest average ROA, it can be said that NIBL utilities the overall resources efficiently than EBL and NMB. The overall average ROA of CBs is not satisfactory i.e. 1.7576% due to the increase in total assets by merger and acquisition, fixed assets etc.

4.1.1.3 Return on Equity (ROE)

Return on equity shows the proportion of net profit of the bank to its shareholders' equity. It measures the efficiency of equity in generating the net profit of the bank. The ratio is calculated by dividing the net profit of the bank by its shareholders' equity.

Table 4.3

Return on equity of commercial banks in %

Fiscal year	EBL	NIBL	NMB	Average
2009/10	30.14	27.61	8.61	22.12
2010/11	29.90	22.81	10.04	20.92
2011/12	26.12	17.17	2.30	15.20
2012/13	30.47	27.28	15.49	24.41
2013/14	28.40	24.48	14.58	22.49
2014/15	22.84	20.01	15.20	19.35
2015/16	20.32	15.66	16.25	17.41
2016/17	17.38	16.65	14.06	16.03
2017/18	16.00	14.71	11.24	13.98
2018/19	17.33	13.00	12.97	14.43
Average	**23.89**	**19.9372**	**12.0731**	**18.6334**

Source: Appendix I, II and III

Figure 4.3: Return on equity of commercial banks
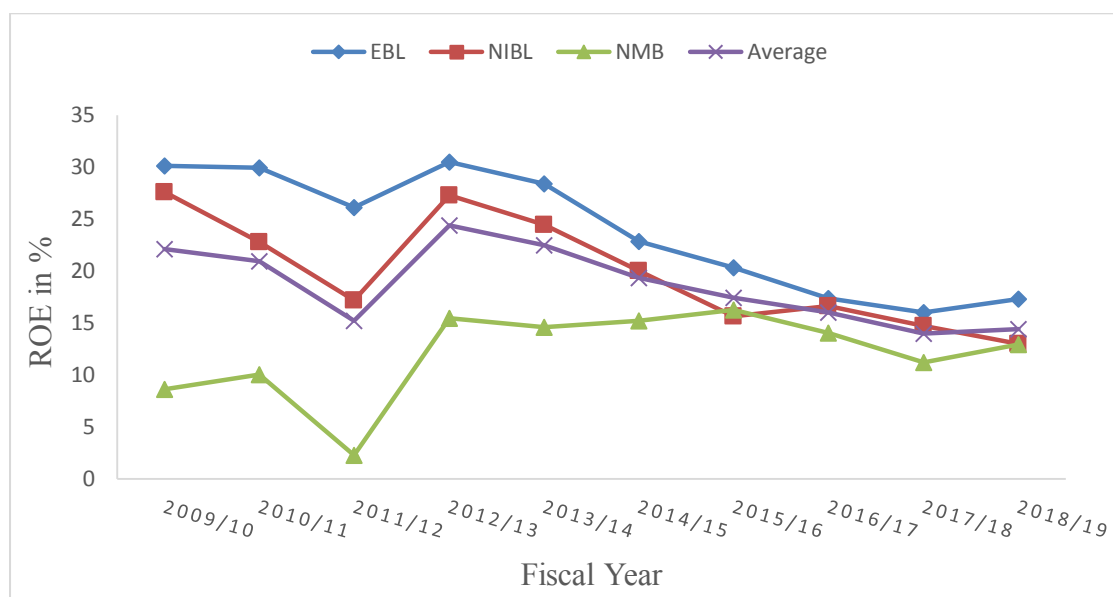
Table 4.3 shows the return on equity of CBs is in decreasing trend over the period. The average ROE of EBL, NIBL and NMB is 23.89 %, 19.9372 % and 12.0731 % respectively. EBL has the maximum ROE than NIBL and NMB. It indicates that EBL equity is more efficient in generating the net profit than other banks. The overall average ROE of CBs is sufficient i.e. 18.6334%, it indicates that the equity of CBs is sufficient in generating the net profit.

4.1.2 Investment Portfolio Analysis

Investment is a commitment of money and other resources that are expected to generate additional money and resources in future. In order to generate profit, banks also invest their resources certain sectors. Their major share of investment is in government securities, loan & advance and shares & debenture. Here, we shall attempt to analyze and compare the investment portfolio of sample banks on the basis of these three investment areas.

Table No. 4.4

Investment portfolio of commercial banks in %.

F/Y	EBL			NIBL			NMB		
	G.S	L/A	S/D	G.S.	L/A	S/D	G.S	L/A	S/D
2009/10	13.60	86.08	0.31	9.42	90.43	0.14	16.80	82.09	1.11
2010/11	18.65	81.07	0.28	9.45	90.40	0.16	14.30	84.93	0.77
2011/12	14.42	85.32	0.26	12.86	86.78	0.36	15.03	84.05	0.91
2012/13	13.86	86.09	0.05	11.36	88.06	0.58	8.49	90.87	0.63
2013/14	5.07	94.80	0.13	10.01	89.40	0.59	9.36	90.16	0.48
2014/15	13.60	86.30	0.10	12.00	87.30	0.70	13.97	85.32	0.70
2015/16	13.22	86.68	0.10	10.21	89.22	0.56	7.32	92.23	0.45
2016/17	9.94	89.97	0.09	10.44	88.92	0.64	8.75	90.62	0.62
2017/18	14.07	85.90	0.03	11.41	87.99	0.61	9.57	89.77	0.66
2018/19	16.02	83.96	0.02	9.88	88.68	1.44	8.91	90.49	0.60
Average	**13.25**	**86.62**	**0.14**	**10.70**	**88.72**	**0.58**	**11.25**	**88.05**	**0.69**
Standard deviation	**3.61**	**3.63**	**0.11**	**1.15**	**1.21**	**0.36**	**3.38**	**3.56**	**0.20**
CV	**0.27**	**0.04**	**0.78**	**0.11**	**0.01**	**0.62**	**0.30**	**0.04**	**0.29**

Source: Appendices IV, V, VI and VII

The investment portfolio of commercial banks above table 4.4 can be shown in following figures:

Figure 4.4: Investment in government securities of commercial banks in %
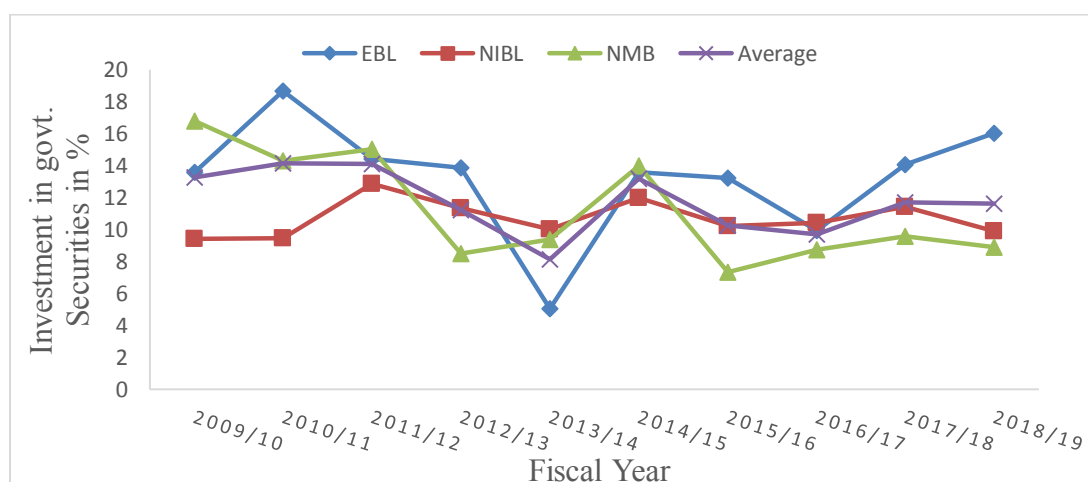
Figure 4.5: Investment in loan and advance of commercial banks in %
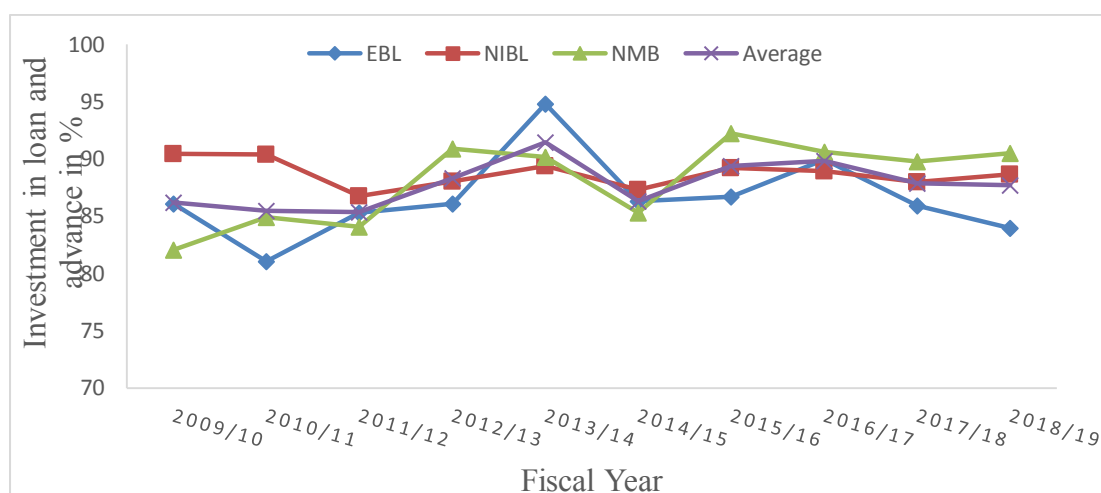
Figure 4.6: Investment in share and debentures of commercial banks in %
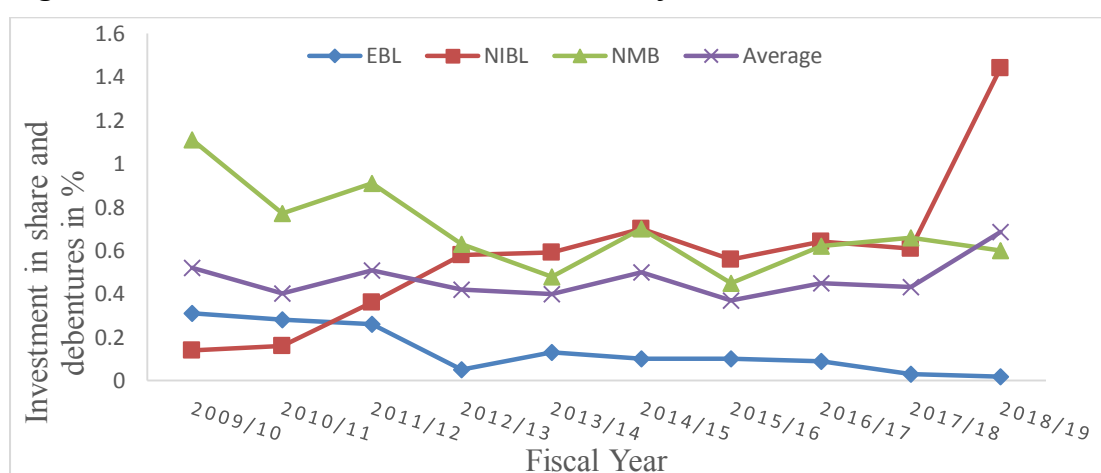
Table 4.4 shows that the commercial banks have invested larger portion of funds on loan and advance and small portion on share and debentures. As per the table 4.4, CBs have invested more that 85% on loan & advance, more than 10% on govt. Securities snd less that 1% on share & debentures. The CV of loan & advance is lowest than others. It indicates that the investment on loan & advance is more consistent than that of other securities. CV of investment on govt. securities is lower than that of share & debentures, it also shows more consistent than share & debentures.

Figure 4.4 shows the investment on govt. securities of CBs is in fluctuating trend. Similarly, figure 4.5 shows the investment trend on loan & advance of CBs is also in fluctuating. However, figure 4.6 shows that the investment on share & debenture is in decreasing trend because of the NRB directives i.e. the CBs are not invested on share & debentures more than 20% of their primary capital. And also the investing on share & debenture is not consistent than other. Lastly, it can be conclude that CBs are mainly

interested to invest on loan & advance which gives high return. They are less interested to invest on share & debentures which also gives high return but they are bounded through the NRB compliances. Commercial banks have also invested on govt. securities more consistentlu which are less risk and low return.

4.1.3 Risk and Return on Individual Investment Assets and Investment Portfolio

Risk is an important element since investment with greater risk requires a higher return than investment with lower risk. In this section, standard deviation and coefficient of variation are taken as the measuring tools of risk and average return is taken as to measure expected return.

4.1.3.1 Risk and return on Share and Debenture

The return on shares and debentures considers dividend yield and capital gain yield or return is the combination of capital gain yield and dividend yield.

Table 4.5

Risk and return on share and debenture of sample banks in %

Fiscal year	EBL	NIBL	NMB	Average
2009/10	-31.16	-45.61	-36.77	-37.85
2010/11	-29.20	-16.31	-27.80	-24.44
2011/12	-2.69	6.02	-7.69	-1.45
2012/13	59.83	65.17	45.56	56.85
2013/14	69.26	30.74	113.13	71.04
2014/15	-18.09	-22.88	.16	-13.60
2015/16	62.97	56.53	63.91	61.14
2016/17	-59.05	-19.71	-30.67	-36.48
2017/18	-49.52	-11.30	-25.14	-28.65
2018/19	4.22	-12.00	20.39	4.20
Average	**0.657**	**3.065**	**11.508**	**5.0767**
Standard deviation	**47.6707**	**36.3012**	**49.2237**	**44.3985**
CV	**72.5581**	**11.8438**	**4.2773**	**29.5597**

Source: Appendix IV, V and VI

Table 4.5 shows the risk and return on share and debentures of CBs. The return of CBs is fluctuating over the period. The average return on share and debenture of EBL, NIBL

and NMB is 0.657%, 3.065% and 11.508% respectively. The standard deviation on share and debenture return of EBL, NIBL and NMB is 47.6707 %, 36.3012 % and 49.2237 % respectively. The CV of EBL, NIBL and NMB is 72.5581, 11.8438 and 4.2773 respectively. On the basis of average return NMB performs better than other banks due to highest return. Similarly, on the basis of standard deviation, NIBL is better than other due to lowest standard deviation. However, NMB has better performance due to the lowest CV.

The overall average return on share & debenture is 5.0767% and standard deviation is 44.3985%. It indicates that investment on share and debenture is riskier. The CV of CBs return on share & debenture is 29.5597 which is not consistent.

4.1.3.2 Risk and return on Government Securities

Government securities are the fixed income securities issued by the government. These securities are among the safest of all investments as the government is unlikely to default on interest or on principle repayments. The risk and return on government securities such as treasury bills, national saving bond etc. can be calculated.

Table 4.6

Risk and return on government securities in %

Fiscal year	EBL	NIBL	NMB	Average
2009/10	5.49	4.05	4.26	4.6
2010/11	5.07	6.01	6.09	5.72
2011/12	6.92	3.92	5.28	5.37
2012/13	3.55	2.94	6.42	4.30
2013/14	9.47	2.27	3.76	5.17
2014/15	1.12	.78	1.32	1.07
2015/16	1.80	1.05	2.52	1.79
2016/17	2.80	1.70	2.83	2.44
2017/18	3.63	3.50	5.09	4.07
2018/19	4.27	4.50	5.47	4.75
Average	**4.4109**	**3.0714**	**4.3043**	**3.9289**
Standard deviation	**2.4760**	**1.6457**	**1.6721**	**1.9313**
CV	**0.5613**	**0.5358**	**0.3885**	**0.4952**

Source: Appendix IV, V and VI

Table 4.6 shows the risk and return on government securities of CBs. The return of CBs is fluctuating over the period. The average return on government securities of EBL, NIBL and NMB is 4.4109 %, 3.0714 % and 4.3043 % respectively. The standard deviation on government securities' return of EBL, NIBL and NMB is 2.476 %, 1.6457 % and 1.6721 % respectively. The CV of EBL, NIBL and NMB is 0.5613, 0.5358 and 0.3885 respectively. On the basis of average return EBL performs better than other banks due to highest return. Similarly, on the basis of standard deviation, NIBL is better than other due to lowest standard deviation. However, NMB has better performance due to the lowest CV.

The overall average return on govt. Securities of CBs is 3.9289%, standard deviation is 1.9313% and CV is 0.4952. It indicates that the investment on govt. securities is consistent and less riskier.

4.1.3.3 Risk and return on Loan and Advance

Table 4.7

Risk and return on loan and advance in %

Fiscal year	EBL	NIBL	NMB	Average
2009/10	10.16	10.67	9.30	10.04
2010/11	12.46	13.23	11.64	12.44
2011/12	12.54	13.55	13.14	13.08
2012/13	10.69	12.00	10.50	11.06
2013/14	10.29	10.73	9.23	10.08
2014/15	8.91	8.49	7.97	8.46
2015/16	7.03	7.67	7.35	7.35
2016/17	8.29	8.40	9.47	8.72
2017/18	10.06	10.48	11.80	10.78
2018/19	8.42	10.91	11.34	10.22
Average	**9.8856**	**10.6124**	**10.1750**	**10.2243**
Standard deviation	**1.7769**	**1.9896**	**1.8258**	**5.5923**
CV	**0.1797**	**0.1875**	**0.1794**	**0.5467**

Source: Appendix IV, V and VI

Table 4.7 shows the risk and return on loan and advance of CBs. The return of CBs is fluctuating over the period. The average return on government securities of EBL, NIBL and NMB is 9.8856 %, 10.6124 % and 10.175 % respectively. The standard deviation on government securities' return of EBL, NIBL and NMB is 1.7769 %, 1.9896 % and 1.8258 % respectively. The CV of EBL, NIBL and NMB is 0.1797, 0.1875 and 0.1794 respectively. On the basis of average return NIBL performs better than other banks due to highest return. Similarly, on the basis of standard deviation, EBL is better than other due to lowest standard deviation. However, NMB has better performance due to the lowest CV.

The overall average return on loan & advance of CBs is 10.2243%, standard deviation is 5.5923% and CV is 0.5467. It indicates that the return on loan & advance is consistent but riskier.

4.1.4 Risk and Return on Investment Portfolio

4.1.4.1 Investment Portfolio Return

The expected return on a portfolio (R_p) is simply the weighted average of the expected returns on the individual assets in the portfolio with the weight being the fraction of the total portfolio in each asset. In this study, investment portfolio of commercial banks is calculated by investment on government securities, loan and advances and share and debentures.

Table 4.8

Portfolio return of commercial banks in %

Banks	Proportion (W_G)	Proportion (W_L)	Proportion (W_S)	R_G	R_L	R_S	Portfolio return (R_P)
EBL	0.1325	0.8662	0.0014	4.4109	9.8856	0.657	9.1483
NIBL	0.1070	0.8872	0.0058	3.0714	10.6124	3.065	9.7617
NMB	0.1125	0.8805	0.0069	4.3043	10.1750	11.508	9.5227
Average							**9.479**

Source: Appendix IV, V, VI, and VII

Table 4.8 shows the portfolio return of sample banks. The portfolio returns on EBL, NIBL and NMB is 9.1483 %, 9.7617 % and 9.5227 % respectively. NIBL has highest portfolio return and EBL has the lowest portfolio return. So, according to the portfolio return NIBL is efficiently managed its investment. In overall, the average portfolio return of commercial banks is 9.479%.

4.1.4.2 Investment Portfolio Risk

Expected risk on a portfolio is a function of the proportions invested in the components, the riskiness of the components and correlation of returns on the components securities. It is measured by standard deviation. The standard deviation of portfolio is not simply the weighted average of standard deviation of individual securities. The portfolio risk is affected by the association of movement of returns of two securities. The degree to which the assets return move together is measured by the covariance. Hence, by combining the measures of individual asset risk, relative asset weights and co-movement of assets returns (covariance or correlation) the risk of the portfolio can be eliminated. Here, firstly covariance or correlation between the assets can be calculated by using SPSS application and then portfolio risk can be calculated.

Table 4.9

Portfolio risk of commercial banks in %

Banks	$\sigma_p = \sqrt{W_S^2\sigma_S^2 + W_G^2\sigma_G^2 + W_L^2\sigma_L^2 + 2W_SW_G r_{SG}\sigma_S\sigma_G + 2W_SW_L r_{SL}\sigma_S\sigma_L + 2W_GW_L r_{SL}\sigma_G\sigma_L}$
EBL	2.4784
NIBL	1.9527
NMB	1.6919
Average	**2.041**

Table 4.9 shows the risk of portfolio return of sample banks. The standard deviation measures the risk. The portfolio standard deviation of EBL, NIBL and NMB is 2.4784 %, 1.9527 % and 1.6919 % respectively. It indicates that EBL is highly risky portfolio due to highest standard deviation and NMB has less risky portfolio due to lowest standard deviation. The overall average portfolio risk of commercial banks is 2.041%.

4.1.4.3 Investment Portfolio Risk and Return Analysis of Commercial Banks

Table 4.10

Analysis of investment portfolio risk and return

Banks	EBL	NIBL	NMB	Average
Portfolio return	9.1483%	9.7617%	9.5227%	9.479%
Portfolio risk	2.4784%	1.9527%	1.6919%	2.041%
CV	**0.2709**	**0.2000**	**0.1777**	**0.216**

Table 4.10 shows the investment portfolio risk and return of commercial banks. The portfolio returns on EBL, NIBL and NMB is 9.1483%, 9.7617% and 9.5227 % respectively. NIBL has highest portfolio return and EBL has the lowest portfolio return. The standard deviation of EBL, NIBL and NMB is 2.4784 %, 1.9527 % and 1.6919 % respectively. It indicates that EBL is highly risky portfolio due to highest standard deviation and NMB has less risky portfolio due to lowest standard deviation. The CV of EBL, NIBL and NMB is 0.2709, 0.2 and 0.1777 respectively. In comparison, NMB has efficiently managed its portfolio due to lowest CV.

In overall, the commercial banks portfolio return is 9.479% which is less than the average rate of return on investment on loan & advance. But, it is more than the average rate of return on investment on govt. securities and share & debentures of sample commercial banks. The average risk of porttfolio of CBs i.e. standard deviation is 2.041% which is considerably less than the expected risk of investment on share & debentures of sample commercial banks and more than the expected risk of investment on government securities and loan & advance. The overall CV of CBs is 0.216, it indicates that the portfolio return is consistent.

4.1.5 Analysis of the Regression

Regression analysis is concerned with the study of the dependence of one variable, dependent variable, on one or more other variables, the independent variable with a view to estimating the average value of the dependent variable from the known values of the independent variable. In regression analysis there are two types of variables. The variable whose valule is influenced or is to be predicted is called dependent variable and the variable which influences the value or is used for prediction, is called

independent variable. In this study ROA and ROE are dependent variables and investment portfolio choice are independent variables.

Model 1

ROA = β_0 + β_1 Share & Debenture + β_2 Govt. Securities + β_3 L/A + β_4 Size + ε_i

Table 4.11

Regression analysis of Model 1

Model 1	Coefficients	Standard Error	P value
(Constant)	3.36	2.01	0.145
Share & debenture	0.15	0.98	0.461
Govt. Securities	0.07	0.05	0.036
Loan & advance	203.27	1.89	0.013
Size	-0.156	0.37	0.0228
R Square	0.312		

It shows their coefficients of the independent variables. The regression model can be written mathematically as:

ROA = 3.36 + 0.15 X_1 + 0.07 X_2 + 203.27 X_3 + (-0.156 X_4)

From the above regression equation it was revealed that holding investment in share and debenture, govt. Securities, loan & advance and size of investment to a constant zero, financial performance of commercial banks would stand at 3.36. The coefficient of share & debenture is 0.15 and the p-value is 0.461, it is more than 0.05. So, it is insignificant. So, there is no effect of investment on share & debentures in financial performance of commercial banks. The coefficient of investment on govt. securities is 0.07 and p-value is 0.036 which is less than 0.05. So, it is significant i.e. a unit increase in investment on government securities would lead to increase in financial performance of CBs by a factor of 0.07. The coefficient of investment on loan & advance is 203.27 and p-value is 0.013. It is less than 0.05. So, it is significant. It indicates that a unit increase in investment in L/A would lead to increase in financial performance of CBs by a factor 203.27. The coefficient of size of bank is -0.156 and p-value is 0.0228 which

is less than 0.05. It indicates that a unit increase in size of the CBs would lead to decrease in financial performance of CBs by a factor of 0.156.

The value of R^2 is 0.312, which indicates there is sufficient variability in financial performance explained by investment portfolio choice (share & debenture, govt. Securities, L/A and size). Hence, the result from the regression analyses model in Table 4.11 above suggests that share and debenture, govt. Securities and loan and advance indicates positive impact on financial perfromance of CBs in Nepal, while size of CBs indicates negative impact on financial performance of CBs in Nepal.

Model 2

ROE = β_0 + β_1 Share & Debenture + β_2 Govt. Securities + β_3 L/A + β_4 Size + εi

Table 4.12

Regression analysis of Model 2

Model 2	Coefficients	Standard Error	P value
(Constant)	94.42	22.81	0.006
Share & debenture	0.12	11.16	0.692
Govt. Securities	0.94	0.56	0.146
Loan & advance	480.82	0.80	0.048
Size	-13.36	4.25	0.020
R Square	0.517		

It shows ther coefficients of the independent variables. The regression model can be written mathematically as:

ROE = 94.42 + 0.12 X_1 + 0.94 X_2+ 480.82 X_3 + (-13.36 X_4)

From the above regression equation it was revealed that holding invstment in share and debenture, govt. Securities, loan & advance and size of investment to a constant zero, financial performance of commercial banks would stand at 94.42. The coefficient of share & debenture is 0.12 and the p-value is 0.692, it is more than 0.05. So, it is insignificant. So, there is no effect of investment on share & debentures in financial performance of commercial banks. The coefficient of investment on govt. securities is

0.94 and p-value is 0.146 which is more than 0.05. So, it is insignificant i.e. there is no evidence of a unit increase in investment on government securities would lead to increase in financial performance of CBs by a factor of 0.94. The coefficient of investment on loan & advance is 480.82 and p-value is 0.048, it is less than 0.05. So, it is significant. It indicates that a unit increase in investment in L/A would lead to increase in financial performance of CBs by a factor 480.82. The coefficient of size of bank is -13.36 and p-value is 0.020 which is less than 0.05. It indicates that a unit increase in size of the CBs would lead to decrease in financial performance of CBs by a factor of 13.36.

The value of R^2 is 0.517, which indicates there is major variability in financial performance explained by investment portfolio choice (share & debenture, govt. Securities, L/A and size). Hence, the result from the regression analyses model in Table 4.12 above suggests that share and debenture, govt. Securities and loan and advance indicates positive impact on financial perfromance of CBs in Nepal, while size of CBs indicates negative impact on financial performance of CBs in Nepal.

4.2 Major Findings

Having completed the basic analysis required for this study, the final and most important task of the research is to enlist the findings. On the basis of various categories of analysis adopted in this study, a comprehensive summary of the major findings of this study is presented below:

i.   The average ROI of EBL, NIBL and NMB is 14.9542 %, 13.8948 % and 11.8047 % respectively. The overall average ROI of CBs is sufficient i.e. 13.5512%. It indicates that the CBs are investing its funds sufficiently in different sector to generate profit.

ii. The average ROA of EBL, NIBL and NMB is 1.8824 %, 2.0503 % and 1.3401 % respectively. The overall average ROA of CBs is not satisfactory i.e. 1.7576%. It indicates that the CBs are not able to utilize their overall resources efficiently.

iii. The average ROE of EBL, NIBL and NMB is 23.89 %, 19.9372 % and 12.0731 % respectively. The overall average ROE of CBs is sufficient i.e. 18.6334%, it indicates that the equity of CBs is sufficient in generating the net profit.

iv. Commercial banks have invested more than 85% on loan and advances, more than 10% on government securities and less than 1% on share & debentures. It can be concluded that commercial banks are mainly interested to invest on loan and advances which gives high return. They are less interested to invest on share & debentures which also gives high return but have high risk. Commercial banks have also invested on government securities more consistently which are less risk and low return.

v. The overall average return on share & debenture is 5.0767% and standard deviation is 44.3985%. It indicates that investment on share and debenture is riskier. The CV of CBs return on share & debenture is 29.5597 which is not consistent.

vi. The overall average return on govt. Securities of CBs is 3.9289%, standard deviation is 1.9313% and CV is 0.4952. It indicates that the investment on govt. securities is consistent and less riskier.

vii. The overall average return on loan & advance of CBs is 10.2243%, standard deviation is 5.5923% and CV is 0.5467. It indicates that the return on loan & advance is consistent but riskier.

viii. The portfolio returns on EBL, NIBL and NMB is 9.0341 %, 9.7587 % and 9.6599 % respectively. In overall, the average portfolio return of commercial banks is 9.479%.

ix. The portfolio standard deviation of EBL, NIBL and NMB is 2.4784 %, 1.9527 % and 1.6919 % respectively. The overall average portfolio risk of commercial banks is 2.041%.

x. The CV of portfolio investment of EBL, NIBL and NMB is 0.2743, 0.2001 and 0.1751 respectively. The overall CV of CBs is 0.216, it indicates that the portfolio return is consistent.

xi. The estimated coefficients of share and debenture, govt. Securities, loan & advance on ROA are 3.36, 0.15, 0.07, 203.27 and -0.156 respectively. Similarly, the estimated coefficients of share and debenture, govt. Securities, loan & advance on ROE are 94.42, 0.12, 0.94, 480.82 and -13.36 respectively. It suggests that share and debenture, govt. Securities and loan and advance indicates positive impact on financial perfromance of CBs in Nepal, while size of CBs indicates negative impact on financial performance of CBs in Nepal.

xii.   The value of R^2 is 0.312, which indicates there is sufficient variability in financial performance (ROA) explained by investment portfolio choice (share & debenture, govt. Securities, L/A and size).

xiii. The value of R^2 is 0.678, which indicates there is strong variability in financial performance (ROE) explained by investment portfolio choice (share & debenture, govt. Securities, L/A and size).

4.3 Discussion

This study has used ROI, ROA and ROE to measure the financial position of banks. This ratio indicates the CBs position is in satisfactory. The study of Ramtel (2010) also found that the financial position of CBs are satisfactory. The results are consistent. It may be so because of similar financial tools are used to analyze the financial position.

This study shows that the Nepalese commercial banks are mainly interested to invest on loan & advance and govt. securities and less interested to invest on share & debenture. The study of Shrestha (2011) shows that Nepalese commercial banks are mainly interested to invest on government securities and less interested to invest on share & debenture. The results are not so consistent. Because the researcher did not show loan & advance investment.

This study also found that the investment portfolio choice has strong impact on the financial performance of commercial banks. The portfolio choices i.e share & debenture, govt. securities and loan and advance have positive impact on financial performance of CBs. However, the size has negative impact ob financial performance of CBs. The study of Kamwaro (2013) and Kimeu (2015) concluded that all the portfolio choices such as bond, equity, mutual funds and real estates and size have positive impact on financial performance of investment companies. The result of impact of size on financial performance is not consistent. It may be so because of different sectors study i.e commercial banks and investment companies or may be because of the different countries economy.

CHAPTER V

SUMMARY AND CONCLUSION

This chapter contains summary, conclusion and implications. Summary is a brief introductions of whole study. Conclusions and implications are made on the basis of the analysis relevant data by using various tools.

5.1 Summary

This study has been conducted with the objective of to examine the portfolio investment management of commercial banks in Nepal. Financial tools and statistical tools have been used to make this study more effective and informative. This study has covered ten years' data from 2009/10 to 2018/19. In this section, the researcher has summarized the overall study.

Commercial banks and financial institutions are the backbone of the Nepalese economy at present. It plays vital role in capital formulation, proper utilization of collected fund, providing various type of banking services. Commercial banks are the banks formed by joining two or more enterprises. Commercial banks collect money from public by providing attractive sound interest and can earn profit by lending it on mainly in business organization, industrial, agricultural sectors etc. So, we can say the main task of commercial bank is to mobilize idle resources in productive areas by collecting it from scattered sources and generating profit. Banks play the role of intermediaries channeling between saving and investment and fulfill the credit needs of customer as well as investment requirement of savers. It is clear that efficient and stable banking systems are crucial for an orderly economic growth.

Investment portfolio is one such tool that helps for proper utilization of resources. Portfolio theory deals with the selection of optimal portfolios that is portfolio provides the highest possible return for any specific degree of risk or the lowest possible risk for any specified return. Investment decision is one of the major decision functions of financial management. Banks should accept that type of securities which are commercial, durable, marketable, stable, transferrable and high market prices. A bank must diversify its investment on different sectors and in different securities.

Three commercial banks are taken as sample to analyze the portfolio investment management of the commercial banks. During the research, a brief review of literature has been conducted. As this research is related to the investment portfolio, financial

strength and weakness of commercial banks have been measured on the basis of annual reports. In that course, different tools have been used. Moreover, the various financial tools like ratio analysis, risk and return analysis and statistical tools like arithmetic mean, standard deviation, coefficient of variation, Karl Pearson's coefficient of correlation, regression have been extensively used. Tables and figures are used to present the data and results, secondary data are collected from the NRB reports, annual reports and other related data.

With respect to ratio analysis, different ratios related to investment portfolio have been used. EBL has highest ROI and ROE as compared to other two CBs. Similarly, Also, NIBL has highest ROA as compared to other two CBs. This study also found that government securities has lower risk and lower return, loan and advance has moderate risk and moderate return and share and debenture has higher risk and higher return. The overall CV of CBs is 0.216, it indicates that the portfolio return of CBs is consistent. The CBs are not used successful in mobilizing their resources in the field of shares and debenture. They invested very nominal percentage of total outside investment on share and debenture of other companies.

The coefficient shows that share and debenture, govt. Securities and loan and advance indicates positive impact on financial perfromance of CBs in Nepal, while size of CBs indicates negative impact on financial performance of CBs in Nepal. The regression analysis indicates that there is sufficient variability in financial performance (ROA and ROE) explained by investment portfolio choice (share & debenture, govt. Securities, L/A and size).

5.2 Conclusion

This study analyzed the portfolio management of commercial banks in Nepal. Some financial and statistical tools are used to analyze the portfolio behavior. Portfolio management is analyzed by risk and return of investment assets. Risk and return are analyzed by using the stock price, dividend, income from govt. securities and income from loan and advance.

The overall average ROI and ROE of CBs is sufficient but the overall average ROA of CBs is not satisfactory. It concludes that the overall financial position of CBs is satisfactory. Commercial banks are mainly interested to invest on loan and advances which gives high return. They are less interested to invest on share & debentures which

also gives high return but have high risk. Commercial banks have also invested on government securities more consistently which are less risk and low return. Overall the CBs portfolio management is not eficient to genarate handsom profit.

From the findings the study concluded that investment choice affect the financial performance of CBs in Nepal. The study also revealed that invstment in share & debenture, govt. Securities and loan & advance positively influences the financial performance of CBs in Nepal. But size of CBs negatively impacted in the financial performance of CBS.

5.3 Implications

Some of the valuable implications are drawn and put forwarded on the basis of findings and conclusion.

Managerial Implications

i. Commercial banks of Nepal are not success to formulate the appropriate investment policy and to implement it effectively. They are not considering about portfolio optimization. They are running by the instructions and direction of NRB and government. So, commercial banks must analyze the investment areas and develop efficient and effective investment strategy and then take the investment decision.

ii. Due to lack of investment portfolio concept, mostly banks are interested to invest their funds in securable, less risky and liquid assets. Generally, high risky assets give more profit and less risky assets give less profit. Even though, there is higher return as well as lower risk, banks should not lay all its eggs on the same basket. CBs should diversify their funds in various assets with suitable weight. Hence, CBs can generate handsome profit with lower risk by portfolio diversification.

iii. From the study, CBs are more interested to invest on loan and advances and then govt. securities. CBs invest very low portion of its total outside investment and total deposit on share and debenture of other companies. They invested very nominal percentage on share and debenture so it is suggested to all CBs to give priority to investment on share and debenture.

iv. Portfolio condition of banks should be regularly revised from time to time or it should be upgrading as per environment. It should always try to maintain the

equilibrium in the portfolio condition of the bank. The bank should always try to make continuous efforts to explore competitive and highly yielding investment opportunities to optimize investment portfolio.

v. Return on assets of CBs is not satisfactory position and size and performance of CBs have a negative relationship, so CBs should give more emphasis on better utilize assets to increase the return by reducing the portion of idle assets. CBs always keep a careful watch on every investment made i.e. what types, kind of projects and sectors are suitable for investment.

Implication for future researcher

i. This study was limited on the portfolio management of commercial banks. Hence, the researcher suggested that future researchers should focus on the contribution of loan portfolio management to the lending performance, the impact of portfolio management to the economic growth of the country.

ii. The study used observations only from commercial banking sectors. The result are not representatives of all banking sectors of Nepal. Hence there is a need for future research to include larger number of observation from the different sectors of banking sector other than commercial banks.

iii. This study has just considered three sample banks which may not be sufficient sample size. So future studies can take more sample size.

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Appendix 1

Total investment, total deposits, net profit, total assets and shareholders' equity of EBL

(Rs. in millions)

F/Y	Total Investment	Net Profit	Total Assets	Shareholders' Equity
2009/10	5,008	832	41,383	2,760
2010/11	7,744	931	46,236	3,114
2011/12	7,864	1,091	55,813	4,177
2012/13	9,264	1,471	65,741	4,828
2013/14	65,040	1,550	70,445	5,457
2014/15	15,103	1,574	99,153	6,891
2015/16	18,199	1,730	113,885	8,514
2016/17	11,965	2,006	116,510	11,545
2017/18	15,554	2,582	144,811	16,135
2018/19	21,769	3,054	170,078	17,625

Source: Annual reports of EBL

Appendix II

Total investment, total deposits, net profit, total assets and shareholders' equity of NIBL

(Rs. in millions)

F/Y	Total Investment	Net Profit	Total Assets	Shareholders' Equity
2009/10	8,636	1,266	57,305	4,585
2010/11	7,423	1,177	58,357	5,159
2011/12	10,438	1,039	65,756	6,050
2012/13	11,435	1,915	73,152	7,021
2013/14	15,384	1,940	86,174	7,926
2014/15	21,463	1,962	104,345	9,807
2015/16	29,227	2,551	129,783	16,288
2016/17	25,616	3,114	150,818	18,708
2017/18	17,789	3,659	171,894	24,871
2018/19	17,942	3,324	185,842	25,579

Source: Annual reports of NIBL

Appendix III

Total investment, total deposits, net profit, total assets and shareholders' equity of NMB

(Rs. in millions)

Fiscal Year	Total Investment	Net Profit	Total Assets	Shareholders' Equity
2009/10	2,716	156	13,227	1,812
2010/11	2,615	222	15,948	2,211
2011/12	2,440	52	18,495	2,264
2012/13	2,246	360	25,126	2,324
2013/14	4,191	410	30,212	2,813
2014/15	5,984	501	41,337	3,296
2015/16	8,504	1,115	74,613	6,862
2016/17	10,598	1,508	86,863	10,728
2017/18	9,757	1,854	112,391	16,489
2018/19	10,668	2,257	135,470	17,403

Source: Annual reports of NMB

Appendix IV

Interest earned from government securities and loan & advance, investment on government securities and loan & advance, MPS and DPS of EBL

Fiscal Year	IEGS (in millions)	IELA (in millions)	IGS (in millions)	ILA (in millions)	MPS	DPS
2008/09	-	-	-	-	2,455	-
2009/10	239	2,801	4,354	27,556	1,630	60
2010/11	362	3,870	7,145	31,058	1094	60
2011/12	420	4,505	6,069	35,911	1033	31.58
2012/13	248	4,637	6,989	43,393	1591	60
2013/14	241	4,897	2,544	47,572	2631	62
2014/15	96	4,852	8,588	54,482	2120	35
2015/16	186	4,779	10,362	67,955	3385	70
2016/17	239	6,408	8,538	77,288	1353	33
2017/18	526	9,474	14,483	94,182	663	20
2018/19	878	9,428	20,575	112,007	666	25

Source: Annual reports of EBL

Appendix V

Interest earned from government securities and loan & advance, investment on government securities and loan & advance, MPS and DPS of NIBL

Fiscal Year	IEGS (in millions)	IELA (in millions)	IGS (in millions)	ILA (in millions)	MPS	DPS
2008/09	-	-	-	-	1,388	-
2009/10	170	4,303	4,202	40,318	705	50
2010/11	258	5,436	4,295	41,096	515	75
2011/12	242	5,643	6,170	41,637	511	35
2012/13	176	5,566	5,986	46,400	784	60
2013/14	132	5,582	5,827	52,020	960	54
2014/15	71	5,619	9,103	66,219	704	36.4
2015/16	103	6,552	9,784	85,461	1,040	62
2016/17	209	8,787	12,286	104,625	770	65
2017/18	549	12,662	15,665	120,826	621	62
2018/19	637	13,877	14,171	127,141	519	27.5

Source: Annual reports of NIBL

Appendix VI

Interest earned from government securities and loan & advance, investment on government securities and loan & advance, MPS and DPS of NMB

Fiscal Year	IEGS (in millions)	IELA (in millions)	IGS (in millions)	ILA (in millions)	MPS	DPS
2008/09	-	-	-	-	499	-
2009/10	68	726	1,598	7,808	295	20.53
2010/11	115	1,305	1,888	11,209	195	18
2011/12	114	1,586	2,158	12,071	180	-
2012/13	99	1,732	1,541	16,491	252	10
2013/14	80	1,890	2,125	20,467	515	22.10
2014/15	59	2,175	4,469	27,289	507	8.84
2015/16	111	3,899	4,402	53,021	810	21
2016/17	190	5,799	6,718	61,213	545	16.58
2017/18	408	8,615	8,017	73,010	358	50
2018/19	494	10,407	9,039	91,803	382	49

Source: Annual reports of NMB

Appendix- VII

Investment in share & debentures of EBL, NIBL and NMB

(Rs. in Million)

Fiscal year	Investment in share and debenture		
	EBL	**NIBL**	**NMB**
2009/10	100	63	106
2010/11	108	71	102
2011/12	109	172	131
2012/13	24	305	115
2013/14	63	343	110
2014/15	63	533	225
2015/16	76	538	261
2016/17	76	752	424
2017/18	28	832	549
2018/19	28	2059	607

Source: Annual reports of EBL, NIBL and NMB

PORTFOLIO MANAGEMENT OF COMMERCIAL BANKS IN NEPAL

A
PROPOSAL

Submitted by

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Table of Contents

1. Background of the Study

A bank is an institution, which deals in money, receiving it on deposit from the customers, honoring customers drawing against such deposits on demand, collecting cheques for customers and lending or investing surplus deposits until they are required for payment. In the recent days, various types of banks are established for instance industrial bank, commercial banks, agriculture bank, joint venture bank, cooperative bank and development bank. This is the because of the growth in population, changes occurred in the industrial filed and trade, the beginning of the competitive age and changes in the people ideology and due to dependence on each other (Bhandari, 2003:1).

In most years, banks are the leading buyers of bonds and notes issued by government to finance public facilities, ranging from hospital and football stadium to airport and highways. Moreover, bank reserves the principal channel for government economic policy to stabilize the economy. And banks are also the most important sources of short-term working capital needed for the businesses. They have become increasingly active in recent years in making long-term business loans for new plant and equipment. When businesses and consumers must make payments for the purchase of goods and services, more often they use bank provided cheques, credit or debit cards, or electronic accounts connected to a computer network. It is the banker to whom they turn most frequently for advises and counsel when they need financial information and financial planning (Pokharel, 2009).

An investment in any funds is made to have some positive rate of return. Nobody is ready to bear risk without any return but to have returned one must ready to face some risk. To minimize the risk at the given rate of return the concept of portfolio diversification is necessary. Portfolio is simply a collection of securities gathered to achieve certain investment goals. "Investment positions are undertaken with the goal of earning some expected return. Investors seek to minimize inefficient deviations from this expected rate of return. Diversification is essential to the certain of an efficient investment because it can reduce the variability of returns around the expected return" (Francis, 2003:228).

A portfolio is a combination of investment 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 is reformed to develop a portfolio that has the maximum return at whatever level of risk and investor thinks appropriate. If portfolio is being constructed, they can reduce unsystematic risk without losing considerable return, therefore we need to expand our analysis of risk and return of portfolio context. "Portfolio means a collection or group of assets. Investment portfolio refers to an investment that combines several assets. It is a collection of securities. Portfolio means the lists of holdings in securities owned by an investor or institution." (John & Edmund, 1997)

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 individuals themselves. A portfolio of an individual or a corporate unit is the holding of securities and investment in financial assets. These holdings are the result of individual preferences and decisions regarding risk and return. The process of portfolio management is closely and directly linked with the process of decision making the correctness of which cannot be ensured in all cases (Jaiswal, 2012).

It must not invest its funds into speculative business man who may be bankrupt at once and who may earn millions in a minute. The bank should accept that type of securities which are commercial, durable, marketable stable, transferable and high market prices. A commercial bank can maximize its volume of wealth through maximization of return on their funds, investments and lending. So, they must invest their funds where they gain maximum profit. The profit of commercial banks mainly depends on the interest rate volume, tenure of loan and nature of investment in different securities. While investing excess funds in different securities or at the bank in different securities, while investing excess funds in different securities or at the lending period, the banks should keep in mind that the people deposit money at the bank in different account with confidence that the bank will repay their money on demand. Similarly, a bank should not lay all its eggs on the same basket i.e., to minimize risk, a bank must diversify its investment on different sectors. Diversification of loan or investment helps to sustain loss according to the law of average because if securities of a company deprived, there may be appreciation in the securities of other companies.

2. Problem Statement

The investing planning of the commercial banks in Nepal heavily depends on the rules and regulations provided by the central bank i.e., Nepal Rastra Bank. So, the composition of the assets portfolio of the bank is influenced by the policy of the central bank. Hence, this is the major problem for the investment in portfolio by banks.

In the present scenario of Nepal, the complex political and economic situation, lack of infrastructural facilities and down fall of lots of industries (private or government) have also become the major problems for the portfolio management for the banks as these all factors have obstructed the investment opportunities for the banks.

After the adoption of economic liberalization policy, the competition for commercial banks have become the burning issue as there is emergency of lots of finance companies, co-operative societies and development banks in the short time span. This has threatened the entire banking system and also made managers to improve their productivity. The credit policy, discount rate policy, interest rate and lending policy also effect the investment decisions of the commercial banks.

There is continuous economic recession going on in the country. Lower volume of the investment is causing lower growth of gross domestic product and hence trade deficit is increasing day by day. As a result, very few entrepreneurs are able to survive and others who are less competitive are backing out from market. Commercial banks are also affected directly by this economic turmoil and facing difficulties in furnishing their loans and advances towards the profitable sectors. In such a situation the commercial banks are bound to invest in government investment like T-bills, T-bonds or government securities which yield lower rate of return in comparison to credit.

Moreover, the Nepalese commercial banks concentrate on the urban areas like Birgunj, Kathmandu, Biratnagar, Butwal etc., making the rural and remote areas deprived of its modern banking facilities where most of the population lives. Despite of the circular passed by NRB for the compulsory investment for 10% of their investment in the rural areas, banks are inclined in such less profitable sectors. This state of affairs cannot contribute much to the economic development of the country and has also become the problem to commercial banks. In order to find out the portfolio behavior and remedies to their problem, studies commercial banks and researches are to be conducted to explore the reality. So, this study would be one of those efforts to find out the

investment pattern of commercial banks in portfolio with the analysis of these banks market returns and financial statements. This study seeks the answers of the following specific problems related to portfolio management practices of Nepalese commercial banks.

i. What is the portfolio investment managed by the commercial banks?
ii. What is the existing situation of financial position of commercial banks in Nepal?
iii. How the investment portfolio choice affect the performance of commercial banks?

3. Objectives of the Study

The main objective of the study will be to examine the portfolio investment management of the commercial banks of Nepal. The specific objectives of the study will be as given below:

i. To assess the existing situation of portfolio management of Nepalese commercial banks.
ii. To analyze the financial performance of commercial banks.
iii. To examine the effect of the investment portfolio choice in the performance of commercial banks.

4. Significance of the Study

With the introduction to the globalization concept, the whole market acts as a single market. The investment is concentrated not only in one area of place. It has widened its scope. Portfolio management is gaining popularity. Managing portfolios investment is quite a challenging task.

Different parties remain under influence from any business directly or indirectly as every business firm's economic activities should be performed taking into consideration the economic policy of the state which in turn affects the economic policy of the state and financial condition of the firm. All investors invest their fund on share for getting greater return which is achieved by the organization through value maximization objective. Previously, the investors had to concentrate only on shares of government sectors. But today with the introduction of economic liberalization in the country, various joint venture banks have emerged which have brought in ample of opportunities for investment to the investors in the country. This has been arisen the

need of depth study and analysis of risk and return, market sensitivity and hence portfolio management is created.

This study will be significant to various aspects of the economy. This study will help the organization to know about all its financial indicators and the trend in their fluctuation. It will also help the organization to have a clear picture regarding its efficiencies and the performance deviations as well. The outcome of the overall research will help the organization to innovate ways to solve the problems if any. The study will also make an aid to the entire banking industry. The tool will be used to almost all the banks and a comparative study can also be done. It will ultimately help to know about the soundness of the banking sector. Last but not the least, it will provide literature to the researcher who want to carry out further research in this field.

5. Limitations of the Study

Every study will be guided under certain limitation but the researcher will try to include all the necessary information for the conduct of the study as far as possible. Following will be some limitations under which this study has been conducted:

i. This study is fully based on secondary data.
ii. The time factor is the major limitation for this study has to be completed within a short span of time. The study has covered the data of past fiscal years from 2009/10 to 2018/19.
iii. The study only concerns portfolio management while doing the investment decision.

6. Literature Review

Review of literature is the study of past research studies and relevant materials. It is an advancement of existing knowledge and in-depth study of subject matter. It starts with a search of a suitable topic and continues throughout the volumes of similar or related subjects. This is related to the present research adds new dimension to the study. It is an integral and mandatory process in research work. In this part, focus has been made on the conceptual framework and the review of literature that is relevant regarding to the portfolio management. In this regard, various books, journals and articles concerned to this topic have been reviewed. Review of literature is based on available literature in the field of research. Every possible effort has been made to grasp knowledge and

information that is available from libraries, document collection center helps to take adequate feedback to broaden the information to study.

6.1 Review of literature

Portfolio is a collection of investment securities, for example, if you owned some of Prabhu Life Insurance Ltd. stock, some of Chandragiri Hills Ltd. stock, some of Nepal Infrastructure Bank Ltd. stock, some of United Finance Ltd. stock, some of Nepal Liver Ltd. stock and some of Bottlers Nepal Ltd. stock you would be holding six stock portfolios. Portfolio analysis considers the determination of future risk and return in the holding various blends of individual securities. Investment portfolio is one which the income of profit of the banks depends upon directly. Hence, the banks should never invest its fund in those securities; difference may cause a great loss.
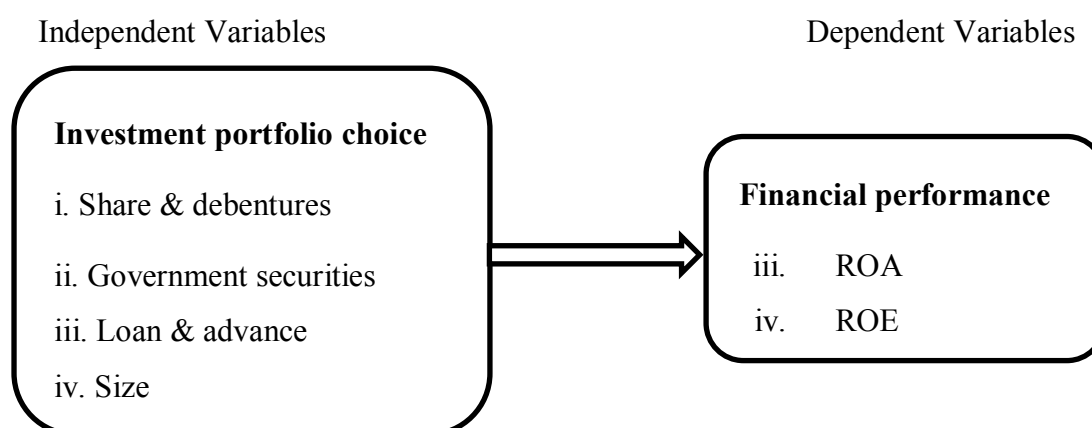
Nanda, Mahanty and Tiwari (2010) explored a data mining approach for classification of stocks into cluster is presented. After classification, the stocks should be selected from these groups for building a portfolio. It meets the criterion of minimizing the risk by diversification of a portfolio. The clustering approach categorizes stocks on certain investment criteria. They have used stock returns at different times along with their valuation ratios from the stocks of Bombay Stock Exchange for the fiscal year 2007-2008. Results of this analysis show that K-means cluster analysis builds the most compact clusters as compared to SOM and Fuzzy c-means for stock classification data. Then they select from the clusters to build a portfolio, minimizing portfolio risk and compare the returns with that of the benchmark index.

Orabi (2017) studied how investors select investments that will give them their required rate of return: they are mainly concerned with the performance alternatives. This study is mainly concerned with the performance of Jordanian Banks in their alternative investments in general and portfolio investment in particular. Study results revealed that banks of Jordan adhere to theories of formation of investment portfolios, in terms of diversification, trade-off between return and risk, and policy in the composition of the portfolios. The principle of convenience is applied to ensure the stability of the investor and the capital return. Study also pointed out that banks of Jordan adhere to the principle of diversification, and are committed to the principle of trade-off between risk and return and comply with the principles of the policy in the composition of the portfolio, and the principle of ensuring the stability of the investor and the capital return.

Mallick (2020) examined bank portfolio management under banking regulation and asymmetric information about borrower types and screening by banks and imperfect competition in the credit market. A bank tries to maximize expected profits subject to a portfolio variance constraint. The analysis yields the following results: For a monopoly bank, the incentive constraint of the efficient type of borrowers will be binding and the participation constraint of the inefficient type of borrowers will be binding. Further, given the variance constraint being binding, the optimal portfolio will be on the efficiency frontier. The paper also examines duopoly; the optimal portfolio will be on the efficiency frontier. The paper also examines duopoly competition between aggressive (predator) and defensive (prey) banks and potential cooperation and reveals that among the alternatives of natural monopoly, entry deterrence, takeovers and efficient portfolio diversification through mergers or interest swaps, the cooperative efficient portfolio diversification strategy will dominate whenever portfolio returns are negatively correlated between any pair of interesting banks as it reduces portfolio variance for a given package of interest and loans i.e. Sensex.

6.2 Conceptual Framework

Figure 1: Conceptual Framework for Impact of Investment portfolio choice on financial performance of commercial banks

Independent Variables   Dependent Variables

Investment portfolio choice

i. Share & debentures

ii. Government securities

iii. Loan & advance

iv. Size

Financial performance

iii.   ROA

iv.   ROE

Source: Impact of investment portfolio choice on financial performance of investment companies in Kenya (Kamwaro, 2013)

6.3 Research Gap

Going through the review of various articles, books, publications and also the unpublished research works previously done in this field, portfolio management is the most important part of Finance because they can strong impact of investment

(Kumakov, 2020). Thus, it is not very new concept. Many researchers have done research on this aspect. As long as researchers have no specific research has yet been able to go in-depth of the topic and has successfully accomplished the specified objectives of the research work.

The purpose of this research work and previous studies is quite different. Firstly, the studies of portfolio management of banks were made on different period. They had studied the portfolio management of banks on old periods (Parajuli, 2011) (Jaiswal, 2012). It became necessary to do new research study on portfolio management of recent periods. In this research, the data and information of sample banks has included used from 2009/10 to 2018/19. Similarly, the comparative portfolio management evaluation of three banks (EBL, NIBL and NMB) was not available on previous studies. To overcome this lacking, a new research study was required to evaluate three banks.

7. Research Methodology

7.1 Research Design

The primary objective of this study is to analyze the portfolio investment behavior of the commercial banks of Nepal. A researcher will collect the valuable data and suitable information relating to portfolio investment to achieve the objectives. This study will be mainly based on descriptive and analytical research design. Annual reports of respective banks, statistical report of NRB will be collected from 2009/10 to 2018/19 for the analytical purpose.

7.2 Population and Sample

Under the study of portfolio management of Nepalese commercial banks, the total number of commercial banks operating in Nepal will be the population. At present, there are 27 commercial banks are operating in Nepal. All 27 commercial banks will consider as the total population of the study. Out of them this study will be concerned with three commercial banks as a sample. In the sample, banks will be taken by using judgmental sampling technique. This sampling technique includes the judgment as who can provide the best information to achieve the objectives of the study. Therefore, this study choose the samples which are likely to give the required information. The selected sample banks for the study will be as follows:

i. Everest Bank Ltd. (EBL)
ii. Nepal Investment Bank Ltd. (NIBL)

      iii.   NMB Bank Ltd. (NMB)

7.3 Sources of Data

The secondary data will be used to achieve the main theme of the study. The main sources of the secondary will be annual reports of the subjected commercial banks. The major sources of secondary data will be as follows:

      i.   NRB reports from 2009/10 to 2018/19

      ii.   Banking and Financial Statistics from 2009/10 to 2018/19

      iii.   Annual reports from 2009/10 to 2018/19

      iv.   Different websites related to the study

7.4 Data Collection and Processing Procedure

Essential financial data will be collected from different websites of the banks. Data used for the study will be collected through annual reports, NRB reports etc. The collected data will be processed as per the need of the study. These data will be grouped in different tables and charts according to their nature.

7.5 Data Analysis Tools and Techniques

There are different tools and techniques for analysis of data. In this study, various financial and statistical tools will be applied to analyze the variables regarding the study. The analysis will also be done by using ratio and risk analysis techniques for profitability and risk measure. The empirical results will be estimated in the study by using annual data for the year 2009/10 to 2018/19 period.

8. Chapter Plan

The study will be organized into following different chapters:

Chapter I: Introduction

This chapter will include the background of the study, statement of problem, objectives of the study, significance of the study and limitation of the study.

Chapter II: Literature Review

This chapter will introduce the conceptual framework, review of available literature and research gap.

Chapter III: Research Methodology

This chapter will include the research methodology. It will deal with research design, population and sample, sources of data, data collection and processing procedure and data analysis tools.

Chapter IV: Results and Discussion

This chapter will concern with data presentation and analysis. This is the core part of the study. Collected data will be presented in the tabular and other forms. Different statistical presentations will be used for analysis the collected data by using different financial and statistical tools and techniques. It will also include the findings of the study and discussion.

Chapter V: Summary and Conclusion

It includes the summary of the study, conclusion and implication.

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