CHAPTER–I

INTRODUCTION

1.1 Background of the Study

Portfolio refers to the diversification of funds in different investment alternatives. The success of any bank in this very competitive lending environment depends largely on the way and manner the portfolio of banks being managed. The fast development of the country is possible only when competitive spreads over the country. The competitive power of banks depends on efficient operation of banks. For the efficient operation of bank they need to manage portfolio on their investment. The aim of portfolio formation is to minimize risk and thereby maximizing the return of the banks. The smooth and efficient performance of banks depends on the earning power of their investment and the risk associated with their investment.

The term 'portfolio' simply means collection of investment. For an investor through the stock exchange the portfolio will be collection of shareholding in different companies. For a property investor portfolio will be collection of buildings. To a financial manager within an industrial company portfolio will be a collection of real capital projects. It will be apparent that the actual nature of components of a portfolio depends on the population of opportunities, from which the selection has been made.

Bank formulated sensible investment portfolio to make it more effective, which eventually contribute to the economic development of the country. Formulation of sound investment portfolio and co-ordinate planned efforts push forward the forces of economic growth. Banks are the key for the capital formation, by collecting small portion of funds from different sectors. Industrial development is impossible without the existence of sound banking system in the country. On the other hand, the services of the Banks are help to extend the market(Eugene & Brigham, 2013).

Successful performance of bank is the outcome of successful formation and implementation of investment policy. An investment simply means the mobilization of saving in any alternative which is expected to generate positive return on future.

An investment is the current commitment of money or other resources in the expectation of reaping future benefits(Bodie, Kane, Marcus, & Mohanty, 2002).

The process of selecting a portfolio may be divided into two stages. The first stage starts with observation and experience and ends with beliefs about the future performances of available securities. The second stage starts with the relevant beliefs about future performances and ends with the choice of portfolio (Markowitz, 1952). Investment in any alternative cannot be free from risk. Risk refers to the chances that some unfavorable events will occur (Brigham, Eugene, Eharhardt, & Michael, 2012).The chance of variation on expected return in called risk. Investment in only one asset poses more risk than investment in different alternatives. The concept of portfolio means investment the risk of investment. To minimize the risk of investment negatively correlated investment alternative should select. Bank holds the portfolio including government securities, shares and debentures and loan & advances. By the time in response to monetary policy, banks aim, the portfolio is to change as per the requirement.

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1.2 Statement of the Problems

Banks are the backbones of every economy so that the success and failure of banks affects the economic development of any country. In Nepalese scenario the development banks are operated with similar types of investment mostly in loan and advance. If any unexpected things happen in economy the chance of all bank failure is high.

Generally, the problem is limited investment practice done by development banks and similar types of investment alternative chosen by them. Many of the banks invest their fund more on unproductive sector like land and building so that the economy cannot improve as per the banking sector growing.

The banks invest their funds in limited area as to achieve higher profit. There is hesitation to invest in long term projects cause of more safety minded. Now, the banking sector has reached to the remote areas of the country and has inspired a good deal in the growth of the economy. Various problems appear in resources mobilization by financial institution of Nepal. The fact problem is poor investment environment prevailing in Nepal. If the funds are wrongly invested neglecting analysis of any financial risk, business risk and other various types of risk and factor, the bank cannot obtain profitable return as well. Therefore, portfolio analysis between various types of investment made by commercial banks is important issues, which helps to minimize risk by diversifying total risk to different sectors. But portfolio management activities of Nepalese commercial bank as well as financial institutions to invest their funds in a good sector, which affects the investment portfolios.

Based on the above discussion on the research problems, some of the commonly identified issues for present research are identified as follows:

1. How is the investment portfolio managed by the selected development banks in Nepal?
2. What is the financial strength of the selected development banks in Nepal?
3. What is the relationship of portfolio management with total deposits, loan and advance,   government securities of selected banks?

1.3 Purposes of the Study

The main purpose of the study is to analyze the present portfolio management of Nepalese development banks and to find out the different investment alternatives used by the banks to formulate portfolio. The specific purposes are as follows,

1. To evaluate the investment portfolio of the selected development banks in Nepal.

2. To evaluate the financial performance of the selected development banks in Nepal in term of investment strategy.

3. To analyze the relationship of portfolio management with other variable like, total deposits, loan and advance, government securities and other investments of selected banks.

1.4 Significance of the Study

Efficient banking system shows the strength of economy. The healthy competition between banks helps to economic development of any country. In Nepalese situation banks are grown rapidly but the economic development is not increase significantly. In this situation the study will help to find out the best investment practice in different sector by successful banks and helps to reduce hesitation to adopt different investment practices. In present many bank investing in short term and highly liquid investment to reduce risk but the adoption of portfolio to reduce risk is seen low so that the study will be beneficial to those banks. The study will motivate to increase return by investing long term alternative which also helps to economic growth of nation.

Hence the main significant of this study of investment portfolio analysis of Nepalese development banks is to help how to minimize risk on investment and maximize return through portfolio analysis. This research is important to acknowledge them how to motive them for rational investment. They can compare market risk and individual risk or whether the security is as risky as market or not. This type of research provides filtered information. This research will inform him about valuation of stock is over- priced or under – priced.

So this research helps to increase analytical skill and decision– making on investment and suggestions for its improvement.

1.5 Limitations of the Study

In the context of Nepal, problem of adequate data and information is the major problem for research study. There is considerable place for arguing about its accuracy and reliability. Every study has limitations due to different factors of institutions, time period taken, reliability of statistical data, tools and variance. The following

limitations are pointed out in this study of portfolio management analysis of developments banks:

1. The study analyzed only the portfolio management of selected development banks and hence it does not cover the other aspects of the banks.

2. The study focused only four development banks which may not truly represent the whole population.

3. This study mainly conducted on the basis of secondary data. Therefore, the study has inherent limitations of the secondary data.

4. This study covered the analysis of only five years data from FY 2012/13 to FY 2016/17; hence, the conclusion drawn confirms to the above periods only.

5. This study assumed only the total deposit and capital from customers as a dependent variable, which may not fulfill all aspect of portfolio analysis.

6 This study is simply a partial study for the fulfillment of MBS degree. So the study cannot cover all the dimension of the subject matter and time period is also limited.

1.6 Chapter plan

The study on portfolio management analysis of development banks has been divided into five chapters respectively; Introduction, Literature Review, Methodology, Results and Conclusion.

Chapter-I: Introduction

The introduction chapter deals with the general background and the subject matter of the study. It consists of introduction of research study, which explains the focus of the study, statement of the problem, purpose of the study, significance of the study and limitations of the study.

Chapter-II: Literature Review

In the second chapter, the relevant and pertinent literature and various studies have been reviewed. The review has been made in terms of the theoretical background of banking principles that are relevant to this research work.

Chapter-III: Methodology

The third chapter briefly explains about the research methodology, which has been used to evaluate the portfolio management of banks under consideration. This chapter

consists of research design, sample and population, sources of data, and statistical and financial tools and techniques to measure the portfolio management analysis of developments banks.

Chapter-IV: Results

In the fourth chapter, the data required for the study has been presented, analyzed and interpreted by using various tools and techniques of financial management and statistics to present the result relating to the study.

Chapter V: Conclusion

The fifth chapter is the final chapter of the study, which consists of the summary of the four earlier chapters. This chapter tries to draw out a conclusion of the study and attempts to offer various suggestions and implications for the improvement of the future performance of the banks under review.

Finally, references and appendices are also included at the end of the study.

CHAPTER- II
REVIEW OF LITERATURE

The review of literature for the concerned subject matter for the present study has been presented in this chapter. Here, in this chapter review of concept of financial performance tools and techniques of concept of portfolio management analysis related research studies, regulating relating to development banks is strived to present briefly. The main purpose of doing research is reviewing and gaining new knowledge and the reviewing. The literature of the related documents helps the researcher to reach near his purpose. This chapter highlights upon the existing literature.

2.1 Theoretical Review
2.1.1 Concept of Investment

The simple meaning of the investment is to employ available funds to generate more money in future. An investment involves the sacrifice of current rupees for future rupees. The sacrifice takes place in the present and certain. The reward comes later and is uncertain investment generally involves real assets or financial assets. Real assets are tangible, material things such as building, automobiles, machinery factories and textbooks. Real assets are generally less liquid than financial assets; financial assets are pieces of paper representing an indirect claim to real assets held by someone else. Investment is the employment of finds with the aim of achieving additional 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 same benefits will occur in future. Investment involves long term commitment and waiting for reward. "The word investment is being fourth visions of profit, risk, speculation and wealth (Cheney, John, & Enward, 1992).

The term 'investing" could be associated with the different activities, but the common target in these activities is to "employ" the money (funds) during the time period seeking to enhance the investor's wealth. Funds to be invested come from assets already owned, borrowed money and savings. By foregoing consumption today and investing their savings, investors expect to enhance their future consumption possibilities by increasing their wealth (Levisakukaite, 2010).

There are two forms of investment, financial investment and real investment. Investment in financial assets like common stock, bond etc., are called financial investment. A real assets represents an actual tangible assets that always be seen held or collected e.g. real estate, gold etc. Investment in such tangible assets is called real investment.

Portfolio is the combination of securities such as stock bond and money market instruments. Investment portfolio is the set of investment vehicles formed by the investor seeking to realize it's define investment objectives. In others word, portfolio as approximate mix of collection of investment held by an institution or a private individual. The process of blending together the broad assets classes so as to obtain optimum return with minimum risk is called portfolio construction. Diversification of investment held to spread risk over many assets.

2.1.2 Portfolio Management

Portfolio theory was originally proposed by Harry Markowitz in 1952. The theory is concerned with selection of an optimal portfolio by risk averse investors. Risk averse investors is an investors who selects a portfolio that maximizes expected return for any given level of risk or minimizes risk for any given level of expected returns. Risk adverse investors will select only efficient portfolios. Portfolio theory can be used to determine the combination of these securities that will create the set of efficient portfolios. The selection of the optimal portfolio depends upon the investor's performance for risk and return.

Portfolio management is basically concerned with efficient management of portfolio investment in financial assets including shares and debentures of companies. Portfolio management assumes periodic evaluation of the security in the portfolio. A portfolio simply represents the practice among the investors of having their funds in more than one asset. The combination of investment called a portfolio, (Weston & Brigham, 2003).

Portfolio management is the art of handling a pool of funds so that it not only preserves its original worth but also over time appreciates in value and yields an adequate return consistent with the level of risk assumed (Feorge, Edward, & Arthur, 1999).

2.1.3 Phases of Investment Portfolio

The investment process describes how an investor should go about making decisions with regard to what marketable securities to invest in, how extensive the investment should be, and when the investment should be made. A five step procedure for making these decisions forms the basis of the investment process.

1. Set Investment Policy: Investment policy provides guidelines for investor for taking investment decision. Setting of investment policy involves determining investor's objective and amount of his/her investable wealth. Appropriate investment policy is to be framed out based on the goals or need, age, income, taxes, occupation, wealth, time, liquidity, risk and other circumstances.

2. Perform Security Analysis: It involves examining several individual securities or groups of securities within the broad categories of financial assets previously identified.

3. Construct a Portfolio: The third step in the investment process, portfolio construction, involves identifying those specific assets in which to invest, as well as determining the proportions of the investor's wealth to put into each one. Here the issues of selectivity, timing and diversification need to be addressed by the investor.

4. Revise the Portfolio: Portfolio revision concerns the periodic repetition of the previous three steps. That is, overtime the investor may change his or her investment objectives, which in turn may cause the currently held portfolio to be less than optimal.

5. Evaluate the Performance of the Portfolio: It involves determining periodically how the portfolio performed, in terms not only the return earned but also the risk experienced by the investor

2.1.4 Nature of Portfolio Management

1. Portfolio should be constructed according to the investor's objectives.

2. Constructed portfolio shall be review from time to time view of latest market developments.

3. Portfolio evaluation should be done according to risk and return

4. Portfolio management is a dynamic concept

5. It involves a regular scientific analysis right judgment and timely action.

2.1.5 Portfolio and Diversification

Modern investment theories are based on the concept of diversification. Diversification means that many assets are held in the portfolio so that the exposure to any particular assets is limited. It is a risk management technique that mixes a wide variety of investments within a portfolio. It is designed to minimize the impact of any one security on overall portfolio performance. Diversification is possibly the best way to reduce the risk in a portfolio.The objectives of portfolio analysis are to reduce risk by combing securities of low risks with securities of high.

Portfolio Diversification is a fundamental concept in investing. It can be a rather basic and easy to understand concept. However, in its implementation, many investors make catastrophic mistakes with too much concentration and others settle for average performance because of over diversification(Faulkenberry, 2010).

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 security 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 (Bodie, Kane, Marcus, & Mohanty, 2002).

2.1.6 Forms of Diversification

There are different forms of diversification. The important forms are as follows:

1. Simple Diversification

Simple diversification defined as not putting all the eggs in a single basket. It is the spreading of an investment portfolio over a wide range of companies to avoid serious losses. Simple diversification is the random selection of securities that are to be added to a portfolio. It reduces a portfolio's total diversifiable risk to zero and only the non-diversifiable risk remains. Investors have to use their investment in a selected number of securities so that loss from one security is covered by gain from other security.

2. Markowitz Diversification

This theory of diversification was developed by Harry M. Markowitz in 1952. This is also called the modern theory of portfolio management. Markowitz diversification is a method of selecting the optimum investment portfolio. It is the combining of assets which are less than perfectly positively correlated in order to reduce portfolio risk. It is more analytical than simple diversification and considers assets correlation or covariance in portfolio formulation. It shows that lower the correlation between portfolios of assets, the more that the diversification will be able to reduce the portfolio risk.

Markowitz's model is a theoretical framework for the analysis of risk-return choices. Decisions are based on the concept of efficient portfolios. A portfolio is said to be efficient when it provides maximum expected return for the same level of risk or provides minimum risk for the same level of return.

The portfolio selection model developed by Harry M. Markowitz is based on several assumptions regarding investor's behavior. The basic assumption of Markowitz models are as follows

- Investors consider each investment alternative as being represented by a probability distribution of expected returns over same holding period.
- Investors maximize one period-expected utility and possess utility curve, which demonstrates diminishing marginal utility of wealth.
- Individuals estimate the risk on the basis of the variability of expected returns.

- Investors base decisions solely on expected return and variance of returns only.

- For a given risk level, investors prefer high returns to lower returns. Similarly, for a given level of expected return, investors prefer less risk to more risk.

3. **Superfluous Diversification**

If an investor adds further more assets in the simple diversifiable portfolio, it is known as superfluous diversification. Under this diversification, no further risk reduction is possible but instead it arouses more portfolio management problems like high research cost, high transaction cost, impossibility of good portfolio management, etc. The performance of portfolio will not improve and will lower the net return to investor. Hence, the superfluous diversification should be avoided by investor.

4. **Diversification across Industries**

It is the technique to diversify the portfolio in which the portfolio assets are selected from different industries rather than from one industry. For example, an investor can make the portfolio by purchasing different securities of commercial banks, development banks, finance companies, trading companies, manufacturing companies, hotels and others. The investor can diversify the portfolio for selecting securities from different sectors or industries rather than selecting from only one. Such type of diversification is said to be diversification across industries.

5. **Simple Diversification across Quality Rating Categories**

Diversification of portfolio is also possible across the quality rating assets or securities. Different rating agencies rate different companies and their assets on the basis of the possibility of default risk or the risk of bankruptcy. Under the simple diversification across quality rating categories, investor selects assets randomly from the homogeneous quality ratings. The highest quality

portfolio of randomly diversified securities will be able to achieve lower levels of risk than the simple diversified portfolio of lower quality securities.

2.1.7 Mean-Variance Indifference Curves

Indifference curves represent the investor's risk preferences. Through indifferences curves, it is possible for1 an investor to determine the various combinations of expected returns and risks that provide a constant utility. Joshi (2002) writes that the curves can be drawn on a two dimensional figure, where the horizontal axis indicates risk as measured by standard deviation and the vertical axis indicates reward as measured by expected return.

The sets of mean variance indifference curves are literally a theory of choice. The only assumptions necessary to draw the indifference curves for risk-averse investors are

     1.   People prefer more wealth to less

     2.   They have diminishing marginal utility of wealth

These assumptions, if valid, imply that all decision makers are risk averse and will require higher return to accept greater risk.

Indifference curves cannot intersect. "A risk adverse investor will find any portfolio that is lying on an indifference curve that is "father north-west" to be more desirable (that is, to provide greater utility) than any portfolio lying on an indifference curve that is "not as far northwest". Last, he further describes that an investor has an infinite number of indifference curve.

2.1.8 Efficient Frontier

In modern portfolio theory, the efficient frontier is an investment portfolio which occupies the 'efficient' parts of the risk-return spectrum. Formally, it is the set of portfolios which satisfy the condition that no other portfolio exists with a higher expected return but with the same standard deviation of return. The efficient frontier was first formulated by Harry Markowtiz in 1952.

Olsen (1983) writes when only common stocks are considered as components of portfolio on the efficient frontier, a sample size of several hundred randomly

selected securities will provide an estimate of the efficient frontier not significantly different from the frontier obtained by using the entire universe of common stocks.

So the set of portfolio that dominates all other portfolio in the attainable set is referred to as the efficient frontier.

2.1.9 Capital Market Line (CML)

Capital Market Line(CML) is an extended form of Markowitz portfolio theory propounded by Alexander Sharpe. It is that linear line which shows the tradeoff relationship between risk and return of total portfolio or combination of market and risk free. In other words, hat linear straight line which analyzes the risk and return of borrowing and lending portfolio is capital market line. Capital market line shows the linear relationship between efficient portfolios and risk free assets.

Sharpe's (1964) writes the CML is the locus of the portfolio that wealth-seeking risks-averse investor will found more desirable than any other portfolios. Fisher and Jordan (2000) describe that all investor will end up with portfolios somewhere along CML and all efficient portfolios would lie along CML. However, not all securities or portfolios lie along the CML. From the derivation of the efficient frontier we know that all portfolios, except those that are efficient, lay below the CML. Observing the CML tells us something about the market price of risk.

2.1.10 Correlation Coefficient and Portfolio Risk

Thapa(2003)describes that the risk of the portfolio can be measured by using covariance of the returns of assets in the portfolio. The covariance's simply means the degree to which the returns of the two assets vary together. In other words its measures how two variables co-vary. A positive covariance indicates that the returns of two assets move in the same direction where as a negative covariance indicates that the return of two assets moves in opposite direction. If the covariance is zero, it means the rate of return on assets is independent. The correlation coefficient is the covariance divided by the product of the standard deviation for the investments.

Correlation coefficient (ρij)=$\dfrac{cov(rirj)}{\sigma i \sigma j}$

Where,

Pij = Correlation coefficient between assets i and j

Σi = Standard deviations of return for asset i

Σj = Standard deviation of return for asset j

The correlation coefficient between –1 and +1, if the value of correlation is 1, it is perfectly positively correlated. It indicates that the return on two assets move together exactly the same way. In additional, the value of correlation –1 means perfectly negatively correlated which indicates that the return on two assets move together perfectly opposite way. If the value of correlation 0 means that, there is no relationship between two assets return.

2.2   Review of Empirical Study

Russell (1969)conducted a research about aggregate portfolio adjustment of banks and found that bankers are responsive to interest rates in the management of their portfolios. In every case the direction of portfolio share response to the economic variables is as predicted by the model. There aggregate response toward new equilibrium portfolios nonetheless, is not immediate. Only partial adjustment is made in a short period of time. This slow adjustment tends to obscure the fact that the market rates of interest are important determinants of asset composition. The success of the model in estimating the equilibrium portfolios during World War II on the basis of the prevailing interest rates also tends to substantiate the importance of the interest rate structure in the determination of banks' portfolio composition.

Velnampy&Pratheepkanth (2012) the study was to identify the impact of Portfolio structure on Performance. Portfolio structure, that is Income from Deposit, Income from pawning, and Income from loan as independent variable and Performance, that is Net Profit, Return on Capital Employed and Return on Equity as the dependent variable are considered. In order to select the sample, convenience sampling techniques method is used. The study suitably used both secondary data. Operational hypotheses are formulated; results revealed that Portfolio system has a positive association with Performance. Further, Portfolio structure is enhanced by Income from Deposit, Income from pawning, and Income from loan in the selected financial institutions where the beneficial impacts are observed on Performance. Therefore, they have to pay more attention for tuning Portfolio structure techniques.

Bernnan& Cao (1997) developed a model of international equity portfolio investment flows based in difference in informational endowment between foreign and domestic investors. It is shown that when domestic investor's poses a cumulative information advantages over foreign investor about their domestic market investor tends to purchase foreign assets in period, when the return on foreign assets is high and to sell when the return is low. The article has concluded that if foreign and domestic investors are differently informed then portfolio flows between two continue will be linear function of the contemporaneous return in all national market indices, and if domestic investors about domestic securities, the coefficient of the most market return will be positive. It had developed a model of international equity portfolio flows that relies on informational difference between foreign and domestic investors. The examination of US portfolio investment in emerging market has shown the strong evidence that US purchase are positively associate with the local market return in many countries.

Chen, Shi, Wei & Zhang (2014) investigated empirically the effects of diversification on the Chinese banks' return and risk from the aspect of sector. Panel data on 16 Chinese commercial banks during the 2007–2011 periods was used for the study. They constructed a new diversification measure, taking systematic risk of different sectors into consideration by weighting them with their betas and compare the results with those of more conventional measure. They found that sectorial diversification is associated with reduced return and also decreased risk at the same time, which however, contradicts existing findings in developed countries such as Italy and Germany, and also in emerging economies such as Brazil and Argentina. Their analysis also provided important implication for regulators and policy makers of the banks in emerging markets.

Malla (2017) study has found that the portfolio management of the Nepalese banking sector has been improved remarkably during last 10 years due to the strict regulation of Nepal Rastra Bank.(this article tried to describe the present credit portfolio management practice of Nepalese commercial banks by using qualitative and quantitative methods). In this study, concentration of banks for credit portfolio

management has been studied by analyzing security wise loan, product wise loan and sector wise concentration of loan where the researcher has found assorted outcomes. This research also aims to provide some suggestions to overcome with problems associated with credit portfolio.

Arie (1970) in his empirical study he found out the parameters of a simple model of banks' asset choice. The model focuses an attention on short run changes in the composition of investment portfolio. Specifically it is argued that the demand for liquid assets is a function of asset size, interest rates and deposit instability. The study focuses on the factors which influence the change in size and composition of the portfolio and particularly concerned with the short run reaction of the individual bank to changes in its exogenously determined parameters. The result shows that the various components of the investment portfolios of the sample banks are sensitive to changes in wealth, relative yields and deposit stability. The banks are sensitive to changes in relative interest rates.

Shahi(2005)the researcher has made following conclusions that mean investment to total deposit ratio of SCBNL is the highest while   the mean loan & advances to total deposit ratio is the lowest,the COV of investment to total deposit ratio of NBBL is the highestwhich shows least consistency, the variability of liquid fund balance to joint deposit ratio of EBL is the least,the mean return on total assets ratio & return on shareholder's fund of NBBL is the lowest while SCBNL is the highest. SCBNL and EBL focus   on investing its fund on private as well as government shares, while NBBL focuses its investment on government securities. This shows that bank investing in government as well as private sector achieves better. (Researcher recommendations are made by the researcher are, For better performance investment should be increased, the priority should be given to loan and advance in order to mobilize the   total deposits, the liquidity fund should be increased to meet the demand of deposit, investment position of joint venture banks, generally, allocation of fund into different degree of risk of banking assets and raised rate of return should be verified in such a way that would maintain balance in conflicting goal maximization and minimum risk.)

Koehn, Michael, &Santomero(1980) examined the portfolio allocation that flows from the portfolio decision of the firm and the effects on bank portfolio risk of a regulatory increase in the minimum capital assets ratio that is acceptable to the supervisory agency. The allocation across assets becomes the choice variable deriving the optimal mean rate of return per unit of the capital and the variance of that return. Therefore, the analysis will be developed in terms of risk and return per unit of capital with no loss in generality. 'According to them, an explicit relationship between the risk of the bank portfolio, the amount of bank capital held and the chance of bankruptcy must, therefore, be obtained to evaluate the result of bank capital regulation.

Shrestha(2004) the researcher meet the stated objectives of the study, descriptive cum analytical research design has been adopted. According to him all the historical closing stock prices of banks, percentage of cash stock dividend, NEPSE index for the seven years (1997 to 2003) including the market capitalization of the banks for 2003 are enumerated. The objective of the research were to evaluate common stock and beta for analysis of systematic risk with common stock priced and identify the range for true beta and true alpha of listed commercial banks under present study in terms of risk and return. He summarized that the investment in single assets is extremely volatile construction of portfolio can diversify such volatility to some extent. Using the tools developed by Sharpe Treynor and Jensen, stocks of the banks in terms of risk and return associated to the stocks have been evaluated in this study. Researcher found that majority of the risk adverse invested fined minimum variance portfolio yielding optimal satisfaction. Single index model of Sharpe had however; identified only three stocks are applicable for the construction of the optimal portfolio. Using the model, the stocks of SBI, HBL and SCB with respective weights of 3%, 68% and 29% are required for construction of the optimal portfolio and the return derived from the same is 58.98% with S.D. of the returns of 61.65%.

Elton &Gurber(1980) Expected return, realized return and asset pricing tests, one of fundamental issues is finance in what the factors are that affect expected return on assets, the sensitivity of expected return to those factors, and the reward for bearing this sensitivity. The data set covers the period from July 1, 1991 through December 31, 1997. The history shows almost all the testing is done taking realized return as a proxy for expected return. Using realized return, as Proxy for expected return is that the unexpected returns are independent, so that as the observation internal increases they tend to a mean of zero.

The purpose of this article is to convince that reader there is a distinction and worth to find out alternative ways to estimate expected returns.Following preliminary tests are done in the study:

- A constant risk premium
- Forward rates and risk premium
- Factor analysis
- Changing risk premiums

According to the researcher "realized returns are a very poor measure of expected return and that information surprises highly influence a number of factors in assets pricing model". The empirical use of judgment and factor dependability can be used to draw implication which will govern to the great extent the pricing decision fix and accurate.

Shrestha(1996) in the research five commercial banks are taken under study. They are Nepal Bank Ltd., RastriyaBanijya Bank, Nabil Bank, Nepal Indosyez Bank and Nepal Grindlays Bank Ltd. Data are collected from various sources from 1975 to 1990 A.D. The objective of the research was to evaluate the financial performance of the commercial banks; to analyze the investment pattern of commercial banks on securities and loans, to observe the relationship of bank portfolio variables with national income and other fiscal variables. Amount these objectives financial performance of the commercial banks and observe bank portfolio variables are somehow related to this research. From the analysis of commercial banks, the research has made following conclusion that the general trend commercial banks asset holding is growing, spread of foreign banks is relatively higher than that of Nepalese banks, the relationship of banks portfolio variables is found to be best explained by log linear equations and borrowing of commercial banks from the central bank has found to be positively affected by the cash reserve requirement bank rate and Treasury bill rate.

The suggestion have been points out from the research is that The evaluation of the performance of the commercial banks can be made only with reference to the government policy and regulation framework of the central bank, Some of the problems of resource mobilization and resource development by the commercial banks in Nepal can be directly traced to the fiscal policy of the government and heavy regulatory procedures of the central bank.

The joint venture between foreign banks and Nepalese banks should be encouraged in Nepal. Specially, in merchant and investment banking, leasing and other new creative financial services are provided. The entry of foreign joint venture banks hopefully

will bring healthy competition in the environment that will improve work and service efficiency of Nepalese banks too.

Shrestha(2010) the main objectives of the study were to evaluate the Investment Policy of the bank for loans and advances and that for investment on securities, to analyze the investment portfolio of bank in ground of portfolio's liquidity, portfolio management, portfolio performance and portfolio's profitability, to analyze how efficiently the resources have been utilized, to evaluate changes in the portfolios after the improvement in the Capital Adequacy position of the bank. On her study she found that bank has formulated a satisfactory loans and advances policy. Most of the credit related matters were found well incorporated in the policy documents. Current assets of NCC Bank have exceeded current liabilities in average position, Liquid loans to total loans ratio reflects poor liquidity position of the loan portfolio, Financial ratio of marketable or liquid securities to total securities indicated improving situation. The loan and advance to total assets ratio ranges from the minimum of 53.67% to the maximum of 92.41%, which shows the ratios are inconsistent over the study period. Investment on government securities to total assets ratio has shown fluctuating trend in her study period. The ratio of NCC Bank shows decreasing trend, it might be due to increasing competition in the banking sector or bank was not paying enough attention towards non-funded business. Portfolio performance ratios reflects the non- performing loan of the bank face the major problem, and Profitability ratio analysis reflects poor profitability position of bank. The Interest incomes to total income ratios were more or less consistent over the study period.

Wagle (2013) the major objective of the study was to find out the portfolio of commercial banks for an investor, to analyze risk and return of investment securities, to find out the optimum portfolio of security trading in NEPSE. This study is also helpful to find out, to what extent commercial banks manage their risk and return using portfolio concept. Main objective of the studies are to find out the portfolio of commercial banks for an investor, analyze risk and return of investment securities. He stated that most of commercial banks are interested to invest their funds in more liquid and less risky sectors. Investment on loan and advances is better than that of investment on share, debentures and government securities because loan and advances provides fixed interest income.

Commercial banks mobilize their deposit and other funds to profitable sector. All the banks are able to attract the investors because of their performance. The expected return of all the banks are above 45%.The banks providing good return to the

investors and able to achieve the trust of people. All the banks has beta of greater than 1 that means all the banks has aggressive stock. By the analysis of different tools and techniques and monitoring closely the market.

Adhikari (2012) found that the overall market return and risk, the shares of all commercial banks are attractive for investment. Considering the return and risk characteristics of the common stock of all the selected Development Banks, the common stock of DCBL is most attractive and NDBL is seen most risky. All sampled Commercial Banks are providing Cash Dividend most often. Development Banks are not providing dividend regularly as Commercial Banks.

Most of stocks of Commercial and Development Banks move in the same direction, they are highly positively correlated to the market. The stocks of all sampled Commercial Banks and most Development Banks are under-priced, since their required rate of returns are less than average rate of returns. While making two or three assets portfolio between commercial banks, investing large proportion in NIBL and small portion in NABIL and HBL significantly reduces the risk without significant reduction in return likewise while making two or three assets portfolio between Development Banks, investing large proportion in DCBL and small portion in NDBL and ACEDBL significantly reduces the risk without significant reduction in return. Forming the portfolio between Commercial and Development Banks, higher weights providing in Commercial Banks and lower in Development Banks can reduces risk significantly without significant reduction in return.

Paudel(2017) the research focuses towards identifying contribution of Portfolio management through attracting investors on healthy business area. Efficiency of investment by Nepalese commercial banks is measured in this study. Descriptive and analytical research design is used for carrying out the results. From the risk and return analysis identified the ability of banks to generate income along with minimizing risk. Different statistical tools like mean, SD, CV, and correlation coefficient also have been used to meet the specific objectives of the research study. The statistical software SPSS version 20 was used as a device to accommodate analysis. The different financial ratio shows the satisfactory results to the both banks. The study

recommends to the both bank to develop other strategies towards marketing and mobilize more deposits as they are indispensable tools in order to increase the profitability of the banks.

2.3   Conceptual Framework

Below are indicated independent and dependent variables included in the research topic portfolio management of commercial banks in Nepal. The theoretical framework interlinks independent and dependent variables as depicted in the figure below:
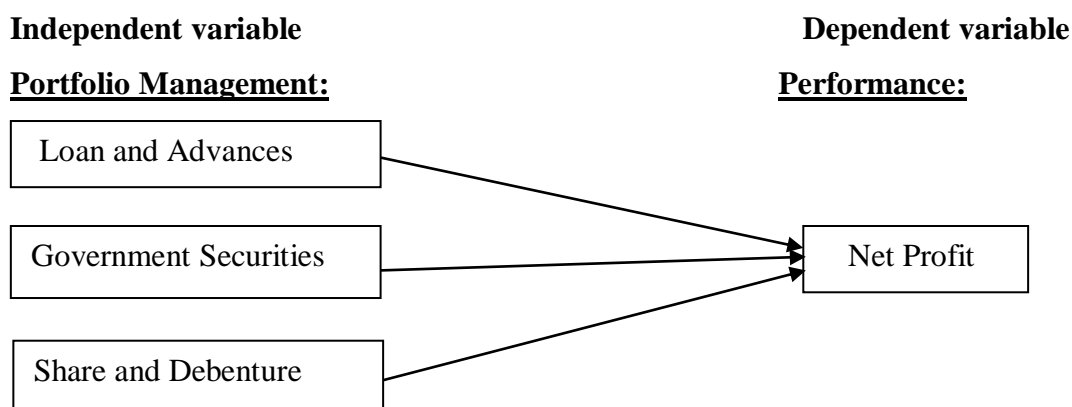
Independent variable   **Dependent variable**

Portfolio Management: **Performance:**

| Loan and Advances |

| Government Securities | | Net Profit |

| Share and Debenture |

Figure 2.1 Conceptual Framework

Portfolio management is independent variable, which is measure by loan and advance, government securities and other investment. On the other hand portfolio performance is dependent variable which is measure by net profit of the respective banks.

2.5 Research Gap

The researcher is interested in analysis of portfolio management of development bank in Nepal the related research has not taken into consideration the portfolio management factors together with the performance of development banks and how it can be improved as means of increasing their financial performance. After having observed the gap in this area of research, the researcher conducted the research on the portfolio management of development banks in Nepal specially, for KailashBikas Bank, JyotiBikas Bank,GandakiBikas Bank and MuktinathBikas Bank. So this study

will be helpful to those interested persons, scholars, students, stakeholders, businessmen and government for academically as well as policy perspectives.

CHAPTER–III

RESEARCH METHODOLOGY

3.1 Methodology

In this section methodology used by the researcher in this study is presented. This section also incorporates definitions of some of the major terms used in the study, which are placed at the end of this section.

3.2 Research Design

This study seeks to analyze and evaluate the portfolio management of development banks and provide suggestions on the basis of the evaluation. To accomplish this objective descriptive research approach has been adopted. It tries to describe and analyze all these facts that have been collected for the purpose of the study.

Secondary data have been used for the study. Data were collected from the various websites, annual reports of the respective banks etc. Hence, the research design is made by collecting the information from the different source and data have been tabulated and analyzed by using various financial and statistical tools. At the end, summary, conclusion and recommendations are set for the purpose of the study.

3.3 Population and Sample

According to Nepal Rastra Bank, there are 33 development banks operating in Nepal until 2019mid January.Among the 33 Development banks there are only 12 national level development banks are there, which is the targeted population of this study. Out of them four banks KailasBikas Bank, JyotiBikas Bank, GandakiBikasBank andMuktinathBikas Bankare taken as the samples of this study.The sample had selected on the basis of convenience sampling method.

3.4Sources of Data

The study is based on secondary data. The secondary sources of data collections are those that have been used from published on used by someone previously. The secondary sources of data are Balance Sheet, Profit & Loss account and literature publication of the concerned banks. The NEPSE report of the concerned bank has furnished some important data to this research work. Some supplementary data and

information have been collected from the authoritative sources like Nepal Rastra Bank, Central Library of T.U., Nepal Stock Exchange Limited, Security Exchange Board, Economic Survey, National Planning Commission, different journals, magazines and other published and unpublished reports documented by the authorities.

3.5 Nature of Data

In case of entire study secondary data used are basically of the following nature. Most of the data taken for the analysis is collected in the form of published by the concerned banks through their annual reports. Since all the banks which are taken into account for the study are listed in NEPSE, the figures are all most reliable and suitable too.

3.6 Data Collection Techniques

The research consists of secondary data. Since the nature of these two types of data is different, the data collection procedure also varies. To collect the secondary data, published materials are viewed in various spots like books by different authors, unpublished thesis reports, journals, internet web sites, online library, and annual reports of listed companies. Nepal stock exchange and security board of Nepal etc. to collect these secondary data, the researchers visited campus library of TU central library.

3.7 Data Processing

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

The relevant data have been inserted in meaningful tables. Only the data that are relevant to the study have been presented in tabular form in the understandable way and unnecessary data excluded. It is attempted to find out the conclusion from the available data, with the help of various financial as well as statistical tools. An

advanced computerized statistical program, SPSS has used to provide efficiency in calculation of statistical information.

3.8 Data Analysis Tools

Analysis and presentation of the data is the core of each and every research work. This study requires some financial and statistical tools to accomplish the objective of the study. The financial and statistical tools are most reliable. In this study various financial, statistical and accounting tools have been used. These tools make the analysis more effective, convenience, reliable and authentic. The various results obtained with the help of financial, accounting and statistical tools are tabulated under different headings. Then they are compared with each other to interpret the results. Two kinds of tools have been used to achieve the certain goals.

      1.   Financial Tools

      2.   Statistical Tools

3.8.1 Financial Tools

This study is related to investment portfolio analysis. Financial tools are more applicable. Financial tools are those which are used for the analysis and interpretation of financial data. These tools can be used to get the precise knowledge of a business which in turn are fruitful in exploring the strength and weaknesses of the investment policies and strategies. For the sake of analysis, following various financial tools have been used in order to meet the purpose of the study:

3.8.1.1 Ratio Analysis

In financial analysis, ratio is used as an index of yardstick for evaluating the financial position and performance of the firms. Since, this study mainly moves around investment portfolio of development banks. Only such ratios which are related to investment of DBs are taken here. Hence, in this study the following ratios are calculated and analyzed.

1. Total Investment to Total Deposits Ratio

This ratio shows the utilization of firm's deposits on investment in government securities and purchasing shares and debentures of other companies. A high ratio is indicative of high success in mobilization of deposits in investments and vice-versa. This ratio can be calculated by dividing total investment by total deposits.

Total investment to total deposits ratio$= \frac{total investment}{total deposit}$

2. Cash and Bank Balance to Total Deposit Ratio

This ratio measures the mathematical relationship between the bank's cash and bank balance and its total deposit. Where, cash and bank balance is the most liquid fund under the current assets which would include cash on hand, other cash items available, bank balance with other banks etc. Similarly total deposits include current deposits, saving deposits, fixed deposits and other types of deposits. Hence this represents the bank's ability to pay immediate deposit calls to their depositors whenever required. It is not that investment on profit motive should be such that the required cash and bank balance is neglected; thus the consideration of this ratio is also equally important. Mathematically,

Cash and bank balance to total deposits ratio $= \frac{Cash and bank balance}{Total deposits}$

3.Loan and Advances to Total Deposit Ratio

This ratio assesses to what extent the banks are able to utilize the depositor's funds to earn profit by providing loan and advances. It is computed by dividing the total amounts of loans and advances by total deposited funds. The formula used to computed this ratio is as

Loan and advance to total deposits ratio $= \frac{loan and advances}{total deposit}$

High ratio is the symptom of higher/ proper utilization of funds and low ratio is the single of balance remained unutilized/ idle.The high ratio may be more risky to the banks because of increasing non- performing loan of banks, so the ratio should be in balance in term of situation.

4. Return on Total Assets

Return on total asset is also called return on investment because bank generates profit by utilizing its assets in different sectors. However the bank should maintain the optimum level of utilization of its total asset (working fund) so that it generates highest level of profit and maintain its liquidity at the same time. Here higher ratio shows better utilization of its assets in terms of generating profit.

Return on total assets $= \frac{Net profit}{Total assets}$

5. Investment on Government Securities to Total Deposits Ratio

This ratio shows that Bank's investment on government securities in comparison to the total assets. Investment on governmental securities gives second line of defense for liquidity next to cash and Bank balance. This ratio signifies the Bank's portfolio management in relation to liquidity. This ratio is calculated by dividing investment on government securities by total assets.

Government securities to total deposits ratio $= \frac{Investment on government securities}{total deposit}$

6. Investment on Share and Debenture to Total Deposits Ratio

This ratio shows the mathematical relationship between the total deposits and its use on the investment on shares and debentures. According to the NRB directive the investment portfolio of a bank should be diversified – one of which could be investing on shares and debentures of other companies for the progress on the assets.

Mathematically,

Share and debenture to total deposits ratio $= \frac{Share and debenture}{total deposit}$

7. Other Investment to Total Deposit Ratio

This ratio shows the mathematical relationship between the total deposits and its use on the other investment. Other investment means the investment made by bank other than loan and advance, share and debentures, government securities which are investment in hydropower, mutual funds, etc.

Mathematically,

Other investment to total deposits ratio $= \frac{other investment}{total deposit}$

3.8.2 Statistical Tools

To meet the objectives of the study statistical tools are equally important. It helps us to analyze the relationship between two or more variables. In this research, the following statistical tools are used.

The statistical tools that are used for data analysis:

  1. Mean

  2. Standard deviation

  3. Karl Pearson's Correlation co-efficient analysis

1. Mean

A mean is the average value or the sum of all the observations divided by the number of observations. Arithmetic mean is also known as the arithmetic average and it is denoted and given by the formula:

$$\overline{X} = \frac{\sum X}{N}$$

Where,

$\overline{X}$ = Mean of the values.

$\sum X$ = sum of the values.

N = Number of Pairs of Observations.

2. Standard Deviation

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

$$\sigma = \sqrt{\frac{\sum (X - \overline{X})^2}{n}}$$

Where,

σ = Standard deviation

$\sum$ = Sum of the observation

$\overline{X}$ = Mean of the values.

X = Observation set

n = Number of observation

3.Coefficient of Variation

The coefficient of variance measures the ratio of the standard deviation to the mean expressed in percentage. It is calculated as under:

$$C.V = \frac{\sigma}{\overline{X}} \times 100$$

Coefficient of variance is also useful in comparing the amount of variation in data groups with different mean. It is the relative measure of dispersion. A distribution with smaller coefficient is said to be more homogeneous than the other. On other hand, a series with greater coefficient of variance is said to be more variable of heterogeneous than the other (Gupta, 2000:416).

4. Karl Pearson's Correlation Co-efficient Analysis

Correlation coefficient measures the relationship between two and more than two variable is accompanied by the change in the value of the other. Or it indicates the direction of relationship among variables.A method of measuring correlation is called Pearson's coefficient of correlation. It is denoted by *'r'*. The correlation coefficient can be calculated by using following formula:

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{N\sum x^2 - (\sum x^2)}.\sqrt{N\sum y^2 - (\sum y^2)}}$$

Where,

N = Number of observations

When,

r = 0, there is no relationship between the variables.

r = 1, the variables have perfectly positive correlated.

r = −1, the variables have perfectly negative correlated.

5. Regression Analysis

Regression is a statistical method for investing relationships between the variables by the establishment of an approximate functional relationship between them. It is considered as a useful tool for determining the strength of relationship between two (Simple Regression) or more (Multiple regression) variables. It helps to predict or estimate the value of one variable when the value of other variable/variables is known. The regression line of dependent variable (Y) on independent variable (X) is given by;

$Y = a + bX$……………………….. (I)

Where, a   = constant

       b   = regression coefficient

CHAPTER-IV
RESULTS

This chapter entitled "Results" is a crucial chapter and has been organized to present the result, analyze and interpret them accordingly. The basic objective of this study is the portfolio management analysis of the selected development banks .In this chapter, efforts have been made to present and analyze the collected data. Data collected from various sources were classified and tabulated as requirement of the study and in accordance to the nature of collected data. Different financial and statistical tools are used to analysis the data. To make easier and make clearer to understand, data are presented in the required figure also.

4.1 Ratio Analysis

4.1.1 Total Investment to Total Deposit Ratio

This ratio shows the utilization of firm's deposits on investment in government securities and purchasing shares and debentures of other companies. A high ratio is indicative of high success in mobilization of deposits in investments and vice-versa.

Table 4.1Total Investment to Total Deposit Ratio

| Year	KBBL	JBBL	GBBL	MBBL
2012/13	4.76	4.05	0.39	1.45
2013/14	4.26	3.76	0.05	1.65
2014/15	5.36	3.25	0.6	1.33
2015/16	3.05	5.93	1.85	1.02
2016/17	3.36	5.41	2.19	1
Mean	4.158	4.48	1.02	1.29
S.D.	0.959	1.138	0.94	0.28
C.V	23.07	25.41	93	21.71

Source: Annual report of banks.

The table 4.1 measures the total investment to total deposit ratio of selected banks. The table presented that the total investment to total deposit ratio of KBBL was in fluctuating trend. The highest ratio was 5.36% in the fiscal year 2014/15 and the lowest was in the fiscal year 2015/16 i.e. 3.05%. In average KBBL kept the

ratio4.158%. Also the ratio of JBBL was in fluctuating trend. The highest ratio was 5.93% in the fiscal year 2015/16 and the lowest was in the fiscal year 2014/15 i.e. 3.25%. The average ratio of JBBL was 4.48%.

Similarly, the total investment to total deposit ratio of GBBL was in fluctuating during the period of research. The highest ratio of GBBL was 2.19% in the fiscal year 2016/17 and the lowest was 0.05% in the fiscal year 2013/14. In average, GBBL kept 1.02%. Consequently, the total investment to total deposit ratio of MBBL was not more fluctuating trend. The highest ratio was 1.65% in the fiscal year 2013/14 and the lowest was in the fiscal year 2016/17 i.e. 1%. The average ratio was 1.29%.

Figure 4.1Total investments to total Deposits Ratio
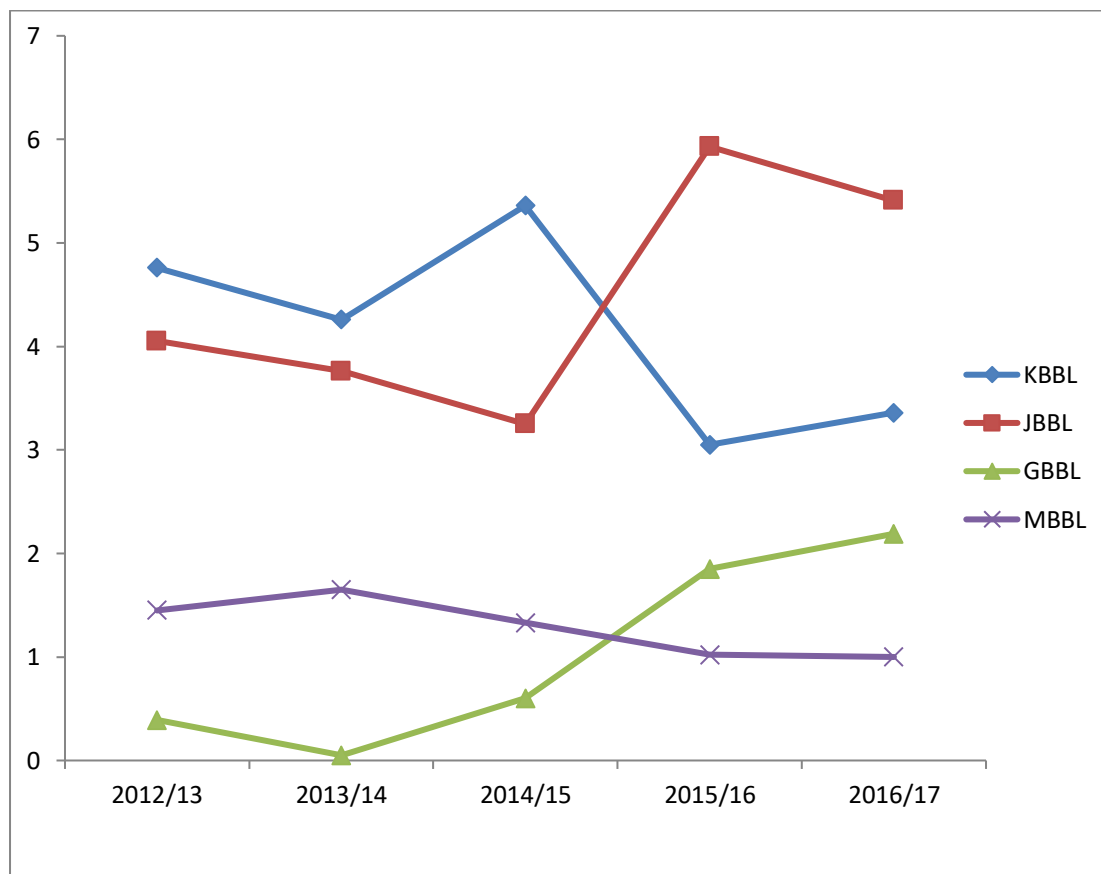


4.1.2 Cash and Bank to Total Deposit Ratio

Adequate liquidity is also must in the banking sector in order to protect its solvency and to honor its short-term obligations and liabilities. Hence bank should have enough cash and bank balance in comparison to total deposit.

Table 4.2 Cash and Bank Balance to Total Deposit Ratio

Year	KBBL	JBBL	GBBL	MBBL
2012/13	8.42	7.42	26.9	9.75
2013/14	7.41	7.96	29.3	7.71
2014/15	8.13	6.94	26.7	9.19
2015/16	5.16	6.07	25.2	9.74
2016/17	8.84	6.51	24.3	11.38
Mean	7.59	6.98	26.5	9.554
S.D	1.46	0.74	1.93	1.317
C.V	19.2	10.6	7.29	13.79

Source: Annual report of banks.

The table 4.2 measures the cash and bank balance kept by the banks in respect to the total deposit collected. The table presented that the cash and bank balance to total deposit of KBBL was in fluctuating trend. The highest ratio was 8.84% in the fiscal year 2016/17 and the lowest was 5.16% in fiscal year 2015/16. In average KBBL kept 7.59% of the total deposit as cash and bank balance to fulfill the cash requirement of the bank. However the coefficient of variation is 19.2%. Also the ratio of JBBL is little bit fluctuating during the period the range from 6.07% in fiscal year 2015/16 to 7.96% in fiscal year 2013/14. In average JBBL kept 6.98% cash and bank balance and the coefficient of variation was 10.6%. Likewise the ratio of GBBL is fluctuating more when highest ratio was 29.3% in fiscal year 2013/14 and lowest was 24.3% in fiscal year 2016/17 of variation was 7.29%. Consequently cash and bank balance to total deposits of MBBL was in fluctuating trend, the highest ratio was 11.38% in fiscal year 2016/17 and lowest ratio was 7.71% in fiscal year 2013/14. In an average MBBL kept 9.554% of total deposit as cash and bank balance and coefficient of variation during the period was13.79%.

Figure 4.2 Cash and Bank Balance to Total Deposit Ratio
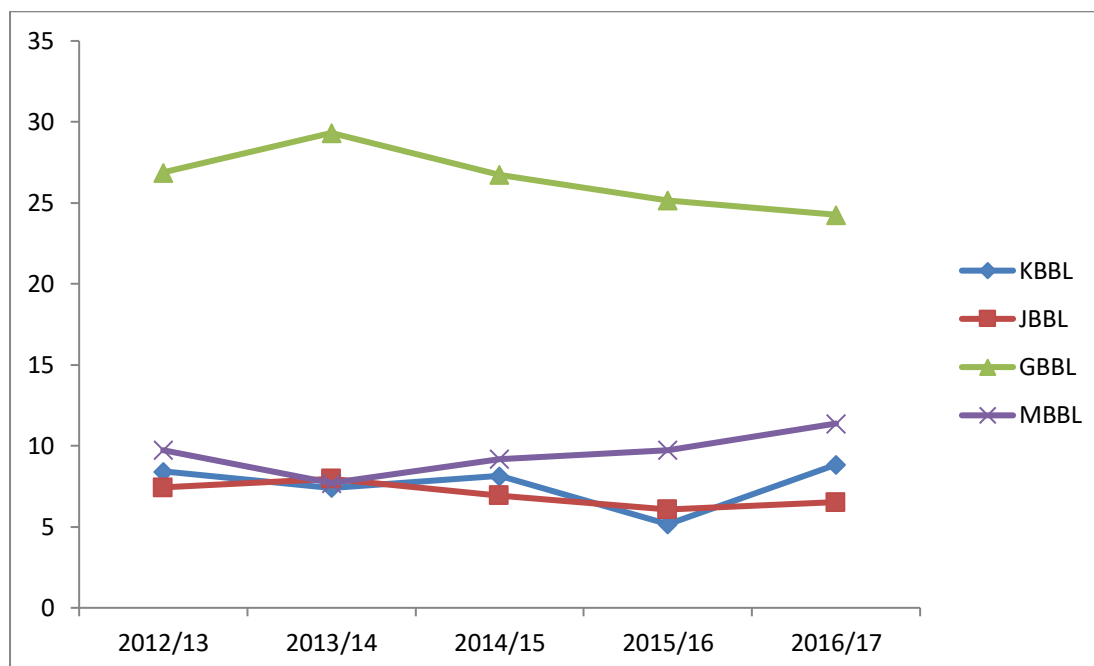
4.1.3 Loan and Advance to Total Deposit Ratio

Loan and advances to total deposit ratio, is expressed as ratio of loan and advances to government, private sector and financial institution, bills purchased. Total deposit consists of current, saving, fixed, call deposit and other deposits. This ratio measures how effectively the bank utilizes its total deposit. Following table shows the ratio of loan and advances to total deposit ratio of sample banks.

Table 4.3 Loan and Advance to Total Deposit Ratio

Year	KBBL	JBBL	GBBL	MBBL
2012/13	87.88	86.31	84.19	83.12
2013/14	86	83.05	82.59	85.44
2014/15	88.19	80.03	85.28	86.15
2015/16	89.62	78.28	86.01	87.85
2016/17	87.57	86.91	88.93	91.31
Mean	87.85	82.92	85.4	86.77
S.D.	1.299	3.785	2.356	3.052
C.V	1.479	4.565	2.759	3.517

Source: Annual report of banks.

The table 4.3 shows that, the average ratio of loan and advance to total deposit ratio of KBBL, JBBL, GBBL and MBBL are 87.85%, 82.92%, 85.4% and 86.77% respectively. The coefficient of variation of JBBL was greater than other three banks which means that the ratio of JBBL was more constant than the other three banks in term of loan and advance to total deposit. This indicates that the loan and advances to total deposit ratio of JBBL was more uniform than others.

Figure 4.3 Loans and Advance to Total Deposit Ratio
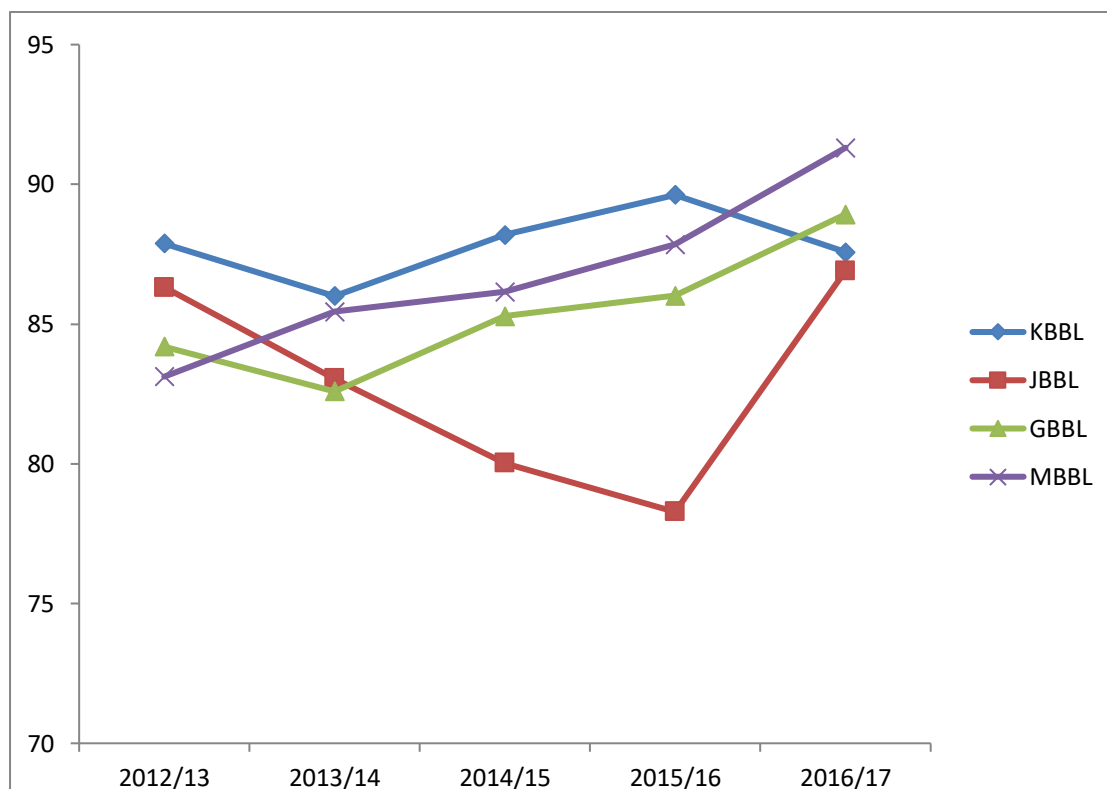

4.1.4 Return on Assets

Return on Total Assets explains the contribution of assets to generating net profit. Return on total assets is calculated by dividing net profit after tax by total assets of the company. Higher return on total assets indicates the higher efficiency in the utilization of total assets and vice-versa.

Table 4.4 Return on Assets

Year	KBBL	JBBL	GBBL	MBBL
2012/13	1.94	1.43	1.66	2.17
2013/14	2.91	1.01	1.78	2.44
2014/15	2.42	1.38	2.03	2.35
2015/16	1.85	1.69	2.25	2.77
2016/17	2.38	1.71	1.86	2.46
Mean	2.3	1.444	1.916	2.44
S.D.	0.426	0.285	0.23	0.22
C.V	18.51	19.71	12.01	8.95

Source: Annual report of banks.

From the table 4.4 it is found that the return on assets of all four banks has in fluctuating trend. KBBL has generating 2.3% income from total assets on average and bearing 0.426% risk. Also the JBBL has average 1.444% of ROA and bearing 0.285% risk. Likewise the average ROA of GBBL was 1.916% and bearing 0.23% risk. Consequently theaverage ROA of MBBL was 2.44% and the risk was only 0.22% which indicates that MBBL has more utilization of total assets than other three banks. MBBL is also considered as more stable than other banks as regards to usage of funds collected from various sources.

Figure 4.4 Returns on Assets
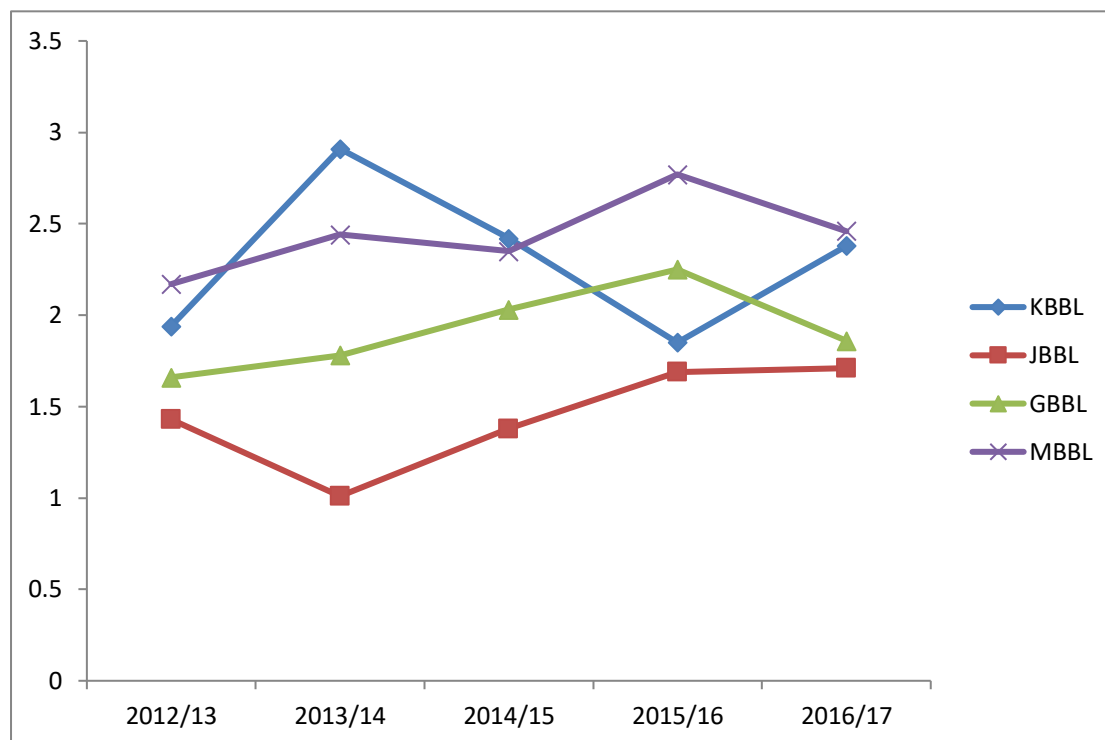
4.1.5 Investment on government securities to total Deposits

This ratio shows that Bank's investment on government securities in comparison to the total assets. This ratio signifies the Bank's portfolio management in relation to liquidity

Table 4.5 Investment on government securities to total Deposits

Year	KBBL	JBBL	GBBL	MBBL
2012/13	3.05	4.02	0	0
2013/14	2.5	3.77	0	0
2014/15	2.53	2.81	0.27	0
2015/16	1.32	4.26	1.51	0
2016/17	1.79	3.69	1.78	0
Mean	2.238	3.71	0.712	0
S.D.	0.681	0.551	0.8641	0
C.V	30.44	14.84	121.36	0

Source: Annual report of banks.

The table 4.5 shows that, the average ratio of government securities to total deposit ratio are in fluctuating trends. The average ratio of government securities to total deposits of KBBL, JBBL, GBBL and MBBL has 2.238%, 3.71%, 0.712% and 0% respectively. It shows that the MBBL has not any investment on government securities and GBBL has not also any investment during first two year of research period. On the basis of above table JBBL has more consistency than other banks. This indicates that the government securities to total deposit ratio of JBBL was more uniform than other banks.

Figure 4.5 Investment on government securities to total Deposits
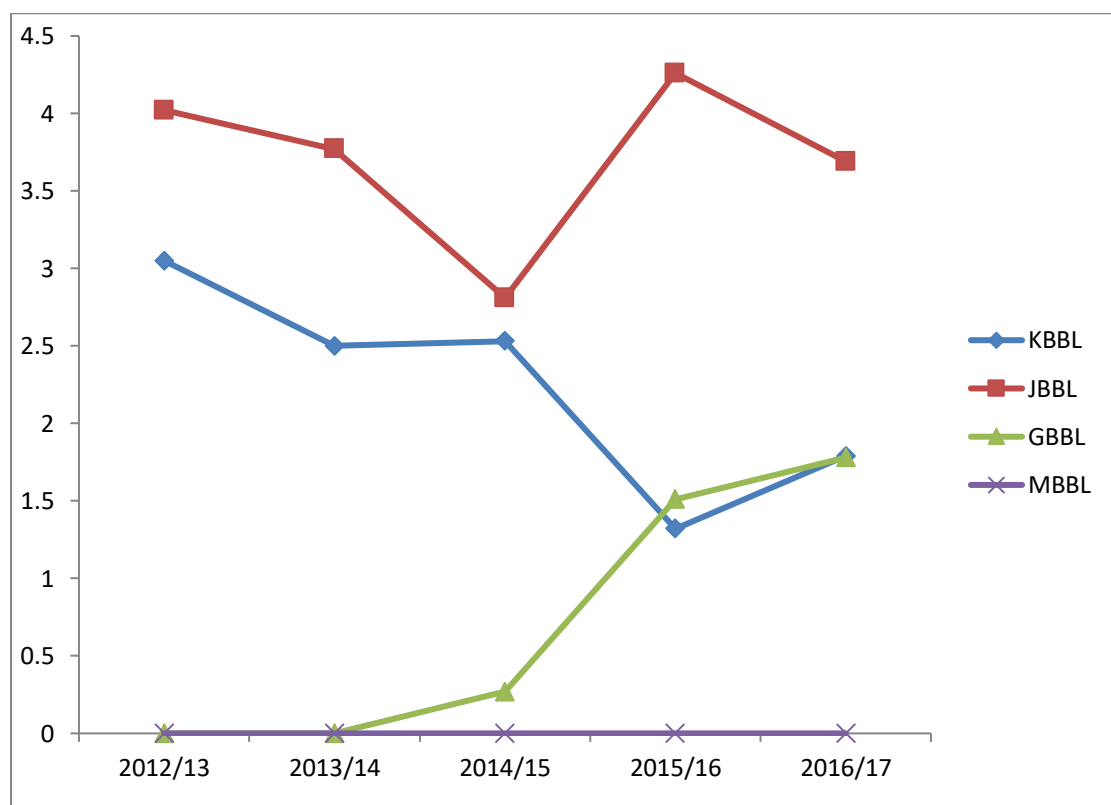
### 4.1.6 Investment on Share and Debentures to Total Deposit Ratio

This ratio shows the mathematical relationship between the total deposits and its use on the investment on shares and debentures.

Table 4.6 Investment on Share and Debentures to Total Deposit Ratio

Year	KBBL	JBBL	GBBL	MBBL
2012/13	1.71	0.03	0.07	0.6
2013/14	1.77	0.02	0.06	1.03
2014/15	1.33	0.48	0.04	0.39
2015/16	0.68	1.67	0.044	0.47
2016/17	0.5	1.74	0.055	0.51
Mean	1.198	0.788	0.054	0.6
S.D.	0.584	0.8578	0.012	0.252
C.V	48.71	108.86	22.55	42

Source: Annual report of banks.

The table 4.6 shows that, the average ratio of share and debenture to total deposit ratio of KBBL, JBBL, GBBL and MBBL are 1,198%, 0.788%, 0.054% and 0.6% respectively. The coefficient of variation of GBBL was less than other three banks during the research period which means ratio of GBBL was more constant than other banks. This indicates that the investment on share and debenture to total deposit ratio of GBBL is more uniform than other.

Figure 4.6 Investments on Share and Debentures to Total Deposit Ratio
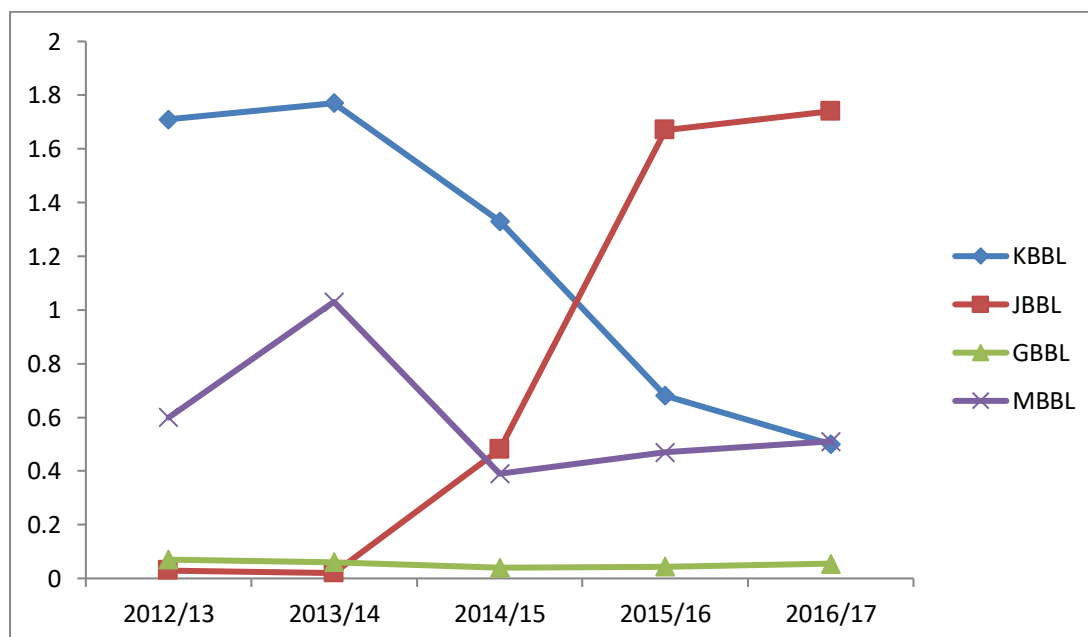
4.1.7 Other Investment to Total Deposit Ratio

Other investments are the investments which banks invest other than loan and advance and government securities. Other investments may be investment in hydropower, mutual funds etc.

Table 4.7 Other Investment to Total Deposit Ratio

Year	KBBL	JBBL	GBBL	MBBL
2012/13	0	0	0.33	1.45
2013/14	0	0	0.001	1.66
2014/15	1.5	0	0.31	1.34
2015/16	1.04	0	0.33	1.02
2016/17	1.05	0	0.38	1
Mean	0.718	0	0.27	1.294
S.D.	0.681	0	0.153	0.284
C.V	94.88	0	56.51	21.92

Source: Annual report of banks.

The table 4.7 shows that the ratio of other investment to total deposit. In which average ratio of KBBL, JBBL, GBBL and MBBL has 0.718%, 0%, 0.27% and 1.294% respectively, which means JBBL has not any investment other than loan and advance, government securities and share and debenture and MBBL has highest average ratio and lowest coefficient of variation, that means MBBL was more uniform than other banks in term of other investment during the research period.

Figure 4.7 Other Investment to Total Deposit Ratio
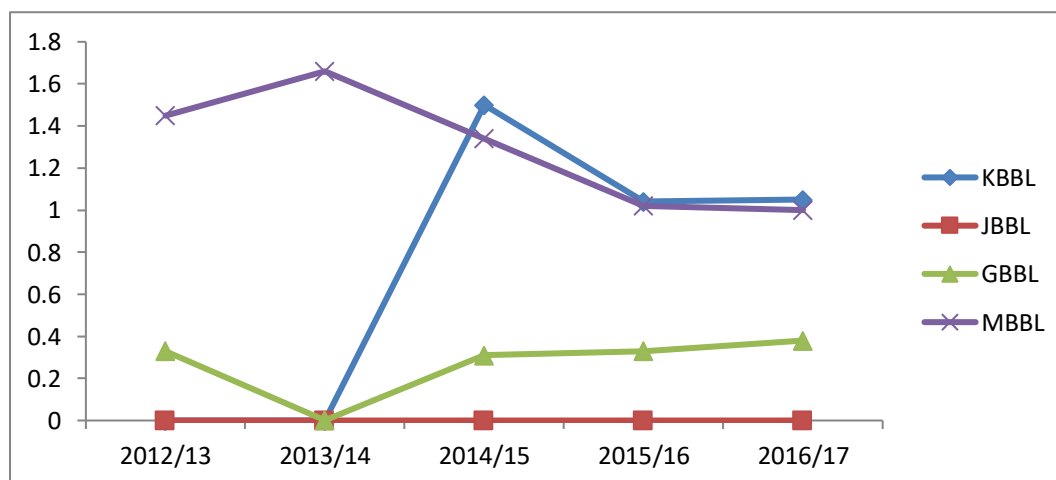
4.2 Karl Pearson's Correlation Co-efficient Analysis

Correlation analysis was used to determine the strength and direction of the linear relationship between the variables under consideration.

Table 4.8Karl Pearson's Correlation Co-efficient Matrix

		Net profit	Int on Govt sec	Int on Loan	Return from share and deb
Net profit	Pearson Correlation	1	.110	.975**	.658**
	Sig. (2-tailed)		.643	.000	.002
	N	20	20	20	20
Int on Govt sec	Pearson Correlation	.110	1	.138	.339
	Sig. (2-tailed)	.643		.562	.143
	N	20	20	20	20
Int on Loan	Pearson Correlation	.975**	.138	1	.637**
	Sig. (2-tailed)	.000	.562		.003
	N	20	20	20	20
Return from share and deb	Pearson Correlation	.658**	.339	.637**	1
	Sig. (2-tailed)	.002	.143	.003	
	N	20	20	20	20

**. Correlation is significant at the 0.01 level (2-tailed).
Source: Annual report of banks.

The table 4.8 presents the correlation among the dependent and independent variables. Obviously, this table shows correlations between the dependent variable (i.e. net profitof banks) and independent variables (interest on loan and advance, interest on government securities and return from share and debenture).

In the above chart correlation coefficient between net profit and interest on government securities is 0.11, which is positive but insignificant relation. Similarly, the correlation coefficient between net profit andinterest on loan

is0.975 which is perfectly positive and significant relation.The relation between these variables is meaningful. In the context of this significant relationship, highly inferences can be made. The correlation coefficient between net profit and return on share and debenture is 0.658 which is positive and significant.

Consequently, the correlation coefficient between interest on government securities and interest on loan is 0.138 which is positive but insignificant relation. The correlation between interest on government securities and return on share and debenture is 0.339 which is also positive and insignificant relation.

Likewise, the correlation coefficient between interest on loan and return on share and debenture is 0.637 which is positive and significant relation.

4.3 Analysis of the Regression Results:

Regression results are found through the Ordinary Least Square (OLS) technique. Results presented regression analysis on portfolio management analysis of development banks in Nepal.

Table 4.9Analysis of Regression

Model		Coefficients	Standard Error	t stat	P-value
1	(Constant)	-41.56	20.17	-2.06	0.06
	Int on Govt sec	-1.25	1.55	-0.81	0.43
	Int on Loan	0.31	0.02	13.50	0.00
	Return from share and deb	1.53	1.36	1.13	0.28

The table shows Coefficient of regression of net profit on interest in government securities is negative i.e. - 1.25. While determining net profit, the impact of interest on government securities is negative that shows increasein interest on government securities leads to decrease in net profit which is unexpected. This regression of coefficient has 1.55 as SE, which measures the variability of the observed values around the fitted line of regression. This coefficient's t-statistic is -0.81 and p-value is 0.43.

Coefficient of regression of net profit on interest on loan is positive with 0.31. While determining net profit, the impact of interest on loan is positive that shows that the increase in interest on loan leads to increase in net profit. This regression coefficient has 0.02 as SE, which measures the variability of the observed values around the fitted line of regression. This coefficient's t-statistic is 13.50and p-value is 00. So, t-statistic is significant and p-value is also significant at 5% significance level.

Coefficient of regression of net profit on return from share and debenture is positive i.e. 1.53.while determining net profit its impact is positive that shows increase in return on share and debenture leads to increase in net profit. This regression of coefficient has 1.36as SE, which measures the variability of the observed values around the fitted line of regression. This coefficient's t-statistic is 1.13and p-value is 0.28. So, t-statistic is not significant and p-value is significant at 5% significance level.

Table 4.10 Significance of the model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.977	0.955	0.947	31.710

Table 4.10 shows R^2: = 0.977. This means that the model using analysis of portfolio management variable could be used to explain 97% of the variability of net profit. We can therefore say that portfolio management variable has a large bearing on net profit of banks.

Table 4.11ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	345253.70	3.00	115084.56	114.45	0.000[b]
	Residual	16088.05	16.00	1005.53		
	Total	361341.75	19.00			

    a. Dependent Variable: net profit

   b. Predictors: (Constant), interest on loan, interest on government securities and return from share and debenture

ANOVA (analysis of variance) is used to report quantities related to the overallexplanatory power and significance of the regression model.Since p-value is less than 0.05 (critical level of significance) it is concluded that there is significant relationship between portfolio management and performance of banks.

Table 4.11 shows F- value of 114.45, with a corresponding p-value of 0.000, which means that the overall fitness of the model is well justified .This means that the model using portfolio management to measure performance of banks can be relied on to explain the variability on net profit. In general, the regression analysis results revealed that the portfolio managementhas relation to net profit of banks.

4.4 Investment Pie Chart

The investment pie chart shows the different sectors where selected banks invested their fund to manage portfolio.

Figure 4.8 Investment chart of KailashBikas Bank:
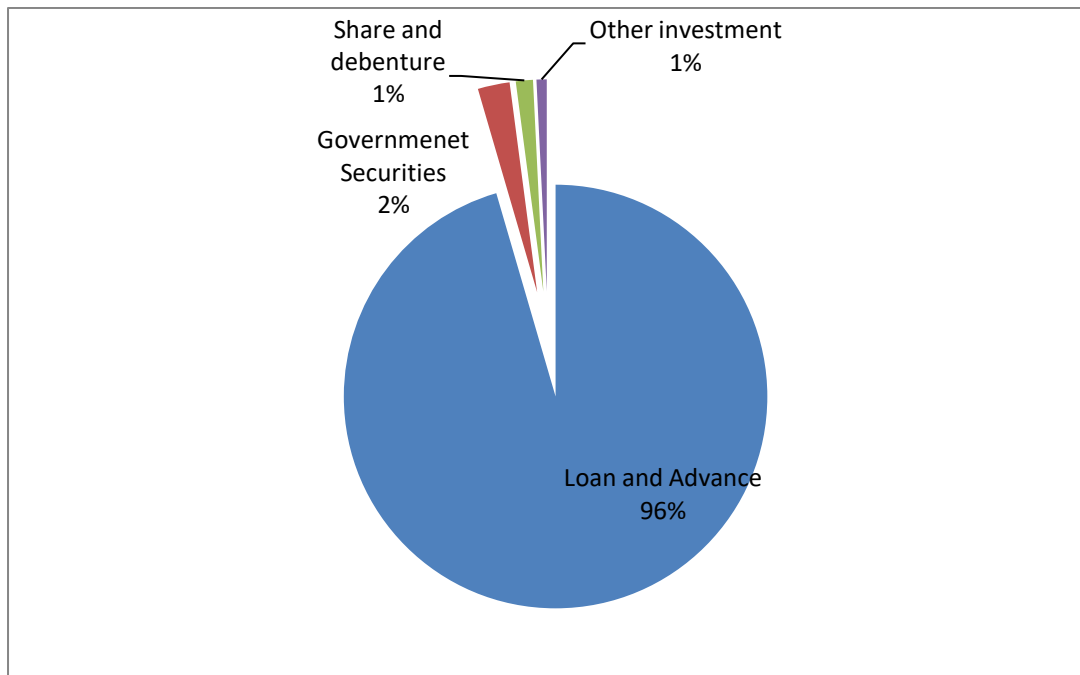
The figure 4.8 shows that kailashbikas bank have made average 96% investment of total deposit into loan and advance in last 5 years and 2% of total deposit into government securities, 1% in share and debenture and 1% into other investment. It seems that the bank have made excessive investment in loan and advance which may cause extra risk in future.

Figure 4.9 Investment chart of JyotiBikas Bank:
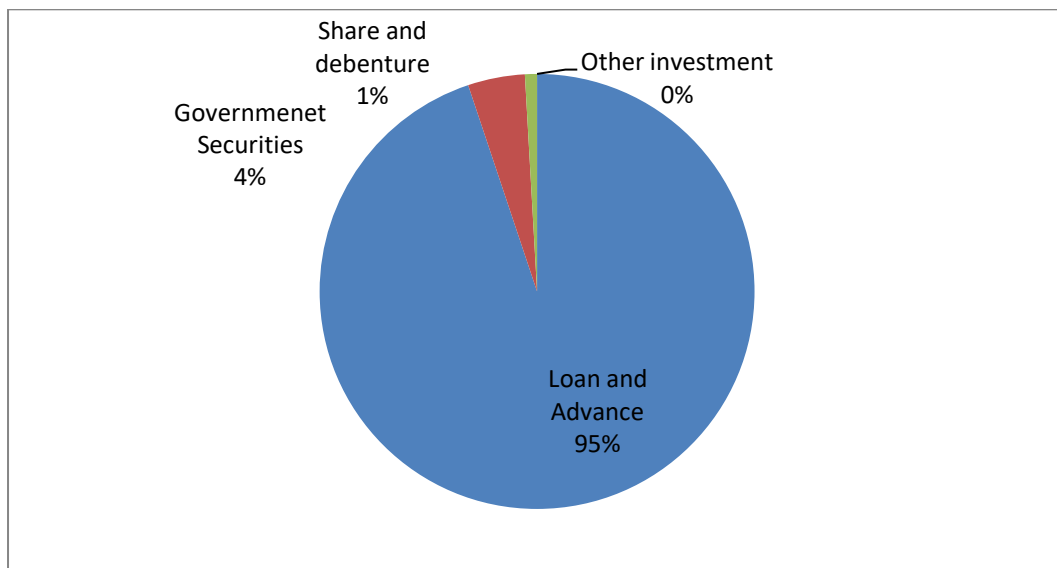
The figure 4.9 shows that JyotiBIkas Bankhave made average 95% investment of total deposit into loan and advance in last 5 years and 4% of total deposit into government securities, 1% in share and debenture and 0% into other investment. It seems that the bank have made excessive investment in loan and advance but less than KailashBikas Bank.

Figure 4.10 Investment chart of GandakiBikas Bank:

The figure 4.10 shows that GandakiBIkas Bank have made average 99% investment of total deposit into loan and advance in last 5 years and 1% of total deposit into government securities, 0% in share and debenture and 0% into other investment. It seems that the bank have made nearly all investment in loan and advance which means the bank is not making good portfolio investment.

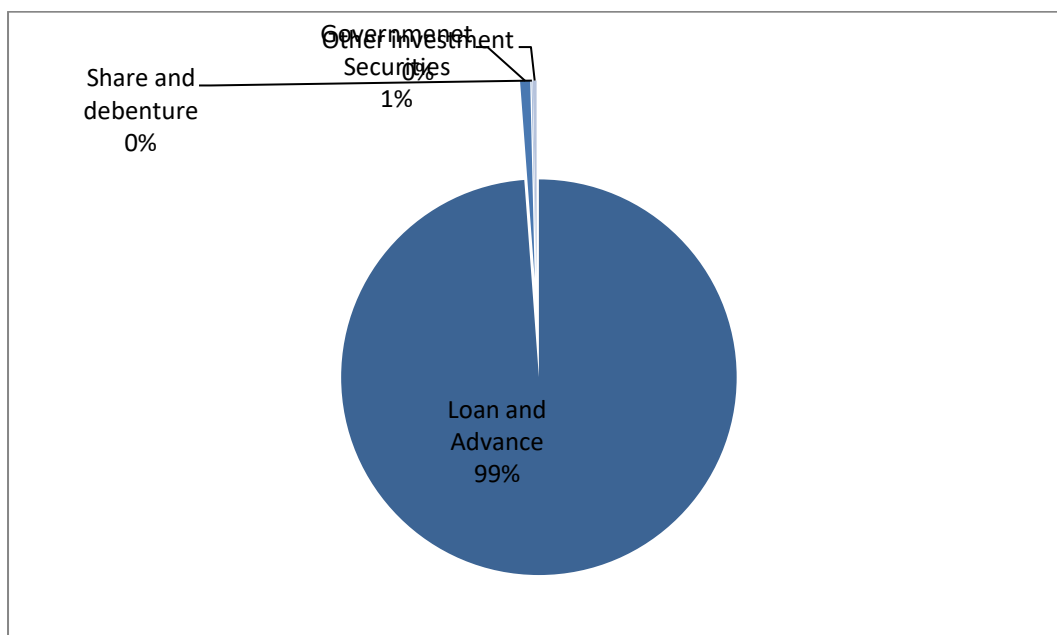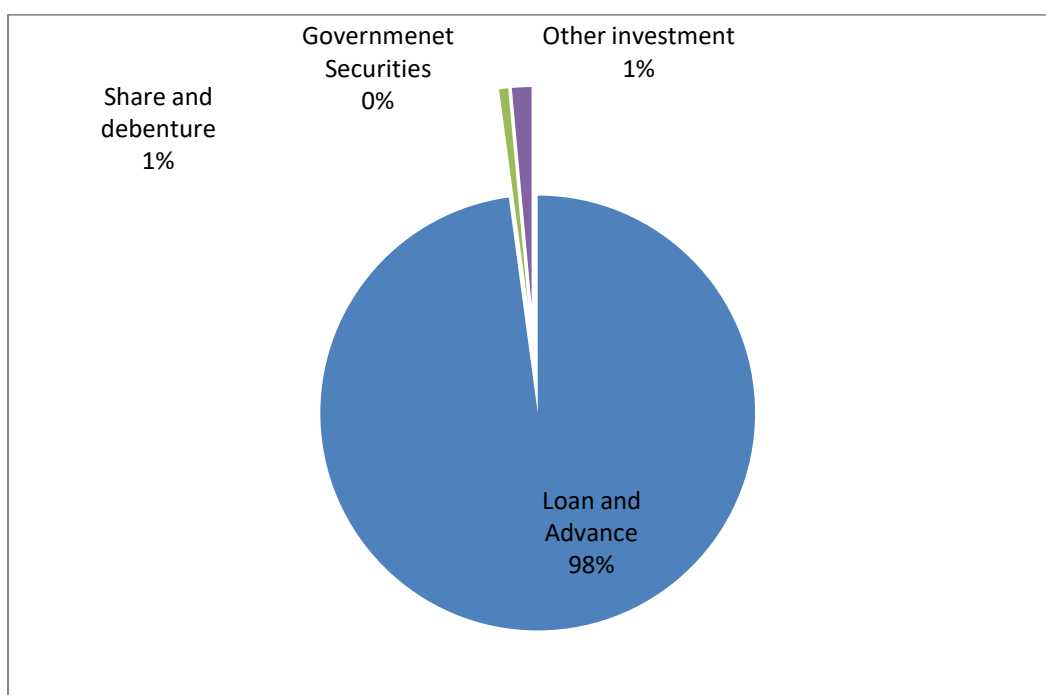**Figure 4.11 Investment chart of MuktinathBikas Bank:**

The figure 4.11 shows that MuktinathBIkas Bank have made average 98% investment of total deposit into loan and advance in last 5 years and o% of total deposit into government securities, 1% in share and debenture and 1% into other investment. It seems that the bank have made most of the investment in loan and advance, and not making any investment into government securities which is risk free investment. So the bank need to investment into government securities to make good portfolio investment.

4.5 Major Findings of the Study

From the above data analyses following major findings have been drawn;

- The highest average total investment to total deposit ratio maintained by JBBL i.e. 4.48. Similarly, the average total investment to total deposit ratio of KBBL, GBBL and MBBL was 4.158, 1.02 and 1.29 respectively. The lowest S.D. was of MBBL i.e. 0.28, which shows that it has lower level of risk than other selected development banks.

- The highest average cash and bank balance to total deposit ratio was GBBL i.e. 26.5, which shows that the liquidity position maintained by GBBL was better than other selected developments banks. Also the data shows that investment capacity of GBBL is better than other when opportunities arises,

- The average loan and advance to total deposit ratio of KBBL was highest than other selected developments banks, i.e. 87.85. Similarly, the average loan and advance to total deposit ratio of JBBL, GBBL and MBBL was 82.92, 85.4 and 86.77 respectively.

- The average ROA of MBBL was highest than other selected development banks, i.e. 2.44. Consequently, the average ROA of KBBL, JBBL and GBBL was 2.3, 1.44 and 1.92 respectively. It shows that average return earned by MBBL was highest in comparison to asset utilized whereas JBBL was lowest.

- The average investment on government securities to total deposits ratio of JBBL was highest than other selected development banks i.e. 3.71. Likewise, the average investment on government securities to total deposit ratio of KBBL, GBBL and MBBL was 2.24, 0.71 and 0. This shows that MBBL have no investment on government securities.

- The average investment on share and debentures to total deposit ratio of KBBL was highest than other selected development bank i.e. 1.198. Similarly the average investment on share and debentures to total deposit of JBBL, GBBL and MBBL was 0.788, 0.054, and 0.6 respectively.

- The average other investment to total deposit ratio of MBBL was highest than other selected development banks i.e. 1.294. Similarly the average other investment to total deposit ratio of KBBL, JBBL and GBBL was 0.718, 0 and

0.27 respectively. It shows that GBBL was not interest to invest in other sector.

- The correlation coefficient between net profit and interest on government securities is 0.11, which is positive but insignificant relation. Similarly, the correlation coefficient between net profit and interest on loan is 0.975 which is perfectly positive and significant relation. The relation between these variables is meaningful. In the context of this significant relationship, highly inferences can be made. The correlation coefficient between net profit and return on share and debenture is 0.658 which is positive and significant.

- Consequently, the correlation coefficient between interest on government securities and interest on loan is 0.138 which is positive but insignificant relation. The correlation between interest on government securities and return on share and debenture is 0.339 which is also positive and insignificant relation.

- Likewise, the correlation coefficient between interest on loan and return on share and debenture is 0.637 which is positive and significant relation.

- The estimated coefficients of net profit on interest on government securities have negative and unexpected signs. This is -1.25.

- The estimated coefficients of interest on loan and advance and return from share and debenture on net profit have positive and expected signs, which are 0.31 and 1.53respectively.

CHAPTER- V

CONCLUSION

The first section summarizes the study. The second section reflects conclusion drawn from the study. The third part is implication, to erase the weakness, draw backs and portfolio investment of on the basis of finding and conclusion of the study.

5.1 Summary

Development banks are an essential part of the economic activities which are established to safe guard public's deposit and there by using the deposit in making loans and investments. Development banks collects scattered financial resources from the masses and invests them among those engaged in commercial and economic activities of the country. Development banks are those financial institutions, which deal in accepting deposits from persons and institutions and giving loans against securities and it also provide technical and administrative assistance to industries, trade and business enterprises. Development banks are defined as a financial institution, which performs widest range of financial functions of any business firm in the economy. Development bank provides internal resources for developing country's economy. In this study four development banks namely KBBL, JBBL, GBBL and MBBL have chosen for analysis of portfolio management.

Portfolio management is one of the challenging tasks for every financial institution. Now a day there is very high competition in banking industry but very less opportunity to make investment without effectively in market. Bank has to invest its resources in different productive sector of investment alternatives to earn profit. Uncertainty of profit creates risk to an investor, so every investor has to diversify their investment in different sector to minimize risk. Diversification of assets on different sectors lowers the risk of portfolio.

The main objectives of the study areto evaluate the investment portfolio, to evaluate the financial performance and to analyze the relationship of portfolio management with financial performance of Nepalese Development Banks. While making an analysis and interpreting the data on portfolio, various financial and statistical

toolshave been used. To fulfill the first object of the study different ratios like loan & advance to total deposit, cash and bank balance to total deposit, share and debenture to total deposit etc. have been used. To fulfill the second objective of the study return on assets (ROA) have been used and to fulfill the third objective different statistical tools like mean, standard deviation (SD), correlation and regression have been used. The data which are used in this study are mainly of secondary nature. From this study it is found that these investors who had made diversification on their investment in different sector have got a better result rather than investing only one sector.

This study also bounded by so many limitations, such as secondary data, certain period of time, quantitative aspects and resources are the constraints of this study. This study only focuses the quantitative aspects of four development banks. Qualitative factors are not studied. Therefore the study may not be generalized in all cases and accuracy depends upon the data collected and provided by the concerned organization.

5.2 Conclusion

The portfolio management is the most sensible and important aspect of development banks as they need to operate in small amount of capital, they should be in of smart to manage the portfolio that yields the highest profit with minimum credit and operational risk.

Ensuring optimal portfolio management is a challenging task for development banks that will always have significant implications for banks overall profitability and operational efficiency.

On the basis of the study, the portfolio management of KBBL is well diversified as compared to other selected development banks.It invests 96% of total deposit in loan & advance, 2% on government securities, 1% on share and debenture and 1% on other investment, so it has higher chance to make more profit in low risk whereas JBBL has invest 95% of total deposit into loan and advance, 4% on government securities 1% on share & debenture and no investment in other sectors. Likewise GBBL has invest 99% of total deposit on loan and advance and 1% on government securities and

MBBL has invest 98% of total deposit on loan and advance, 1% on share & debenture and 1% on total investment, MBBL has not invested on government securities.

The average return on assets (2.44) and profit of 2016\17 of MBBL is highest whereas MBBL have not made any investment in the government securities, leaving the most secured investment that minimizes the investment risk.

The estimated coefficient of net profit on interest on government securities have negative and unexpected signs which is –1.25 and the estimated coefficients of interest on loan and advance and return from share and debenture on net profit have positive and expected signs which are 0.31 & 1.53 respectively.

The portfolio management must be diversified such as that reduces the risk associate with investment, market, credit and operational resulting in highest return.

5.3 Implications

On the basis of the study, following implication have been made as suggestions to overcome the weaknesses and to strengthen the existing investment portfolio of development banks in Nepal.

Due to the lack of investment, mostly banks are interested to invest their funds in liquid, Secure and less risky 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. Development Banks should diversify their funds in various assets with suitable weight. Hence, development banks can generate more profit with lower risk by portfolio diversification. From the study:

Development banks are more interested to invest on Loan and advances rather than Government securities and share & debenture. So it is recommended to all the development banks to invest their funds in Government securities and share & debenture also to diversify the risk.

Since, the average return on asset ratio of JBBL is lower than other selected banks so it is recommended to increase the investment and profit.

Since, there is no any investment on Government securities by MBBL so it is recommended to make investment on this sector because it helps to maintain liquidity position and reduce risk of banks.

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.

Lastly, Development Banks needs to identify the new investment sectors which make better to take sound investment policy and make efficient investment portfolioto maximize shareholder's wealth.

5.4 Implication for Future Researcher

This study covers the existing portfolio management analysis and its performance on net profit of Nepalese Development Banks. It also provides different banking tools for analysis of portfolio management, so other researcher may make their study wider by selecting different financial performance like Net profit, ROA, ROE, Return on investment etc. with the help of this study. Further studies can also be carried out to establish other determinants of portfolio management and how that will impact in the overall goals of development banks in Nepal. Similarly one can select other financial institutions as well as other companies like manufacturing companies, other service companies for study. For the further study and analysis, this study may be guideline to other researchers.

APPENDICES:

Appendix-I

Kailashbikas bank (in million)

Year	TI	TD	C&B	L&A	NP	TA	INV.GS	S&D	OI	INT. GS	IOL&A
2012/13	298	6262	527	5503	152	7503	191	107	0	15.22	741
2013/14	324	7599	563	6535	260	8952	190	135	0	8.257	808
2014/15	482	8999	732	7936	254	10515	228	119	134	7.63	850
2015/16	459	15070	777	13506	333	18067	199	103	157	6	1063
2016/17	577	17177	1517	15042	502	21082	308	87	181	10.56	1691

Ratios in percentage

TI TO TD	C&B to TD	L&A to TD	ROA	INV.GS TO TD	INV.S&D to TD	OI T TD	ROGS	ROL&A
4.7589	8.415842	87.8793	1.94	3.050143724	1.708719259	0	7.97	13.465
4.2637	7.40887	85.9982	2.9	2.500328991	1.776549546	0	4.35	12.364
5.3562	8.134237	88.1876	2.42	2.533614846	1.322369152	1.4891	3.35	10.711
3.0458	5.155939	89.6218	1.84	1.320504313	0.683477107	1.0418	3.02	7.8706
3.3591	8.831577	87.5706	2.38	1.793095418	0.506491238	1.0537	3.43	11.242

Appendix-II

Jyotibikas bank (in million)

JBBL	TI	TD	C&B	L&A	NP	TA	INV.GS	S&D	OI	INT. GS	IOL&A
2012/13	159	3927	291	3389	70	4901	158	1	0	10	464
2013/14	195	5185	413	4306	63	6194	195	1	0	4	515
2014/15	206	6333	439	5068	102	7423	177	30	0	6	541
2015/16	455	7677	466	6009	152	9036	327	128	0	7	620
2016/17	569	10515	684	9138	228	13446	387	182	0	14	921

Ratio in percentage

TI TO TD	C&B to TD	L&A to TD	ROA	INV.GS to TD	INV.S&D to TD	OI T TD	ROGS	ROL&A
4.0489	7.410237	86.29997	1.42828	4.023427553	0.025465	0	6.32911	13.6914
3.7608	7.965284	83.04725	1.017113	3.760848602	0.019286	0	2.05128	11.9601
3.2528	6.931944	80.02526	1.374108	2.794883941	0.473709	0	3.38983	10.6748
5.9268	6.070079	78.27276	1.68216	4.259476358	1.667318	0	2.14067	10.3179
5.4113	6.504993	86.90442	1.695672	3.680456491	1.730861	0	3.61757	10.0788

Appendix-III

Gandakibikas bank (in million)

Year	TI	TD	C&B	L&A	NP	TA	INV.GS	S&D	OI	INT. GS	IOL&A
2012/13	12	3111	836	2619	59	3555	0	2	10	0	363
2013/14	2	3796	1113	3135	78	4403	0	2	0.009	0	415
2014/15	56	9375	2506	7995	218	10744	25	3	29	1	976
2015/16	217	11731	2952	10090	299	13441	175	4	38	3	1129
2016/17	401	18335	4450	16305	402	21519	325	10	68	9	1452

Ratios in percentage

TI TO TD	C&B to TD	L&A to TD	ROA	INV.GS to TD	INV.S&D to TD	OI T TD	ROGS	ROL&A
0.385728	26.87239	84.18515	1.659634	0	0.064288	0.32144	0	13.86
0.052687	29.32034	82.58693	1.771519	0	0.052687	0.000237	0	13.238
0.597333	26.73067	85.28	2.029039	0.266666667	0.032	0.309333	4	12.208
1.8498	25.1641	86.01142	2.224537	1.491773932	0.034098	0.323928	1.7143	11.189
2.187074	24.27052	88.92828	1.868117	1.77256613	0.05454	0.370875	2.7692	8.9052

Appendix-IV

Muktinathbikas bank (in million)

Year	TI	TD	C&B	L&A	NP	TA	INV.GS	S&D	OI	INT. GS	IOL&A
2012/13	53	3661	357	3043	98	4523	0	22	53	0	432
2013/14	86	5198	400	4441	151	6185	0	54	86	0	576
2014/15	103	7782	715	6704	217	9234	0	30	103	0	796
2015/16	115	11276	1098	9905	361	13043	0	52	115	0	1132
2016/17	167	16775	1909	15316	487	19761	0	85	167	0	1794

Ratios in percentage

TI TO TD	C&B to TD	L&A to TD	ROA	INV.GS to TD	INV.S&D to TD	OI T TD	ROGS	ROL&A
1.447692	9.751434	83.11937	2.167	0	0.600929	1.4477	0	14.197
1.654482	7.695267	85.43671	2.441	0	1.038861	1.6545	0	12.97
1.323567	9.187869	86.14752	2.35	0	0.385505	1.3236	0	11.874
1.019865	9.737496	87.84143	2.768	0	0.461156	1.0199	0	11.429
0.995529	11.38003	91.30253	2.464	0	0.506706	0.9955	0	11.713

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