A COMPARATIVE PORTFOLIO MANAGEMENT ANALYSIS OF SELECTED COMMERCIAL BANK IN NEPAL

A Dissertation Submitted to the office of dean, faculty of Management in partial fulfillment of the requirements for the Master's Degree (MBS)

By

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Certification of Authorship

I hereby declare that the work reported in this thesis entitled **"A Comparative Portfolio Management Analysis of Selected Commercial Bank in Nepal"** has been submitted to office of the Dean, faculty of management, Tribhuvan University is my original work done in the form of partial fulfillment of the requirement for the Degree of Master in Business Studies (MBS) under the supervision and guidance of **Dr. Priti Raj Adhikari**, Shanker Dev Campus.

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Report of Research committee

Mrs. Pushpa Sapkota has defended research proposal **"A Comparative Portfolio Management Analysis of Selected Commercial Bank in Nepal"** successfully. The research committee has registered the thesis for the future progress. It is recommended to carry out the work as per suggestions guidance of supervisor Dr. Priti Raj Adhikari and submit the thesis for the evaluation and viva voce examination.

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APPROVAL SHEET

We, the underdesigned, have examined the thesis entitled **"A Comparative Portfolio Management Analysis of Selected Commercial Bank in Nepal"** presented by Mrs. Pushpa Sapkota a candidate for the degree of master of Business Studies (MBS Semester) and conducted the Vice voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

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Researcher

Pushpa Sapkota

TABLE OF CONTENTS

LIST OF TABLES

ABBREVIATIONS

ATM	: Automated Teller Machine
LA	: Loan and Advance
BS	: BikramSambat
CV	: Coefficient of Variation
ROA	: Return on Assets
ROE	: Return on Equity
EBL	: Everest Bank Limited
HBL	: Himalayan Bank Limited
SBL	: Siddhartha Bank Limited
S&D	: Share and Debentures
IT	: Information Technology
Ltd.	: Limited
GS	: Government Securities
NRB	: Nepal Rastra Bank
SD	: Standard Deviation
TA	: Total Assets
B-size	: Bank Size
TU	: Tribhuvan University
TD	: Total Deposits
SPSS	: Statistical Package for Social Science Software

ABSTRACT

Portfolio management is one of the important tasks of any type of financial institutions. In this modern and increasing competition in the banking field due to the technology advancement, proper portfolio management has become a greatest challenge to Nepalese commercial banks. This paper is aimed at examining the analysis of portfolio management of commercial banks like Himalayan Bank Ltd, Everest Bank Ltd and Siddhartha bank Ltd. The research has employed descriptive and casual comparative research designs. There are different indicators such as ROA, ROE, B-size, S&D, GS, and L&A for analyzing the portfolio management in the sample banks. The results of study also examine that portfolio should be diversified in different sector to minimize risk and to gain appropriate returns. According to ANNOVA analysis it shows shown significant relationship of independent variables i.e. of S&D, GS, L&A and B-size with ROA and ROE of the sample corporations

Keywords: Portfolio Management, Government Securities, Share & Debentures, Loan & advances and Bank size.

CHAPTER–I
INRODUCTION

1.1 Background of the Study

Investment is the process of utilizing or mobilizing of savings in any projects or securities in order to get expected return from it. Investment is made for the future benefits i.e. returns. Investment in any project is not a free from risk. Risk means the chance of occurrence an unexpected or unfavourable events or situations. Any difference in the expected returns is called risk. If investment is done in one assets then it poses of high chances of risk then investment made in any alternatives. (Kotler 2019).

Portfolio management is related with the proper management of portfolio in a differents asset like, stocks, bond & debentures of any corporations. Holding of different assets and securities in a different sector or across the sector is called portfolio management. An individuals or business houses hold different securities for minimizing risk and maximizing returns. Assets or securities are hold as per the perception, decision, choices regarding its risk and returns. Portfolio management is mainly related with the process of making absolute decision regarding the assets and it cannot be same in all the situations (Jaiswal, 2020).

Combination of investment in different financial assets is known as portfolio. Holding of different securities and investment made in the form of financial assets like, shares, bonds & debenture is portfolio. If proper investment is made in different financial assets then it is said efficient portfolio management. The analysis of portfolio is done to maximize returns and minimize the level of risk associates with its. Properly managed portfolio can reduce different risk like unsystematic risk without reducing the return, so we can make expansion or in large the analysis the risk and its returns. Portfolio is the process of making collection of different financial assets or securities. Portfolio investment means investment which combines of different financial assets. The collection different assets or securities i.e.shares, bonds, debentures is portfolio investments. List of holding of securities owned by the investors or organization is portfolio.(John & Edmund, 1997)

Selection of right investment policy by the individual or business in order to minimize risk and maximizing its return is known as portfolio management. Different financial assets and securities like, share, debenture, bond are hold in different proportion to reduces the risk. While building portfolio appropriately diversification is done in various financial assets. Investment in various securities and its combination is portfolio (Weston and Brigham, 1992). Management of portfolio simply means investment made by investors in more than one securites. Investment is done for the long period and financial assets are hold for long period i.e. future in order to maximize returns. Money investing in different assets, bond, debentures, stock, preference share, funds in deposits (Jones et al., 2009).

Theory of portfolio is necessary to understand by the individuals of corporate unit to know about the firm. Portfolio analysis means analysis of different assets or securities. Investor need to know about the proper technique of portfolio management. Diversification of financial assets in different sector or across the sector is portfolio. Portfolio is the set of different assets which are invested in different sector to achieve the goal of investors. The process of planning, organizing, controlling, leading and directing of different resources to maximizing its at optimum level. Efficient management of assets i.e. share, debentures & bonds in an proper ways with aim of maximizing returns and minimizing its level of risk is concerned with portfolio management. Nowadays, portfolio is managed by individuals, groups, professionals. Investment in different financial derivatives means not putting all the eggs in the same basket. Holding of securities by an individual or business is portfolio. It is important to understand about the risk association with the assets before investing in it. Selection of different alternatives from the pool of assets is directly concerned with decision making capacity of and individual or corporate houses. Monetary market includes both capital and money market from where individuals or corporates house makes decision for the investments (Masoud&AbuSabha, 2014). Financial institution makes decision regarding portfolio management by calculating the level of risk and its level of returns. The main goal of financial institution is to make proper investment of the deposits of the customer. Financial institution should make

proper decision while investing in different sector because its involves the liabilities of its customer (Kargi, 2014)

The individual investor or a fund manager would not like to put all his money in the shares of one company for that would amount to great risk. The main objective of portfolio management is to maximize portfolio return and at the same time minimizing the portfolio risk by diversification. Portfolio management is the management of various financial assets. This section aims to find the position of portfolio management by different bank. Portfolio is termed as allocation made in different financial assets. Investors collect the financial assets from stock exchange of different organization by analyzing its risk and returns. Building, lands, equipment will be the collection of portfolio investment of property investors. Shares, debentures, bond will be the collection of financial managers of an organization. Portfolio investment is done by calculating the appropriate level of returns and its risk (Franklin, 2016).

The concept of portfolio means investment in different assets. To reduce risk investment should be made in negative correlated securities. Governments securities, bonds and debentures, stocks, loan ans advances are the holding of bank portfolio. Banks should changes its policies of investment by analyzing the monetary policy issued by central bank and the macro environment. Government policies, level of risk, expected returns forces to change its portfolio composition by the bank. Portfolio management is the art of handling a pool of assets so that it not only preserves its original worth but also over time appreciates in value and yields an adequate return with the level of risk assumed. The objective of portfolio management is to analyze different individual assets and its minimize the level of risk (Feorge, 1999).It is the art and science of selecting and overseeing the group of investments which meet the long-term financial objectives and risk tolerance of a client, a company, or an institution (Hayes, 2023). Therefore, this study deals with portfolio management of the sample commercial bank of Nepal. Portfolio management is important for all the financial institution because diversification of investment helps to reduce risk and maximize returns.

1.2 Problem Statement

The planning of investment of commercial banks mainly depends on the rules and regulation of Nepal Rastra bank. So Nepal Rastra bank policies affects the composition of financial assets of the commercial bank in Nepal. So, this is the main problem of investment in portfolio of commercial banks in Nepal. The investment areas of bank is limited from where bank should generate maximum profit or income. So, bank feels hesitation while investing in long term project because of its default risk. The policies followed by the bank are narrow or conservative while investing in loan and advances to its customers. Banking sector almost reaches all the local level i.e. remote areas of the nation and its play an important role in the upliftment of the living standard of the people and in the growth of the economy. Banks collected the scattered amount of money and invest in different sector for the growth of the economy. Different problems and difficulties are seen in banking sector of Nepal while mobilizing its funds. The poor investment plans, policies are still practiced by the banking sector of Nepal. If funds are not invested in proper areas i.e. wrongly analysis of risk bank cannot survive because of negative returns.

Most investors use linear logic to formulate their investment strategies and make investments decisions. Linear logic is based in the assumption that the future will resemble the past in a highly predictable fashion. Assets having a greater probability of loss are felt as more risky than those with lesser chance of loss. Investment decisions based on research and study are always better than any investment based on gambling (Grewall, 1995). Today issues of commercials bank in Nepal is the proper management of portfolio and analysis of risk and returns from it. But portfolio management activities of bank and financial institution of Nepal is made investment in effective sector from where risk can be minimized (Singh, 2022).

Different political issue, economic situation, lack of facilities, inflation, down size of economy of Nepal posses various challenge for the bank and financial institution while managing portfolio. These all factors poses risk in investment by the commercial banks. Based on these facts following research questions are identifies to present the problem of research which are:

i. Does portfolio investment managed by the commercial banks is in good position?
ii. What is the relationship between portfolio and financial returns of commercial banks in Nepal?
iii. How the portfolio investment choices effect the performance of commercial banks in Nepal?

1.3 Objectives of the Study

The main objectives of this study is to know the portfolio structures of commercial banks in Nepal. This study mainly focused on decision made by the commercial bank while managing its portfolio. The main objectives are presented below which will be important to know about its structure:

i. To examine its position of portfolio investment managed by the commercial banks.
ii. To analyze the relationship between portfolio and its financial returns of banks in Nepal.
iii. To study/examine the effect of the portfolio investment choices in the performance of banks in Nepal.

1.4 Rationale of the Study

Strength of the economy highly depends of the effectiveness of banking sector in the country. Competition between the banks national as well as international helps to develop the economy of the nation. Last 4 decades, numbers of banks are increased but as per the projected economic development is not increase significantly. Investments of commercials bank mainly focuses towards investing in unproductive sector of the nation. In this case, this study will helps to know the best practices of investment adopted by the financial institution which will be beneficial in reducing its risk and maximizing its returns. Todays, bank mainly focuses in short term investment or in highly liquid form of assets to minimizes risk. This study will be fruitful to all the banks and financial institution and this will motivated banks to invest in long term assets to increase returns

in the long run. This study will be useful for researchers, students and for those who wants to have further study in details about portfolio management. Similarly, this study may be fruitful to financial institutions also.

1.5 Limitations of the Study

Following limitations are found in this study:

i. The reliability of the secondary data is highly depends on the accuracy of the annual report of the sample banks.
ii. As being portfolio in introduction phase unavailability of enough data is another constraint for the study.
iii. Only three banks are chosen under study to represent 20commercial banks (September, 2023 report of NRB), so that the result depends upon representation of population by sample.
iv. Analysis of data is performed by using simple financial and statistical tools.
v. The reliability of the secondary data is highly depends on the accuracy of the annual report of the sample banks.
vi. Ten years data has been used. i.e. 2012/13 – 2021/22

CHAPTER-II
LITERATURE REVIEW

In this chapter review of some related books, articles, magazines, journals related to this study is reviewed. To broaden the knowledge and information about the topic of the study it is divided into different parts which are as follows:

- Theoretical Review
- Empirical Review

2.1 Theoretical Review

Both conceptual and theoretical reviews are done here with the aspects of the study of portfolio management of commercial banks in Nepal. Various books are reviewed in this section of the study.

2.1.1 Portfolio Theory

Modern Theory of Portfolio

Modern theory of portfolio suggests to balance the risk and its returns. This theory is propounded by Markowitz's in (1952) by estimating returns and risk association with the assets in the portfolio. Various indicator were introduces by Markowitz's to calculated the variance associates with the assets and risk considering the correlation (imperfect correlation) betweens assets and cash movements. Variance means the probability outcomes around the mean value while using statistical tools in analysis. Combinations of assets or investing in different assets reduce the variance of highly fluctuation of the risk. So, he suggests that investment should be made by studying the variance association with the financial assent and should estimates different measures to understand the level of portfolio and it allows modern investors i.e. individual or corporate unit to quantify the relationship between risk and its returns rather than depending on the investor's best perceptions.

Markowitz made a number of important assumptions about portfolio. Each and every asset has a set of its probable outcomes or results which can be thought of as a probability

distribution of selections. Investors aim to optimize their single period utility of wealth through proper investments. Investors are risk takers or risk aviators. According to this theory, investors can predict or make decision based on the risk and its returns from the assets. On the basis of depth study investors make their decision regarding the investment, firstly they study the movement of its distribution i.e. predicted returns ans its variances. Investors specially choose the investment scheme where there is high returns and low level of risk from his/her investments. Hence, expected returns from any securities, investor always choose low level of risk associates within securities.

Expected Utility Theory (EUT)

To understand the stock human psychology and social psychology play an important role. According to this theory, it explains the psychology of the investors while making investment and techniques adopted by investors while making his decision regarding investment in different assets. This literature reveals that investors have less or limited information, news about the subject matter, making decision about investment, they often makes mistakes and they listen the opinion of influencing person or others. Thaller and Robin (2001) discuss about the risk by giving the risk aversion in the EUT with example of understanding the theory wrong and how theory can be wrong in certain situation. They made suitable techniques of explaining the choice under risk and uncetainity. And it was concluded that EUT may be failure if psychological of individual regarding decision were not understand fully and its conequences wasn't examined successfully.

Financial Theory of Intermediation

This theory suggest that, if an intermediaries do not provide appropriate service regarding the secondary stock then investors may purchase or buy primary stock directly through initial public offering and can save the time and cost associates with it. An intermediary provides different service regarding the portfolio management. Different service provided by the intermediary is useful for the investors to classify their investment. Intermediaries provides service of information of assets ind focuses on the portfolio in securities which have advantages i.e. comparative advantages of holding it and provides goods return in the future (Allen,1998)

2.1.2 Portfolio Management

Portfolio theory was proposed by Harry Markowitz in 1952 A.D first time. This theory is concerned with selection of an appropriate portfolio to minimize risk by the investors. Risk averse investors are those investors who selects a portfolio that maximizes the return for any level of risk associates or minimizes risk for any level of expected returns. Risk adverse investors will only select appropriate portfolios whose risk is minimum and return is appropriate. Portfolio theory is defined as the mixing of different combination of assets which helps to reduce risk and maximize returns from it. Portfolio selection is based on the investor choice or perception regarding risk and its returns.

Management portfolio concern mainly about the investment made in different assets or securities which includes, shares, bond and debentures and different derivatives of an corporation. So, managing of portfolio helps in evaluation of stock regulary by predicting its risk and its returns. Portfolio simply says that investing fund in more than one assets for reducing risk and maximizing returns from it. Mixing of different assets is known as portfolio. (Weston and Brigham, 2005).

So by analyzing the investment in portfolio investors can make appropriate portfolio by minimizing certain level of risk. Management of portfolio is art of creating of different pool of assets so it donot reduce the actual value over the time and earn adequate level of returns regularly with the low level of risk (Foerge, 2015)

2.1.3 Phases of Investment Portfolio

In this phases, it describes the how an individual investors or corporate unit makes its decision about the securities to be invested and how much to invest and in which then should made investment. There are simple five steps to describe the phases of investment which are explained below:

i. **Setting Investment Policy**: Investors objective and his/her wealth capacity is determined in this phases. Investment should be done on the basis of risk and its returns.
ii. **Security Analysis**: This is the second phases of investment where individual assets or its combination are categories base on the previously identified assets.

iii. **Construct a Portfolio:** It is concern with the identifying the specific assets in which investment should be made. Proper mixup of assets should be constructed while making portfolio. Investors wealth should also determines while be determining the ratio of the investor's wealth to invest in particular assets. Here the issue is of selection, time and diversification need to be addressed by the investor while investing in particular assets.

iv. **Revise the Portfolio:** Portfolio revision means the revise of portfolio structure. Investors may change his mind on the investment plans, results changing the securities mix ratio or investing in safe securities which risk is extremely low.

v. **Performance Evaluation of the Portfolio:** In his phases it determines the assets in terms of expected returns as well as the risk experienced by the investor while investing in different securities.

2.1.4 Natures of portfolio management

i. As per the investors objectives and goal portfolio should be made.

ii. Constructed portfolio shall be review as per the view of latest market structure and developments.

iii. Portfolio evaluation should be made as per the risk and return from it.

iv. Portfolio management is a dynamic concept i.e. ongoing.

v. Regularly monitoring, right judgment and timely action.

2.1.5 Portfolios and Diversifications

Diversification of portfolio means investing in various securities which will helps in reducing risk and maximizing expected returns. Analysis of portfolio is made on the basis of consideration of future risk association its returns while holding for the future. Main objective of management of portfolios is to mixing the different assets for reducing risk to certain level and maximizing the return. Main objectives of portfolio analysis is to reduce risk and generate higher expected returns from the assets, as per the investor perceptions (Van, 2002).

Diversification means not putting all the eggs in the same basket alone. Diversification is made in different sector or across the sector to minimize the risk and maximize the returns from it. Portfolio theory suggest that properly diversifies assets gives the optimum

return at whatever the risk associates with it. Theory of portfolio is developed by Harry M. Markowitz from this theory he concluded that investor should analysis the mean, standard deviation, variance, correlation with other securities. Risk can be reduced by diversification of assets in more them one pool or categories of different assets by adding up of different assets from different sectors. So, diversification is important because efficient investment can reduce the risk and maximizes the returns.

Risk of investment can be reduced by including more than one asset or categories of different assets in the portfolio and by adding more than one asset from each category. Hence, diversification is important because efficient investment can reduce the risk and maximize the returns. This diversification may reduce risk significantly without a corresponding reduction in the expected rate of return on the portfolio (Weston& Copeland, 2003).

Diversifications of portfolio reduce the level of risk and maximize the level of return. So, diversification reduces risk significantly by maintaining the expected return in a good proportion (Weston & Copeland, 2003). To reduce portfolio risk diversification is essential. Investment in wide range helps to reduce risk. It is said that don't keep all the eggs in same basket which denotes investment must be diversifies in different sector or across the sector (Bodie, Kane & Marcus, 2000). Spreading risk among the different assets, companies, industries is diversification. So, it reduces the both systematic and unsystematic risk. Investors are rewarded with systematic risk which is also known as market risk and it is unavoidable.

2.1.6 Form of Diversifications

Different forms of diversification are there but only main form of diversification are explained here:

i. **Simple Diversification (Naïve or Random form of diversification)**

   It is explained as all the eggs should not put in the same baskets. Simple diversification is the process of allocating the investment in different sectors or across the sectors to minimizing the certain level of risk and maximizing returns.

ii. **Diversification Across Industries/companies**

In this methods of diversifying, portfolio are selected from different nature of companies to reduce the risk. Example of this diversification, investor manages his portfolio by investing in different securities of commercial bank, manufacturing industries, co-operatives, development bank, and insurance company and other securities.

iii. Superfluous Diversification (Over Diversification)

Superfluous diversification means adding more assets in the simple diversification portfolio. This divarication does not reduce risk further but it can cost more because of research cost, portfolio management cost and transaction costs.

iv. Simple Divarication Across Quality Rating Categories

Simple diversification means diversification across different securities. Quality rating categories means investing in the securities whose rating is high in the market. The quality assets poses low risk and returns will be higher. This study suggests that portfolios managers should invest in high quality assets than low quality to reduce default risk associated with it. So, diversification across quality securities poses low risk compared to others.

v. Markowitz Diversifications

This theory of diversification was developed by Harry M. Markowitz in 1952. It is also known as the modern theory of portfolio management. Diversification of assets or securities by Markowitz, defined as mix up of different assets which are helpful in order to reduce portfolio risk without sacrificing returns on portfolio. It often reduces risk below the undiversified level. Markowitz diversification is more analytical than simple diversification and considers assets' correlations (or covariance). The lower the correlation between assets, the more that Markowitz diversification will be able to reduce the portfolio's risk.

2.1.7 Portfolio Return and Risk

Investment is done with the aim of maximum return from the securities. While investing investors aim to maximize expected returns from different financial derivatives. For

minimizing risk and maximizing return efficient investment should be done i.e. portfolio management.

The risk and return analysis of single securities affects the portfolio held by the individual or corporate unit (Weston& Copeland, 1992)

1. Portfolio Expected Return

Expected portfolio return is the projected return made by the investors. It is also calculated by estimating the expected returns from each securities of the portfolios by using those returns weighted average is calculated. Simply weighted of returns describes the portfolio weight of various securities. Portfolio weight is also the percentage of total investment made in the form of assets or securities.

2. Portfolio Risk

Portfolio risk is a risk association with the securities invested. Portfolio risk calculation is not easy as calculation of returns. Portfolio risk is calculated in terms of variances and standard deviations. There will be different variance of different assets so the concept of covariance or correlation is introduces to calculate or know the risk association with portfolio. The risk of portfolio is calculated using statistical tools like standard deviation and covariance through which risk can be predicted while investing in the securities. Risk can be reduced but cannot be eliminated so while analyzing risk proper equation of calculation should be used.(Thapa, Bhattarai, &Basnet, 2006).

2.2 Empirical Review

Lekwauwa andBans-Akute(2023)studied the profitability of commercial banks and its portfolio management in Ghana. The main objective of this research is to know the relationship between profitability and portfolio management of commercial banks in Ghana. Nine banks which are listed in Ghana stock exchange are under study and those all nine banks are sample. Data are collection through the financial statements of bank five years report from 2016 to 2021. From this study it shows that investment in assets has positive effect on performance of Ghana’s commercial banks. And there is positive effect on loan portfolio of the banks. Finally, it was found that investment on assets affect the performance in a positive ways i.e. significantly.

Mohammed (2023) studied the technique and concept of decision making on multi-criteria fuzzy environment on the selection of project in a portfolio. This study, give the weights criteria as the preference and were identified and analyzed using fuzzy AHP techniques. Weights which are used to improve the gaps of projects (alternatives) and selection for the achievement of organizational goal or objectives and interaction with in the projects. 20 oil company of Iraq were analyzed and evaluated by making key five standards. From the study it shows that fuzzy TOPSIS techniques the appropriate technique of criteria weight measurements which are essential and they could make adjustments in making for other projects to achieves optimal or desire levels. This research is helpful for different parties in improving level of quality while managements portfolio projects.

Yakubov and Meliboev (2023) studies the functions of bank and financial institutions as financial intermediaries, theoretical approaches to the "Commercial banks investing activities" and its main theme is to increase the financial investment activities of bank and financial institution at the small or huge. The main discussion was made for the financial institution for the investment process and recommendation is provided for the effective investment activities of the commercial banks. Bank main source of income comes through investing activities so investment should be done in well managed manner.

Kumakov (2022) said that for sustainable and stable functioning of commercial banks, both short as well as long term investment strategy should be formed and it requires certain techniques or strategies for solving the issues arises in this modern and competitive ages or markets. A commercial bank should invest its assets in a low risky areas. Different methods or techniques should be adopted while making investment activities so the effectiveness the effectiveness of the portfolio can be identified.

Agblobi, Asamoah and Kuhorfah(2022) stated that banks specially invest to earn profit or returns as risk associated with in should consider while managing portfolio. Bank invests in government securities, deposit in other banks, lending to the customers & investment in subsidiaries. In this study the effects of portfolio managements on profitability of

Ghana commercial banks. 5 commercial bank which are listed in stock exchange of Ghana were selected for the. Financial data are obtained through bank statement published on bank websites. Total market value of government securities due from other banks and investment made on subsidiaries are collected between 2012 to 2021. Finding shows that government securities holding and subsidiaries investment have positive effect on banks profitability in Ghana. And, the finding shows about non-performing loans have a negative effect on banks profitability. So, it is recommended that balance should be made while investing in securities i.e. government & invest should made in subsidiary in subsidiaries to maximize returns or profitability condition of the Ghana commercial banks. The bank should give emphasis on the reduction of non-performing loan through proper skills of the employees, monitoring the activities and following strong procedures.

Engida(2022) studied the effect of assets diversification on profitability of commercial banks in Ethiopia. The main goal of the study is to know how diversification of assets has affected the performance of banks in Ethiopia. 8 banks are under the study and eighty observations were made between 2011 to 2020 AD. Data were gathered through the financial statements of respective banks and regression model was used to examine. This study finds that loan and advance is statistically positive significant on profitability. Whereas, the financial asset & cash and cash equivalents had statistically negative significant effect on the profitability of commercial banks. And fixed asset do not have any statistically effect on profitability of respective banks. So, this study recommend for the bank to diversify their investments for better returns from it.

Bardan (2021) studied the portfolio investment in banks and analysis of its management on the banks of Iraq between the period of 2010 to 2018 to show its impact on management of portfolio on the profitability of the banks listed on Stock exchange of Iraq. This study made a conclusion that all the banks listed in financial market where the date were calculated by the researcher using the 2012 index of risk on portfolio investments and its returns from portfolio. Independent variables, the return on investment, return on equity, risk free rete of return as control and subsidiary variable. The analysis is done to identify the effect of efficiency of management of portfolio investment on profitability of commercial banks of Iraq. Analysis of result is based on the

statistical by performing simple and multiple regression and correlation to find out the relationship between independent and dependent variables. The result of this study were impact on the level of risk free rate of return and return on investment and return on equity is statistically significant.

Danesh, Ryan and Abasi (2020) studied the Project Portfolio Management (PPM) which becomes the main element in large corporations delivery in service due to number of issues in the projects managements. Success of organization highly depends upon the understanding level of issues and effective decision making while selection of portfolio which is based on the (MCDM) i.e. multi criteria decision making methods. Decision making is the main function of any organization and for making decision making effective PPP were used. Combination of different assets helps to reduce risk and maximizes returns from it. Assignment is done to access the appropriate decision making while selection of project portfolio. This studies found it main challenges of Project Portfolio Management, and it purpose a newly framework for MCDC methods and provide review of literature of MCDM application of method to the Project Portfolio Management.

Adaramola, et.al, (2020) studied the impact of portfolio management and bank performance in Nigeria. The main objectives of this study is to examine the portfolio management and performance of banks, analysis of loan risk and its impacts, diversification of loan risk, Monitoring of loan risk on performance of bank (ROA) in Nigeria were also discussed in this studies. This study mainly base on secondary data but primary data were also used. Data from primary source is obtained from scale of portfolio management and secondary source from the statement of banks. Simple and multiple regression is used to analysis the data and SPSS were also used in calculation. The study relied heavily on both primary and secondary sources of data collection. Primarily, data were obtained from portfolio management scale while the secondary source was obtained from Annual financial statement of account. This study found that loan risk diversification, risk analysis of loan and monitoring of loan risk is positively effect on performance of Nigeria banks and it was concluded that loan portfolio management directly affects the deposit money of commercial banks in Nigeria.

Olinyk and Kozzmenko (2017) studied the portfolio investment by bank and financial institution. Banks collect sources of fund mainy through the shareholders equity and collection of deposits from customers. Bank manages portfolio strictly by measuring its risk and returns by using VaR indicators. Portfolio assets management techniques were used in building portfolio. Pontrygin maximum principal, strategy of the individual assets is accessed. Main form of portfolio management is from a income received from share is found. Mathematical data and results shows that investment is done in financial assets by the bank and financial institutions as well from the suppliers.

Khadka, (2016) conducted journals tries to explain the credit portfolio management practices by commercial banks in Nepal. It uses use both qualitative and quantitative method while collection of data. Nepalese commercial banks are successful in managing portfolio during last ten years because of tightly regulation and govern by central banks. This study mainly focuses on credit portfolio management and studies loan security wise, product, sector wise concern of loan were the researcher founds the outcome. Researchers suggest some suggestion to minimize the problem related to portfolio of credit.

Robert, (2015) showed that how companies portfolio suffers or fails due to many projects for limited available resources. Portfolio investment is crucial for the survival of the organization. Ineffective prioritization of projects, decision in hunch, absent of relevant information, limited resources are the main hindrance for portfolio. Poor performances, high failure rate, low level of risk calculation techniques, small projects with low impact are one of the main problems of portfolio management. Based on the study some solution is provided. Need to access the capacity, take go/kill decision in a tough period analysis should be done as per the supply and demand. Next solution is innovation or product development and strategic technology for the organization to invest in the appropriate projects.

Review of Article (Nepalese Context)

Wagle, (2018) analyzed the management of portfolio by Nepalese commercial banks. Main objective of this study is to find out the portfolio mix of the banks and to analyze the risk and its return of assets or securities and to find out the highest portfolio trading in

Nepal stock exchange. This study is fruitful for the commercial banks to find out the risk and its return level which bank aims to manage risk by using concept of portfolio given by the different theory. Risk and returns on the securities of the commercial bank is the main study. According to this studies mostly bank likes to invest in the liquid assets then long term assets because liquid assets poses less risk. Investments made on advances and loan is good than investment in government securities, share, investment in bond and debentures because advances and loan gives interest revenue which is fixed for the commercial banks.

Adhikari (2017) analyzed the portfolio on investment with the selected sample banks. This studies said that risk and return are the mainly concern for the banks. Analyzing risk and expected returns of common stock of development bank, DCBL is appropriate to invest where NDBL is risky. Commercial banks which are sample are providing cash and bonus dividend mostly. But in case of dev. bank they do not distributed cash dividend and bonus dividend regularly. Stock price of both development banks and commercial banks are in same proportion and they are under priced, but rate of return is less than average returns. Mainly their investment is guided by the regulation of Nepal rastra bank. Most of the sample banks are investing in loans and advances and government bonds only. They do not feel safe to invest in long term securities.

Shrestha (2016) studied the portfolio management and the main objective of this study is to know the risk and expected returns from the securities. An investors tries to make decision based on the available resources and predicted the return by analyzing the investment in the portfolio. This study collects the data from the Nepal stock exchange of six years. This study uses both primary and secondary data for the analysis, 25 investors were asked about their portfolio patterns. It tries to find out the risk and expected returns, sensitivity of market, price of sock as compared to the risk and returns. It also suggests that degree of risk with share may be both systematic and unsystematic. It also suggest that investment should be made on the basis of market condition by seeing the micro environment.

Bhatta, (2014) studied the portfolio management of finance companies and its major objectives is to know about the situation of management of portfolio by finance company. Risk and its returns is the major concern of this study. This study is based on the secondary sources of date from financial statement of finance company. It is concluded that mostly finances company have unsystematic risks which means is no proper management of portfolio of samples financial company. Portfolio risks and its returns of finance company of Nepal has bear higher riskd to get little portfolio returns. The main problem of portfolio managements while managing it is volatility of various securities in capital markets of Nepal. Technical analysis is seen not working properly but fundamental analysis works effectively. Passive strategy is mainly suitable in Nepalese stock market then active strategy to get better results. But, lacks of specific knowledge corporate investor are seen following traditional method of evaluation of portfolio.

Shrestha (2014) studied investment policy and portfolio management of NCC bank Ltd. The major objectives of this study is to evaluate the policy of investment by the bank in loan & advances, securities investment, to analyze the liquidity, portfolio performance, portfolio management & profitability. To, analyze about the resource utilization, portfolio improvement after CAR position. In this study it was found that loan and advance policies are satisfactory. Current ratio is in standard ratio, poor liquidity position of portfolio of loan, financial ratio are in improving situations i.e. of marketable securities. Investment on securities to assets are in highly fluctuating trend in this study, banking sector are not paying attention on competition in todays world so many ratios are in decreasing trend. Revenue from interest was consistent and safe field of investment because of regular source of income.

Table 1

Meta Table

S.N.	Date and Author	Topic	Objectives	Methodology	Findings
1	Yakubov and Meliboev (2023)	Investment activity of Commercial Banks	This study tries to identifies andprovide recommendations for the effective and successful investment of banks..	Data analysis was done using descriptive statistics, Pearson correlation, regression analysis, and t-test	The result showed that there is significant impact of LDR, GS on ROA and there is insignificant impact of bank size and SDR on ROA of commercial banks
2	Agblobi, Kuhorfah and Asamoah (2022)	Effect of Banks' Portfolio Management on Profitability	This study tried to measure the relationship of non-performing loan, government securities and investment in shares.	Secondary data and regression and correlation is used for data analysis.	Find of this study shows , government securities holding and subsidiaries investment has positive effects on Ghana banks profitability and it also shows non performing loan is in negative effect on banks profitability.
3	Badran (2021)	Impact of portfolio investment on banks profitability of listed commercial bank of Iraq.	Its main objectives were to analyze the impact of portfolio on the banks profitability.	Secondary data and regression and correlation is used for data analysis.	Risk free return on the return from investment and equity arestatistically significant impact from the same level of return on portfolio investment and return from equity and investment have statistical positive relation s at the same time.
4	Wagle**(**2018)	Commercial banks portfolio management in Nepal	The main objectives was to know the portfolio of banks by analyzing risk and returns from	Descriptive statistics, correlation analysis and regression analysis were used in this	This study concluded that banks are focused on investment in short term i.e. in liquid form of assets because it was less risky. Investment in Loan & advances

			securities.	study.	is better than share investment, government securities because of advance and loan provide fixed regular source of income.
5	Adhikari(2017)	Portfolio analysis on investment with special reference to Nepalese Commercial & Development Bank	This study tries to explain the portfolio analyses on investment of sampled banks.	Secondary data and regression and correlation is used for data analysis.	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.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.
6	Oliinyk and Kozmenko (2017)	Creating an investment portfolio by a financial institution	The main objective of the study was to identify and creating an investment portfolio by a financial institution	Secondary data were used and analyzed it by using proper stastical tools.	The main objective of portfolio investment in the form of returns on shares and debentures is positives.Optimal management of investments from portfolio is presented in numerical values.
7	Shrestha (2016)	Policy of investment and management of portfolio by NCC banks in Nepal.	The major objectives is to evaluate and analyze the policy of investment by banks.	Different statistical tools such as descriptive statistics, correlation, and multiple regressions.	The major findings of the study were the investment position of sample bank is satisfactory level. 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.

8	Robert (2015)	Making Portfolio Management More Effective	The main objective of the study was to examine the portfolio management and its effectivenss.	Secondary data and regression and correlation is used for data analysis.	Based on the study some solution is provided. Need to access the capacity, take go/kill decision in a tough period analysis should be done as per the supply and demand. Next solution is innovation or product development and strategic technology for the organization to invest in the appropriate projects.
9	Singh (2015)	Investment Analysis and Portfolio Management	This study tries to explain us the way to achieve the optimal growth for an acceptable level of risk.	Different statistical tools such as descriptive statistics, correlation, and multiple regressions	In this study it was found that loan and advance policies are satisfactory. Current ratio is in standard ratio, poor liquidity position of portfolio of loan, financial ratio are in improving situations i.e. of marketable securities.
10	Bhatta, (2014)	Portfolio Management of listed finance companies of Nepal	The prime objectives of this study is to know the portfolio situation of finance companies with the help of risk and its returns.	Different statistical tools such as descriptive statistics, correlation, and multiple regressions.	It is concluded that mostly finances company have unsystemativ risks which means is no proper management of portfolio of samples financial company. Portfolio risks and its returns of finance company of Nepal has bear higher riskd to get little portfolio returns.

2.3 Research Gap

Research gap is the process of knowing the loop hole in the research. Review of literature, brochers, previously published and unpublished article, different books are review to find about the topic. Portfolios play an important role because it provides the most important part of investment because success and failure depends upon the investment activities. The concept of portfolio is not a new because many researchers have performed studied but no researcher has studied in the depth about the topic. Selection of sample is also new and selection is based on the size and performances of commercials banks.

All the researcher previously used the same statistical tool and financial tool but on this Investment on government securities, loan and advances, profitability condition i.e. ROA, bank size, and investment on shares and debenture. This study analyze the present trend and portfolio mix which is not studied before. In this study data are collected directly through banks financial statement and analyzed through the latest statistical tools i.e. SPSS and portfolio investment patter by side by side. This research covers the latest data and directives of Nepal rastra bank and latest issue regarding the portfolio is also highlighted here, In this research, researcher presents the current data up to 2022.

CHAPTER-III
RESEARCH METHODOLOGY

This chapter present research design population, research methodology, procedures or techniques used to identify, select, process, and analyze information about a research topic. In a research paper, the methodology section allows the reader to critically evaluate a study's overall validity and reliability. Research methodology is the plan, structure and strategy of investigations conceived to answer the question of research or test the research hypothesis. Research design is used to control variance (Wolff and Pant, 2002). The justification on the present study cannot be obtained without help of proper research methodology.

3.1 Research Design

To achieve the specific objective of the study, descriptive and casual comparative research designs are employed. Descriptive research design includes the prediction and explanation of facts related to individual, group or situation and casual comparative research method is used to compare the banks status. The research design is followed to analyze investment portfolio of commercial banks. It is an integrated system that guides the researcher in formulating, implementing & controlling the study conceived so as to obtain answers to research questions & to control variance. Both descriptive and casual comparative research methods have been used to attain the overall objectives.

3.2 Population and Sampling method

Under this study only three banks are taken as sample from the population of 20 commercial banks (September, 2023 report of NRB). Purposive sampling method is used for the study of these sample banks. These three banks are selected as per their performance and they are similar in terms of capital and profit making. The reasons behind selection of these banks are ROE of HBL is highest in the year 2075/76 and all three sample bank ROE is in increasing trend. So, three banks are selected as per their capital structure and performance i.e. HBL, EBL and SBL.

3.3 Nature and Sources of Data

Data are based on secondary data and published financial statements are taken from the bank respective websites. Balance sheet, Profit and loss and banks financial data indicator are studied while analyzed it. Annual report of the banks, Journals, unpublished & published reports, books, Nepal Rastra bank are also supplementary for the source of data. The report from NEPSE and concerned bank is used for furnished for research works.

3.4 Data Collection Techniques

The research consists of secondary data. Bank statement i.e. Balance sheet, Profit and loss and banks financial data indicator are studied while analyzed it. Journals, unpublished & published reports, books, Nepal Rastra bank are also supplementary for the source of data. The report from NEPSE and concerned bank is used for furnished for research works.

3.5Method of Data Analysis Technique

To make the study more specific and reliable, the researcher uses two types of tool for analysis,

- Financial Tools
- Statistical Tools

3.5.1 Financial Tools

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. The relationship between the two accounting figures expressed mathematically is known as ratio. Ratio analysis is used to compare a firm's financial performance and status to that of other firms or to itself on time. Gitman, (1990).

For the analysis, different tools have been used as per the study to meets its objectives:

1. Investment on Share and Debenture to Total Deposits Ratio

It is the ratio of total deposit and its investment on shares and debenture. It shows the mathematic relationship. Portfolio is diversified as per the directives of Nepal rastra bank and its policies. Share and debenture investment shows the proportion of investment from its deposits.

Mathematically,

$$\text{Share and Debenture to Total Deposits ratio} = \frac{\text{Share and Debenture}}{\text{Total Deposit}}$$

2. Investment on Government Securities to Total Deposits Ratio

It is the ratio of government securities to total deposits. Investment in government securities is less risk and it provides the liquidity for the banks. It is calculated by:

$$\text{Government securities to total deposits ratio} = \frac{\text{Investment on Government Securities}}{\text{Total Deposit}}$$

3.Loan and Advances to Total Deposit Ratio

It is the ratio calculated by loan and advances to total deposit. It shows the proportion of loan and advance to the total deposits of the banks. Loan and advance is the main activities of the bank from where bank earn income. Its formula is shown below: The formula used to computed this ratio is as

$$\text{Loan and Advance to Total Deposits ratio} = \frac{\text{loan and Advances}}{\text{Total Deposit}}$$

High ratio is preferable to some extend because it indicated proper utilization of loans and advance the low ratio.

4. Bank Size

It is calculated by the log size of the assets. It helps to know the actual size of the assets of the bank and financial institution. Kosmidou and Zopounidis (2006) found that the negative effect of bank size on performance. The authors point out that, the bigger the bank size, the more difficult to manage it. In contrast, Masood and Ashraf (2012) had found a positive impact of bank size on performance. In the study it has been concluded

conclude that a large bank size reduces costs due to economies of scale that this entails, large banks can also raise capital at a lower cost.

5. Return on Total Assets (ROA)

Return on assets is the relationship between profit and total assets of a firm on a given date. It measures the profitability of a firm's assets or the amount of net income it earns in relation to the assets available for use. The return on total assets ratio indicates how well a company's investments generate value, making it an important measure of productivity for the business. It is calculated by dividing the company's earnings after taxes (EAT) by its total assets, and multiplying the result by 100%.

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

6. Return on Equity (ROE)

Return on equity, also known as return on shareholder's fund, is the relationship between net profit after interest and tax and shareholders fund. It indicates the reward available for the owners after meeting all the expenses and discharging the income tax liability. ROE is a gauge of a corporation's profitability and how efficiently it generates those profits. The higher the ROE, the better a company is at converting its equity financing into profits. To calculate ROE, divide net income by the value of shareholder's equity.

$$\text{ROE} = \frac{\text{Net Profit after Interest and Tax}}{\text{Shareholders Fund}}$$

3.5.2 Statistical Tools

Various statistical tools may be used for the evaluation of financial performance of the firms such as Correlation Analysis, Measure of Central Tendency, Theory of Dispersion, and Estimation whatever is required. "Statistical analysis is one particular language which describes the data and makes possible to talk about the relations and the difference of the variables. Statistical tools are the mathematical techniques used to analyze and interpret performance. It is describes the relationship between different variable and

provide the result which will be useful in interpretation of the data. Statistics is also used to test the hypothesis that is set to know the information of population. In this study, the following statistical tools are used.

1. Arithmetic Mean

It is also known as average because it provides result in average. It is calculated by adding all the values and dividing by the list of items. It is also known as middle value because it provides the average among the data. Single value is provided by the calculating various values. It is also important because it provide the eagle eye views of the data. It is calculated as:

Mean ($\bar{X}$) = $\frac{\sum X}{n}$

Where,

$\sum X$= Sum of the variables 'X'

n = No. of observations

2. Standard Deviation

It is the measurement of the actual varation of the result as it is also the main measurements of dispersion. The high amount of dispersion reflects high standard deviation. The small standard deviation means the high degree of homogeneity of the observations. In simple term high SD means very less similarity in the values and low SD means high similarity among the values. SD gives the accurate result between

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

Where,

X = number of observation

$\bar{X}$= mean of observations in the sample

n = number of years

$\sum(X - \bar{X})^2$ = Sum of Total number of observations deviation from mean in the sample.

3. Coefficient of Variation

Coefficient of variance is the measurements of ratio between standard deviation and means which is shown in the percentage. It is calculated by:

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

CV is useful in comparing the actual amount of variation in data group with various mean. It is the measure of dispersion. Smaller distribution of coefficient is said to be homogeneous then other whereas greater coefficient of variance is more variable of heterogeneous then others. (Guptas, 2001:417).

4. Correlation Coefficient (r)

Correlation coefficient (r) is defined as, association with between the independent variable and independent variable. Correlation coefficient used to measure the relationship between two variables. Two variables is said correlated if the value of one variables is changed due to change in the value of other variables. The following formula is used to calculate correlation coefficient (r) using two variables:

$$\text{Correlation Coefficient (r)} = \frac{\mathbf{n}\sum \mathbf{XY} - \sum \mathbf{X}\sum \mathbf{Y}}{\sqrt{\mathbf{n}\sum \mathbf{X^2} - (\sum \mathbf{X})^2}\sqrt{\mathbf{n}\sum \mathbf{Y^2} - (\sum \mathbf{Y})^2}}$$

N = Number of observations

X And Y are variables

The decision criteria:

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. t - Test

A t-test is a statistical test that compares the means of two samples. It is used in hypothesis testing, with a null hypothesis that the difference in group means is zero and an alternate hypothesis that the difference in group means is different from zero. For this study, t-test for significance of an observed and sample correlation coefficient is used. Set up Hypothesis:

Null hypothesis ($\mathbf{H_0}$);p=0 i.e. there is no correlation between the considered variables.

Alternative Hypothesis ($\mathbf{H_1}$);p = 0 i.e. there is significant correlation between the considered variables.

Test statistic under $\mathbf{H_0}$;

$$t= \frac{\mathbf{r}}{\sqrt{\mathbf{1-r^2}}} \times \sqrt{\mathbf{n-2}}$$

Where,

t= Calculated value of t

r= Sample correlation between two variables.

n= No of Pair of observation

$\mathbf{r^2}$ = Coefficient Determination

Level of significance: Level of significance α =5%

Critical Value: Tabulated of critical values of t at α % level of significance for (n-2) degree of freedom obtain from 't' tables.

Decision: If calculate 't' is less than or equal to tabulated value of 't' it falls in the accepted region and the null hypothesis is accepted and if calculated 't' is greater then tabulated 't' null hypothesis is rejected.

6. Multiple Regression

Multiple regression is a statistical technique that can be used to analyze the relationship between a single dependent variable and several independent variables. The objective of multiple regression analysis is to use the independent variables whose values are known to predict the value of the single dependent value. Each predictor value is

weighed, the weights denoting their relative contribution to the overall prediction. The researcher was used portfolio as (dependent variable) and other predictor (independent variables) were chosen to be analyzed. Those chosen variables are specific variables (total assets, loan and advances and government securities).

Regression Equation for dependent variable:

Model 1

$ROA = \beta 0 + \beta 1\ \text{Share \& Debenture} + \beta 2\ \text{Govt. Securities} + \beta 3\ L/A + \beta 4\ \text{Size} + \varepsilon$

Model 2

$ROE = a + b_1\ \text{Shares and Debentures} + b_2\ \text{Govt. Securities} + b_3\ L/A + b_4\ \text{Size} + e$

Where,

ROA and ROE: Dependent variable i.e. financial performance of banks.

Share & Debenture: Investment made by banks in shares and debentures.

Govt. securities: Investment made by banks in government securities.

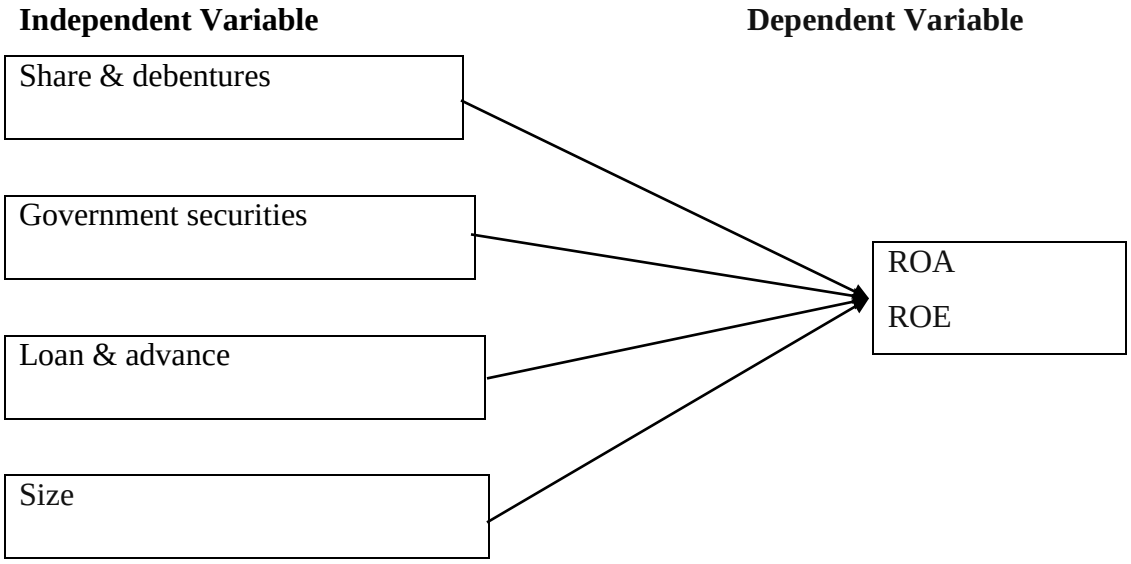
L/A: Investment made by banks in loan and advances.

Size: calculated by log of total assets.

Ei: error item or term

3.6 Research Framework

From the theoretical and empirical literature reviews, the following conceptual framework of the study is developed by the researcher.



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

Definition of variables:

i. **Share and debentures:** Its shows the mathematic relationship between total deposit and investment on share and debentures.

ii. **Government securities:** It shows the investment made by the bank on government securities with total assets. Investment in government securities is the form of liquidity.

iii. **Loan and Advances:** This ratio explains at what extend bank uses the depositors fund to earn profit. Loan and advance play an important role because bank earn profit through lending activities.

iv. **Size:** Bank size is a natural logarithm of total assets. In this study, bank size has been taken as bank specific internal independent variable as it influences the performance of the bank.

v. **ROA**: Return on assets is the relationship between profit and total assets of a firm on a given date. It measures the profitability of a firm's assets or the amount of net income it earns in relation to the assets available for use.

vi. **ROE:** It shows the relationship between net income and shareholders fund. It indicates the reward available for the owners after meeting all the expenses and discharging the income tax liability.

CHAPTER IV
RESULTS AND DISCUSSION

In this chapter, data have been analyzed using financial and statistical tools following the research methodology dealt in the previous chapter. In this part of analysis, data gathered from various sources have been inserted in the tabular form. The outcomes of the analysis have been compared with conventional standard with respect to ratio analysis. The results of computation have been presented in appropriated tables. Among the various commercial only three banks are taken as sample namely, HBL, SBL and EBL. This chapter presents major findings of the study.

4.1 Descriptive Statistics analysis

Descriptive statistics analysis helps to explain the characteristics of a firm's performance and related variables during period of study. The descriptive statistics used in this study consists of mean, median, standard deviation, and minimum and maximum values associated with variables under study. Table summarizes the descriptive statistics of variables used in this study.

Table:2

Descriptive statistics

Variable	N	Minimum	Maximum	Mean	Std. Dev.
S & D	30	9.51	14.62	12.53	1.46
GS	30	5.43	27.61	14.01	5.64
L&A	30	66.63	94.94	82.26	7.01
B-size	30	10.53	11.42	11.1	0.23
ROA	30	0.89	2.25	1.6	0.35
ROE	30	10.76	25.42	17.3	3.44

Source: Outcome derived from SPSS with reference to Appendix I, II, III.

The mean value of loan and advances to total deposit ratio is 82.26. It represents the mean ratio of loan and advances to total deposit of selected commercial banks and standard deviation is 7.01. It shows the how much it deviate from average to both size.

The minimum and maximum of loan and advances to total deposit is 66.63 and 94.94 respectively.

The mean value of bank size is 11.1. It represents the average ratio of bank size of selected commercial banks and standard deviation is 0.23. It shows the how much it deviate from average to both side. The minimum and maximum B-size is 10.53 and 11.42 respectively.

The mean value of return on assets is 1.6. It represents the average return on assets of selected commercial banks and standard deviation is 0.35. The minimum and maximum ROA is 0.89 and 0.25 respectively.

Return on equity shows a mean of 17.3, which indicates the average value that selected banks gain on average and standard deviation is 3.44. It shows the how much it deviate from average to both side. The maximum and minimum value for ROE is 10.76 and 25.42 respectively. It indicates minimum and maximum return on equity of selected samples.

4.2 Correlation Coefficient Analysis

A correlation matrix is a table shows the correlation coefficients between variables. A correlation matrix is a matrix which is a way to summarize data. Correlation coefficient formulas are used to find how strong a relationship is between a given data is. The formulas return a value between -1 and 1, where:

- 1 indicates a strong positive relationship between them.
- -1 indicates a strong negative relationship between them.
- A result of zero indicates no relationship at all between them.

Correlation matrix is presented below:

Table 3

Correlation Matrix of Dependent and Independent Variables

	S&D	**GS**	**L&A**	**B-size**	**ROA**	**ROE**
S&D	1					
GS	.300	1				
L&A	.678*	.852**	1			
B-size	.607	.802**	.910**	1		
ROA	.094	-.703*	-.463	-.542	1	
ROE	-.543	-.756*	-.663*	-.659	.642*	1

Source: Outcome derived from SPSS with reference to Appendix I, II, III.

** Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

Table 3 reveals the correlation of sample corporations between dependent variable i.e. ROA & ROE with independent variables (shares and debenture to deposit, government securities to deposit, loan and advance to deposit, bank size) using correlation coefficient matrix. Results from the correlation matrix show that ROA is negative correlation with GS, L&A, B-size. The negative correlation resulted in this correlation had inverse relationship within ROA. Likewise, from the correlation matrix it shows ROA is insignificant positive with S&D. The positive coefficient estimates of the correlation implied that there was direct relationship with ROA.

Similarly, ROE is negative correlation with S&D, GS, L&A and B-size. The negative correlation resulted in this correlation had inverse relationship within ROE.

4.3 Regression Analysis

Regression analysis is a set of statistical processes for estimating the relationships between a dependent variable and one or more independent variables. It may include many techniques for analyzing variables. In this research paper, dependent variable is ROA and independent variables are(S&D, GS, L&A and B-size)

Table 4

Model summary of ROA with independent variable

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	$.833^{a}$	.694	.450	.185815

Source: Outcome derived from SPSS with reference to Appendix I, II, III.

Table 4, shows the model summary of multiple regression taking ROA as dependent variable, where the value of R2 is 0.694 meaning that 69.4 % variation in ROA is explained by independent variables i.e. shares and debenture to deposit, government securities to deposit, loan and advance to deposit, bank size seen in ROA is not explained by these variables.

Table 5

Model summary ROE with independent variable

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	$.944^{a}$	.891	.805	1.335167

Source: Outcome derived from SPSS with reference to Appendix I, II, III.

Table 5, shows the model summary of multiple regression taking ROE as dependent variable, where the value of R2 is 0.891 meaning that 89.1 % variation in ROE is explained by independent variables i.e. shares and debenture to deposit, government securities to deposit, loan and advance to deposit, bank size seen in and remaining change seen in ROE is not explained by these variables.

Table 6

Analysis of Variance (ANNOVA) ROA with independent variable

Model		Sum of Squares	d.f	Mean Square	F	Sig.
1	Regression	.392	4	.098	2.840	.141b
	Residual	.173	5	0.35		
	Total	.565	9			

a. Dependent Variable: ROA

b. Predictors: (Constant), S&D, GS, L&A and B-size

Source: Outcome derived from SPSS with reference to Appendix I, II, III.

Hypothesis for the ANOVA test result is:

H0 = β1 = β2 = β3= β4 = β5 = 0: There is no relationship between ROA and S & D, GS, L&A and B-size

H1 = β1 = β2 = β3= β4 = β5 ≠ 0: There is relationship between ROA and S & D, GS, L&A and B-size

Table 6, presents the ANOVA (F–value) test for the significance of multiple regression coefficients. The F-value for the significant test is 2.840 has shown significant relationship of independent variables i.e. of S&D, GS, L&A and B-size with ROA of the sample corporations since p-value is more than 0.05 which means null hypothesis is accepted.

Table 7

Analysis of Variance (ANNOVA) ROE with independent variable

Model		Sum of Squares	d.f	Mean Square	F	Sig.
1	Regression	73.153	4	18.288	10.259	.013b
	Residual	8.913	5	1.783		
	Total	82.067	9			

a. Dependent Variable: ROE

b. Predictors: (Constant), S&D, GS, L&A and B-size

Source: Outcome derived from SPSS with reference to Appendix I, II, III.

Hypothesis for the ANOVA test result is:

H0 = β1 = β2 = β3= β4 = β5 = 0: There is no relationship between ROE and S&D, GS, L&A and B-size

H1 = β1 = β2 = β3= β4 = β5 ≠ 0: There is relationship between ROE and S&D, GS, L&A and B-size

Table 7, presents the ANOVA (F–value) test for the significance of multiple regression coefficients. The F-value for the significant test is 10.259 has shown significant relationship of independent variables i.e. of S&D, GS, L&A and B-size with ROE of the sample corporations since p-value is less than 0.05 which means null hypothesis is rejected.

Table 8

Regression Coefficients model of ROA with Independent Variables

Variance Type	Coefficients	Std. Error	t Stat	Sig.
(Constant)	6.044	5.930	1.019	0.355
S&D	0.063	0.102	0.622	0.561
GS	-0.041	0.033	-1.259	0.264
L&A	0.026	0.045	0.582	0.586
B-size	-0.617	0.671	-0.919	0.400

Source: Outcome derived from SPSS with reference to Appendix I, II, III.

The Table 8, shows the regression result for independent variables i.e., of sample banks with the dependent variable ROA. The regression coefficient of S&D, GS, L&A and B-size on ROA are 0.063, -0.041, 0.026, and -0.617 respectively.

According to the regression analysis model of shares and debenture to deposit (S&D) has a positive relationship with ROA by a coefficient of 0.063. And the significance i.e. p-value is more than 0.05. Accordingly, the result supports the working hypothesis that shares and debenture to deposit (S&D) do not have statistically significant relationship on ROA of sample banks.

The results of regression model indicated that the relationship between government securities to deposit (GS) has a negative relationship with ROA by a coefficient estimate

of -0.041. And the significance i.e. p-value is less than 0.05, shows that there is positive significant relationship on ROA of the sample banks.

The results of regression model indicated that the relationship between loan and advance to deposit (LA) has a positive relationship with ROA by a coefficient estimate of 0.026. And the significance i.e. p-value is more than 0.05, shows that there is no significant relationship on ROA of the banks.

In accordance with the regression result of bank size has a negative relationship with ROA by a coefficient estimate of -0.617. And the significance i.e. p-value is less than 0.05. So, that b-size shows that there is positive significant relationship on ROA of the sample banks.

Table 9

Regression Coefficients model of ROE with Independent Variables

Variance Type	Coefficients	Std. Error	t Stat	Sig.
(Constant)	5.440	42.610	0.128	0.903
S&D	-2.764	0.732	- 3.778	0.013
GS	-1.031	0.236	-4.377	0.007
L&A	0.950	0.326	2.914	0.033
B-size	-1.559	4.823	-0.323	0.760

Source: Outcome derived from SPSS with reference to Appendix I, II, III.

Table 9, shows the regression result for independent variables i.e., of sample banks with the dependent variable ROE. The regression coefficient of S&D, GS, L&A and B-sizeon ROE are -2.764, -1.031, 0.950, and -1.559 respectively.

According to the regression analysis model of shares and debenture to deposit (S&D) has a negative relationship with ROE by a coefficient of -2.764. And the significance i.e. p-value is less than 0.05. Accordingly, the result supports the working hypothesis that shares and debenture to deposit (S&D) have statistically positive significant relationship on ROE of sample banks.

The results of regression model indicated that the relationship between government securities to deposit (GS) has a negative relationship with ROE by a coefficient estimate of -1.031. And the significance i.e. p-value is less than 0.05, shows that there is positive significant relationship on ROE of the sample banks.

The results of regression model indicated that the relationship between loan and advance to deposit (LA) has a positive relationship with ROE by a coefficient estimate of 0.950. And the significance i.e. p-value is less than 0.05, shows that there is positive significant relationship on ROE of the banks.

In accordance with the regression result of bank size has a negative relationship with ROE by a coefficient estimate of -1.559. And the significance i.e. p-value is more than 0.05. So, that b-size shows that there is no significant relationship on ROE of the sample banks.

4.4 Discussion

In this section, the general result obtained from the study conducted is presented by supporting the result with the previous studies in this area. This is undertaken with reference to the results obtained from the analysis made in the previous sections to examine comparative portfolio management analysis Nepalese commercial banks in Nepal.

Portfolio managed by the sample commercial bank is satisfactory as the data suggested. Among these three banks, investment in government securities and share and debenture of EBL is better than other and investment in loan and advance of SBL is better among other sample banks. But we can conclude that portfolio position of these three banks are in satisfactory.

Correlation of sample corporations between dependent variable i.e. ROA & ROE with independent variables (shares and debenture to deposit, government securities to deposit, loan and advance to deposit, bank size) using correlation coefficient matrix. Results from the correlation matrix show that ROA is negative correlation with GS, L&A, B-size. The negative correlation resulted in this correlation had inverse relationship within ROA.

Likewise, from the correlation matrix it shows ROA is insignificant positive with S&D. The positive coefficient estimates of the correlation implied that there was direct relationship with ROA.

According to the regression analysis model of shares and debenture to deposit (S&D) has a positive relationship with ROA. The regression analysis model of shares and debenture to deposit (S&D) has a negative relationship with ROE. Results of regression model indicated that the relationship between government securities to deposit (GS) has a negative relationship with ROA and regression model indicated that the relationship between government securities to deposit (GS) has a negative relationship with ROE.

The results of regression model indicated that the relationship between loan and advance to deposit (LA) has a positive relationship with ROA and regression model indicated that the relationship between loan and advance to deposit (LA) has a positive relationship with ROE. The regression result of bank size has a negative relationship with ROA and regression result of bank size has a negative relationship with ROE. This finding is inconsistent with Wagle **(**2018)

From the regression analysis it is found that share and debenture and loan and advance to deposit have statistically insignificance positive relationship with return on assets (ROA) and government securities to deposit (GS), bank size have statistically insignificance and negative relationship with ROA. Bank size have insignificance and negative relationship with return on equity. This finding is inconsistent with Yakubov and Meliboev (2023)

It is found that share and debenture and government securities to deposit (GS) have significance and negative relationship with ROE and loan and advance to deposit (LA) have significance and positive relationship with ROE. The findings consistent with Bodie, Kane & Marcus (2000)

CHAPTER-V
SUMMARY AND CONCLUSION

In this chapter, the summary has been presented along with conclusions and recommendation as per the above analysis of data. The summary and conclusion of the portfolio management of commercial banks is based on the objectives of the study.

5.1 Summary

Portfolio means investment made in the different assets or securities. Portfolio investment is important for the banks because investment on portfolio maximizes return and minimizes risks. Diversification of investment means investment in different sector to reduces risk association with its. The main theme of portfolio is to develop appropriate portfolio to maximize return at what extent level of risks. Investment portfolio is the tools which assist to reduce risk and maximizing return at optimum level. Bank should invest on those assets or securities which are risk free. Bank should accept those type of assets which is durable, commercials, marketable, and transferable and having high market price. Portfolio means investing in the mix of assets to reduces the risk.

Dependent variable of this research is Return on Assets (ROA) and Return on Equity (ROE). The independent variable areloan to deposit, deposit to total assets, current ratio, liquid assets, cash and cash equivalent. The research question are, Does the portfolio investment managed by the commercial bank is in good position? What is the relationship between portfolio and its returns of bank in Nepal? How the investment portfolio choice effects the performance of commercial banks? This is the conceptual frame work of the research. On the basis of research question the objectives are to examine the position of investment portfolio managed by the commercial banks, to analyze the relationship between portfolio and its financial returns of banks i.e. commercial and to examine the effect of the portfolio investment choices in the financial performance of banks. The literature review of this research is mainly based on articles and thesis of previous scholars. Both international and Nepalese context of article and thesis are review. Descriptive and casual comparative research design is used. SPSS and

Excel are the tools of data analysis. Data are taken from respective sample banks websites. Results from the correlation matrix show that ROA is negative correlation with GS, L&A, B-size. The negative correlation resulted in this correlation had inverse relationship within ROA. Likewise, from the correlation matrix it shows ROA is insignificant positive with S&D. The positive coefficient estimates of the correlation implied that there was direct relationship with ROA.

Similarly, ROE is negative correlation with S&D, GS, L&A and B-size. The negative correlation resulted in this correlation had inverse relationship within ROE.

5.2 Conclusion

On the basis of main findings of the study:

This analysis's key motive is to describe the portfolio management and its financial performance analysis of sample commercial banks. The main issue of this research is to assess the portfolio management of banking sectors in Nepal. The research period of this research is between 2012/13 to 2021/22.

From the secondary data analysis, it was found that there should be proper management of portfolio so that only organization can generate profit as well as can meet its obligation. In this competitive phase proper management of portfolio play an important role. Due to global pandemic it possess more challenges for the banking industry to invest their amount/capital in a diversified sector and to maintain proper portfolio for generate profit. However, there are also other external factors affecting the portfolio as indicated by the adjusted R square value of the model of multiple regression taking ROA as dependent variable, where the value of R2 is 0.694 meaning that 69.4 % variation in ROA is explained by independent variables i.e. shares and debenture to deposit, government securities to deposit, loan and advance to deposit, bank size seen in ROA is not explained by these variables And, taking ROE as dependent variable, where the value of R2 is 0.891 meaning that 89.1 % variation in ROE is explained by independent variables i.e. shares and debenture to deposit, government securities to deposit, loan and advance to deposit, bank size seen in and remaining change seen in ROE is not explained by these variables.

Investment made in shares & debentures, loans and advances and government securities is maintained properly. 'Don't put all your eggs in one basket' it means portfolio investment is also diversification of investments as a means to reduce risk occurs. So from the above data it can be said that banks are investing their amount in the diversified field.

Return on assets is the relationship between profit and total assets of a firm on a given date. It measures the profitability of a firm's assets or the amount of net income it earns in relation to the assets available for use. So as the above data suggest that ROA of all the sample banks are satisfactory which means banks are generating sufficient profit to meet its expenses. So, the financial position of all the sample bank is good enough to tackle in this competitive business.

5.3 Implications

Management of portfolio is one of the prime objectives of commercial bank because portfolio has large impact on the profitability condition of the banks. According to the above analysis of data following implications is put for the proper growth and improvement of sample banks:

- It is most important for BFIs to investing the portfolios because keeping assets in hand do not produce any return. So, it is important for the banks to invest the surplus capital in profitable areas.
- Commercial bank fails to formulate appropriate investment policy & its implement. Banks do not consider the optimization of portfolio management. Bank specially follows the instruction provided by Nepal Rastra Bank and governments. Thus, bank should analyze its investment areas or sector and should develop effective and efficient investment strategies and should take appropriate investment decisions.
- To ensure proper portfolio investment, a general principle of portfolio investment should be formulated by commercial banks to work efficient and effective manner should be implemented by Nepalese commercial banks to carry out their work effectively.

- Portfolio situation of the commercial bank should be revised regularly from different period of time to time and should be managed as per the market condition i.e. environments. Equilibrium level of portfolio should be maintained by the bank in order to reduce risk and maximizing returns. Bank should try to make effort to explore the competitive and optimum yielding investment projects.
- Commercial bank should use systematic and scientific method to diagnosis strength and weakness of investment. In bank there may occur different unexpected situation so bank should maintain liquidity position along with investment in different securities.
- So, commercial banks should provide training to its staffs for making credit appraisal, risk management and its monitoring. An effort should be made on human resource development on the risk analysis management and portfolio management.
- The banks should find out new areas/sectors for investing collected deposits from which it can generate maximum profit .In context of present scenario of the country, health and education can be considered as the best sector for investment, which is more secure and can generate a reasonable profit.
- There is need for the proper management and make proper structure of an organization which influence their portfolio investment selection and their performance. For better investment decision good organization structure is required which allows them to manage their portfolio investment and thus increases its performances i.e. profit.
- Sizes of companies play an important role in proper investment. Increase in size of company will increase the fund size in the country and will have significant impact on the bank performances. It was found that performance of bank and its size have positive relationship.
- This study mainly concentrates on the commercial banks of Nepal. The outcomes of the result are not representative of all bank and financial institution of Nepal. So, further research is needed to include the large population of the banking sectors.

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APPENDIX-I

Himalayan Bank Limited

Years	Total Assets	Loan& Advances	ROA	ROE	Total Deposits	Share& Debentures	Government Securities
2012/13	61113501223	39723805566	1.54	18.25	53072319487	6399708123	7093373646
2013/14	73589845698	45320359244	1.3	16.85	64674848295	7183411016	6479230163
2014/15	82801550641	53476229873	1.34	17.06	73538200185	7558899626	7570649713
2015/16	100561894865	67745978944	1.94	24.53	86433180688	9319841368	8465386201
2016/17	108063252383	76394259228	2.19	21.22	92334454668	12328145766	6682779007
2017/18	116462301380	84364473983	1.67	14.17	98988791212	14138896995	14482883318
2018/19	133151142073	94708968682	2.21	18.34	109387060433	15994798380	20575139706
2019/20	155884918983	104043000000	1.79	15.4	125264381690	17589253612	27746976585
2020/21	178490925886	128479000000	1.68	14.89	141021074860	20132713390	28541073951
2021/22	216286273674	150810000000	1.09	10.76	168419486693	22010195996	33271097290

APPENDIX-II

Everest Bank Limited

Years	Total Assets	Loan & Advances	ROA	ROE	Total Deposits	Share & Debentures	Government Securities
2012/13	65741150457	44197800000	2.25	17.81	55702464632	5296689672	6988310000
2013/14	70445082845	48450304601	1.85	17.77	62108135754	7959222025	7894467171
2014/15	99152806017	55363518834	1.85	15.25	83093789957	9582933112	4509590169
2015/16	114018921791	67697196276	1.59	20.26	91638884356	9845567472	9085179017
2016/17	116946280388	76659292487	1.83	17.5	94091892005	13207514111	7652704965
2017/18	144811151443	91013623011	1.97	16	115511705922	16134507415	15292314230
2018/19	170077533454	105835613054	1.94	17.33	143545475184	17625063404	21365451000
2019/20	185023189704	113956726844	1.42	13.5	129568152895	18637356460	31777293000
2020/21	212336128516	129665248320	0.89	12.32	160220256940	20870674018	30251168000
2021/22	225381322534	147756506511	1.13	14.21	172739184905	22794552510	36919011000

APPENDIX-II

Siddhartha Bank Limited

Years	Total Assets	Loan & Advance	ROA	ROE	Total Deposits	Share & Debentures	Government Securities
2012/13	33691223791	23086563330	1.43	22.56	28383286527	3431264451	3198200433
2013/14	40277752199	27186905349	1.74	18.56	35048654296	3931670632	2135831110
2014/15	50647295616	36339796450	1.51	21.89	44741290000	5177370301	4000613850
2015/16	74403087827	55350891229	1.69	25.42	64934358551	7498277934	7514275000
2016/17	89901512010	65903646622	1.53	18.61	77317559299	11119184813	8712275000
2017/18	129819680463	84714709737	1.59	16.7	94579591123	13702828293	8593562818
2018/19	154031125260	106538676802	1.49	15.49	114923367534	15031035234	14919238985
2019/20	170585160318	125914136614	1.26	12.48	139609497543	16011270676	19417686528
2020/21	228941959915	161035726109	1.25	17.02	180438924523	20401806326	35093100585
2021/22	264327023510	181477123966	1.1	15.68	191156475501	21597874092	52783008512