IMPACT OF PORTFOLIO MANAGEMENT ON PROFITABILITY OF DEVELOPMENT BANKS IN NEPAL

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

By

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January, 2024

Certification of Authorship

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

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

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January, 2024

Report of Research Committee

Mr. Dal Bahadur Bhat has defended research proposal entitle **"Impact of portfolio management on profitability of Development Banks in Nepal"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Prof. Dr. Gopi Nath Regmi and submit the thesis for evaluation and viva voce examination.

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We have examined the dissertation entitled **"Impact of portfolio management on profitability of Development Banks in Nepal"** presented by Mr. Dal Bahadur Bhat for the degree of **Master of Business Studies (MBS).** We hereby certify that the dissertation is acceptable for the award of degree.

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TABLE OF CONTENTS

List of Tables

List of Figures

Abbreviations

&	=	And
CBs	=	Commercial Banks
CV	=	Coefficient of Variation
DBs	=	Development Banks
DPS	=	Dividend Per Share
EAT	=	Earning After Tax
EBT	=	Earning Before Tax
GBBL	=	Garima Bikash Bank Limited
Govt.	=	Government
HPR	=	Holding Period Return
i.e.	=	That is
IEGS	=	Interest Earned from Government Securities
IELA	=	Interest Earned from Loan and Advance
IEOFI	=	Interest Earned from Other Financial Institution
IESD	=	Interest Earned from Share and Debenture
JBBL	=	Jyoti Bikash Bank Limited
L/A	=	Loan & Advance
LBBL	=	Lumbini Bikash Bank Limited
Ltd.	=	Limited
MBBL	=	Muktinath Bikash Bank Limited
MPS	=	Market Price per Share
MPT	=	Modern Portfolio Theory
NEPSE	=	Nepal Securities Exchange
NRB	=	Nepal Rastra Bank
r	=	Correlation Coefficient
R^2	=	Coefficient of Determinants
ROA	=	Return on Assets
ROE	=	Return on Equity
ROI	=	Return on Investment

S/D	=	Share and Debentures
SEBON	=	Security Board of Nepal
SPSS	=	Statistical Package for the Social Sciences
TU	=	Tribhuvan University

Abstract

The main objective of the study is to analyze the impact of portfolio investment management on profitability of development banks in Nepal over the ten years' period. This study used investment portfolio management (share and debenture, government securities, loan and advance and Due from other financial institution) as a proxy for profitability. In the present study, portfolio investment management has been analyzed by analyzing the government securities, loan & advance, due from other financial institution and share & debentures. Further, this study also focused on financial position of development banks in Nepal. For this purpose, return on assets and various ratios are calculated and analyzed. The target population of the study was development banks in Nepal. At present there are 17 development banks in Nepal. Out of them only 4 development bank are to be taken by using convenience sampling for the research work. The study used secondary data, which were collected from the Economic Bulletins of NRB and sample banks' annual reports from 2012/13 to 2021/22. is study adopts descriptive research design. The findings from the study ROA and ROE both financial tools are used to analyze financial performance of development bank that was satisfactory but not sufficient. Showed that the portfolio investment management of development banks is not satisfactory. The study also concluded that The value of R-squared indicates that there is a significant amount of variability in profitability explained by portfolio management (share & debenture, government securities, loan & advance, and other financial institutions). The results from the regression analysis model suggest that share and debenture, government securities, loan & advance, and dues from other financial institutions have a positive impact on the profitability of Development Banks in Nepal.

Keywords: *ROA, ROE, Profitability, portfolio, NRB, financial Performance*

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

A bank is an institution, which deals in money, receiving it on deposit from the customers, honoring customers drawing against such deposits on demand, collecting cheques for customers and lending or investing surplus deposits until they are requiredfor payment. In contemporary times, a diverse array of banks has emerged, including industrial banks, commercial banks, agricultural banks, joint venture banks, cooperative banks, and development banks. This proliferation can be attributed to population growth, shifts in industrial and trade landscapes, the onset of competitive dynamics, and evolving societal ideologies, fostering interdependence (Bhandari, 2003).

Banks play a pivotal role as major purchasers of government-issued bonds and notes, facilitating the financing of diverse public infrastructure projects, ranging from hospitals and stadiums to airports and highways. Additionally, they serve as the primary conduit for government economic policies aimed at stabilizing the economy. Banks also stand out as crucial sources of short-term working capital essential for businesses, and in recent years, they have taken on a more active role in providing long-term loans for new plant and equipment. In the realm of financial transactions, businesses and consumers predominantly rely on banking services, such as checks, credit or debit cards, and electronic accounts linked to computer networks, when making payments for goods and services. When in need of financial advice or information, individuals and businesses frequently turn to banks for guidance, recognizing them as valuable sources of financial expertise and planning (Pokharel, 2009).

Investing in funds is motivated by the expectation of a positive rate of return. However, the pursuit of returns inherently involves facing certain risks. To strike a balance between risk and return, portfolio diversification becomes crucial. A portfolio, essentially a collection of securities, is strategically assembled to achieve specific investment objectives. As articulated by Francis (2003).

(Marcus & Mohanty, 2002) define a portfolio as the diversification of funds across various investment alternatives. The success of a bank in the highly competitive lending environment hinges significantly on how effectively it manages its portfolio. The rapid development of a country is contingent upon competitive spreads throughout the nation. The competitive strength of banks relies on the efficient operation of their portfolios. To ensure efficient bank operations, effective portfolio management is crucial. The primary goal of portfolio formation is to minimize risk and, consequently, maximize banks' returns. The seamless and efficient performance of banks is intricately tied to the earning power of their investments and the associated risks. In essence, a portfolio is a collection of investments. For investors in the stock exchange, a portfolio comprises holdings in various companies, while for property investors, it consists of a collection of buildings. In the context of financial management within industrial companies, a portfolio represents a collection of real capital projects. The nature of a portfolio's components is determined by the pool of opportunities from which selections are made.

Banks formulate sound investment portfolios to enhance effectiveness, ultimately contributing to the economic development of the country. The formulation of a sound investment portfolio, coupled with coordinated planning, propels economic growth. Banks play a pivotal role in capital formation by gathering small portions of funds from different sectors. Industrial development is inconceivable without a robust banking system in place. Additionally, banks' services aid in expanding the market (Eugene & Brigham, 2013).

The successful performance of a bank is a direct outcome of the successful formulation and implementation of an investment policy. Investment involves the mobilization of savings into alternatives expected to yield positive returns in the future. It represents a current commitment of money or resources with the anticipation of reaping future benefits. The process of portfolio selection can be divided into two stages. The first stage commences with observation and experience, leading to beliefs about the future performance of available securities. The second stage begins with these beliefs and concludes with the actual choice of the portfolio (Markowitz, 1952).

Investing in any alternative is inherently associated with risk. Risk is defined as the likelihood of unfavorable events occurring (Michael, 2012).

In the contemporary business landscape, portfolio management remains a pivotal strategy widely employed by businesses globally, including commercial banks, as argued by Cernas (2011). Perez (2015) emphasizes the necessity for commercial banks to cultivate income-generating assets, particularly in the current era marked by the escalating adoption of technology-enabled products and services. The rationale behind this lies in the varying performances of different assets under diverse economic conditions, with no apparent correlation in their outcomes.

This research endeavors to examine the impact of combining various asset classes on the profitability of development banks in Nepal. The investigation is grounded in the Markowitz portfolio theory, modern portfolio theory, and the theory of active portfolio management. The modern theory posits that risk can be minimized through diversification, wherein portfolio managers strategically allocate assets across different classes, sectors, investment durations, and risk levels (Campbell & Vicera, 2002). In constructing and maintaining portfolios, banks, like rational investors, aim to minimize risk while maximizing returns.

Given the implementation of interest rate capping, resulting in a reduction in gross interest income for banks, understanding the effect of portfolio management on their financial performance becomes crucial. This study assesses key portfolio drivers such as due from other financial institutions, government securities, shares and debentures, and loans & advances. Additionally, it explores the impact of sector concentration on the profitability of banks in Nepal.

1.2 Statement of the Problem

There exist significant research gaps in the field of portfolio management, both on a global scale and within local contexts, as highlighted by Campbell in 2002. The attention garnered by Portfolio Management and its implications for performance from scholars, policy makers, and donors is noteworthy due to its relevance to policy and development actions. According to Chakrabarti et al. (2007), portfolio management plays a crucial role in enhancing performance, especially in developing institutional environments. Building on this perspective, Ishak and Napier (2006) argue that portfolio diversification not only fails to decrease the firm's value but, in fact, leads to an increase in firm value as diversification levels.

The banking industry in Nepal has witnessed significant growth due to sector liberalization and deregulation, coupled with the entry of non-bank institutions, leading to intense competition. To thrive in this challenging environment, banks have diversified their asset portfolios to ensure continued profitability.

According to Bhujel (2021), banks play a crucial role in any economy, and their success or failure profoundly impacts a country's economic development. In the Nepalese context, development banks tend to focus on similar types of investments, primarily in loans and advances. This uniform investment approach poses a risk, as any unforeseen economic downturn could lead to the simultaneous failure of multiple banks. The issue lies in the limited investment practices and the tendency to choose similar investment alternatives among development banks. Many banks disproportionately invest in unproductive sectors, such as land and buildings, hindering overall economic improvement. The concentration of funds in specific areas is driven by a profit-oriented mindset and reluctance to invest in long-term projects due to safety concerns.

Despite the expansion of the banking sector to remote areas, challenges persist in resource mobilization by financial institutions in Nepal. A significant problem is the poor investment environment prevailing in the country. Incorrect fund allocation without considering financial, business, and other risks can lead to unprofitable returns. Therefore, the importance of portfolio analysis in minimizing risk by diversifying investments across various sectors cannot be overstated.

Weston and Brigham (2003) highlighted the adverse implications of diversification on performance, emphasizing the exacerbation of agency conflicts between small shareholders and corporate insiders. Surbhi and Dominique (2012) noted a non-linear relationship between diversification and performance, varying across business lines and among banks. Studies on related and unrelated diversification have yielded contradictory findings, with some suggesting performance improvement through related diversification and others cautioning against the compromising effects of unrelated diversification (Campell and Morsman, 2002; Perez, 2015; Ramlet, 1974 and 1982; Trygve and Venkatraman, 2006; Malla and Williamson, 2017).

Considering the global diversity in findings and the potential dual causality relationship between corporate diversification and performance, it is evident that empirical studies have not conclusively addressed key research questions in this domain.

1.3 Research Questions

The research questions to be raised for covering the issues of this study are as follows.

i. How is the investment portfolio managed by the selected development banks in Nepal?

ii. What is the financial performance of selected development banks?

iii. What is the effect of portfolio management on the profitability of Nepalese Development banks?

1.4 Objectives of the Study

The primary objective of this study is to examine the current state of portfolio management in Nepalese development banks and to assess its impact on the overall profitability of these banks. The specific aims of the study are outlined below:

i. To assess the present status of investment portfolio of the selected development banks in Nepal.

ii. To analyze the financial performance of selected development banks.

iii. To examine the effect of portfolio management on the profitability of Nepalese Development banks.

1.5 Rationale of the Study

In this scenario, the research aims to identify optimal investment practices across various sectors by examining successful banks. By delving into the strategies employed by these banks, the study aims to alleviate reservations surrounding the adoption of diverse investment practices. Currently, many banks lean towards short-term and highly liquid investments as a risk mitigation strategy. However, the adoption of portfolio strategies to further reduce risk appears to be relatively low. The research endeavors to provide valuable insights to such banks, offering guidance on how to minimize investment risk and maximize returns through comprehensive portfolio analysis.

Moreover, the study contributes to the enhancement of analytical skills and decision-making processes related to investments. By offering suggestions for improvement, it facilitates the refinement of investment strategies. Additionally, the research serves as a foundation for future investigations by pinpointing research gap.

i. The research findings are valuable to development bank managers as the primary focus of the study is on the effect portfolio management on the profitability of Nepalese development banks. The findings can inform the managers on necessary considerations to make while selecting the degree of asset diversification.
ii. This study helpful for the government institutions and policy makers that regulate the banking sector in Nepal.
iii. Finally, this study contributes to the broader realm of academic research as it adds significance to academic investigations and research in field of portfolio management. Upcoming researchers would make references using this study, as suggesting future research activities that can be explored.

1.6 Limitation of the study

In the Nepalese context, the primary challenge encountered in research studies is the inadequacy of sufficient data and information, leading to substantial debates regarding its accuracy and reliability. Each study grapples with limitations arising from various factors such as institutional constraints, the timeframe of the study, the dependability of statistical data, the tools employed, and the presence of variance. This analysis of portfolio management in development banks acknowledges several limitations:

i. The scope of this study is confined to the analysis of portfolio management in selected development banks, thus excluding a comprehensive examination of other aspects of these banks.

ii. The study relies predominantly on secondary data, introducing inherent limitations associated with the use of such data.

iii. The timeframe considered for this study spans only ten years, from FY 2012/13 to FY 2021/22, thereby restricting the conclusions to the specified period.

iv. The study selectively examines a few variables—such as due from other financial institutions, loans and advances, government securities, and investments in shares and

debentures pertaining to the portfolio management's impact on profitability. Numerous other variables influencing profitability in portfolio management are not included in this analysis.

1.7 Chapter Plan

The study has been organized into following different chapters:

Chapter I: Introduction

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

Chapter II: Literature Review

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

Chapter III: Research Methodology

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

Chapter IV: Results and Discussion

This chapter delves into the pivotal aspects of data presentation and analysis, constituting the essence of the study. The gathered data is systematically presented through tables and various other formats. Diverse statistical methods and tools, including financial and statistical techniques, are employed to analyze the collected data.

Chapter V: Conclusion

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

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The literature review is a crucial component of scientific research, serving as a retrospective analysis of past experiences and events. It emphasizes the significance of building on previous knowledge and studies to establish the foundation for the present study. According to Sunjy (2021), prior studies cannot be disregarded, as they contribute to shaping the perspective and focus of the current research.

Bhujel (2021) underscores the importance of the literature review in the current study's subject matter. The chapter delves into concepts such as financial performance, tools and techniques, and portfolio management analysis, specifically in relation to development banks. The purpose of research is highlighted as the pursuit of reviewing and acquiring new knowledge, with literature providing a valuable resource to guide the researcher towards their objectives.

The chapter systematically presents theories related to portfolio management and profitability, summarizing existing literature on these topics. It explores how different researchers have approached and examined the subject matter. Grant (1998) is referenced, noting the growing interest in portfolio management effectiveness during the twentieth century and the subsequent complexity introduced by diverse assets and financial instruments.

The focus extends to the conceptual framework and a comprehensive review of literature relevant to portfolio management. Various sources such as books, journals, and articles have been scrutinized to gather knowledge on the subject. The literature review is based on the available materials in the research field, and considerable effort has been invested in extracting information from libraries to ensure a well-informed understanding of the topic.

2.2 Conceptual review

Investments are motivated by three fundamental objectives: generating income, preserving capital, and achieving capital appreciation. Income-focused investments aim to yield immediate returns to meet current or near-future financial needs. Capital preservation involves making conservative investments with the goal of safeguarding the original value of the capital, ensuring it remains available without the risk of purchasing power loss over time. Investments for capital appreciation are intended to grow in value to fulfill future requirements, typically requiring some level of risk exposure to achieve higher returns after accounting for taxes and inflation.

Optimal investment suggests that a firm should be indifferent between investing today and transferring resources to the future, as long as an appropriate discount rate is applied to discount future payoffs (Trygve, 2006). However, in emerging markets, financial liberalization has led to increased volatility in macro and micro prices, introducing uncertainty. Consumption volatility rose in the 1990s, and capital flows to developing countries became high, rising, and unpredictable (Gabriele et al., 2000). Stock markets, as well as sales and earnings of firms in both developed and developing countries, experienced heightened volatility over the past three decades (Grabel, 1995).

Despite a decline in growth volatility in developed countries during the 1990s, Montiel (2004) reported an increase in one-third of developing countries, with overall volatility being twice as high. Capital flows can negatively impact investment in tradable goods sectors by altering relative prices, contributing to decreased business savings and employment contraction in these sectors (Frenkel and Ros, 2006). Excessive volatility in exchange rates raises inflation uncertainty and prompts financial investments by real sector firms (Felix, 1998; UNCTAD, 2006). Overall, increasing volatility may lead to a self-exacerbating cycle as investors shorten their time horizons to capitalize on speculative gains or avoid excessive risks (Grabel, 1995).

2.2.1 Portfolio Management

Portfolio management involves the efficient administration of investments in financial assets such as stocks and debentures, tailored to individual or corporate preferences for risk

and return. This process requires ongoing supervision of the securities within the portfolio. The objective is to create a portfolio that maximizes returns at a chosen risk level. As stated by Weston and Brigham (1992), a portfolio is a compilation of investment securities.

The art of portfolio management lies in skillfully managing a pool of funds to maintain its original value and ensure appreciation over time, generating a satisfactory return in line with the assumed risk. The decision-making process in portfolio management is not foolproof, and the correctness of decisions cannot be guaranteed in every case.

Portfolio theory, introduced by Harry Markowitz in 1952, is pivotal in selecting an optimal portfolio for risk-averse investors. These investors seek to maximize expected returns for a given level of risk or minimize risk for a given level of expected returns. Efficient portfolios, where risk and return are carefully balanced, are preferred by risk-averse investors. The theory aids in determining the combination of securities that creates a set of efficient portfolios.

The fundamental challenge in portfolio management is establishing an investment objective and selecting the best combination of available securities to achieve that goal. Regular evaluation of securities within the portfolio is essential. A portfolio is essentially a practice among investors of diversifying their funds across multiple assets. The goal is not only to preserve the original value of the funds but also to appreciate their worth over time, delivering a satisfactory return given the assumed level of risk (Feorge, Edward, & 1999).

2.2.2 Profitability (dependent variable)

Profit is the amount remaining from revenue after covering all business expenses. It signifies a positive outcome when revenue surpasses costs. The owners of a business decide whether to retain the profit for personal use or reinvest it in the company, a strategy often recommended for startups. Reinvesting profits contributes to expanding cash reserves, enabling increased capital for operations and making the company more appealing to external investors. Ample cash reserves indicate resilience against economic downturns, and reinvesting profits showcases the owner's commitment to business growth, influencing investor decisions (Nicolaas, 2022).

The concept of profitability goes beyond profit, encompassing a company's capability to generate profit. Profitability is a crucial factor in business success, serving as the primary motivation for running a business and influencing external investors' choices. Profitability

analysis involves examining revenue from output sales, input costs, and opportunity costs. Various profitability ratios, such as net profit margin, gross profit margin, operating margin, return on assets, and return on equity ratio, are used to gauge a company's profitability. Historically, Return on Assets (ROA) was a common measure of profitability.

2.2.3 Due from other Financial Institutions

(Andrews, Oscar & Prisca, 2020) defines "Due from other financial institutions" as asset accounts within the general ledger, representing the quantity and value of deposits and loans presently held by the bank on behalf of other banks and financial entities. These accounts play a crucial role in facilitating the collection of both cash and non-cash items, as well as aiding in the transfer and settlement of security transactions, participation-loan funds, and the buying or selling of Central Bank funds, among other functions. Balances due to institutions encompass all interest-bearing and non-interest-bearing amounts, whether in the form of demand, savings, or time balances.

2.2.4 Loan and advance

Loans and advances refer to the provision of funds, either directly or indirectly, to an individual based on an obligation to repay. This encompasses various financial arrangements, including discounted commercial or business paper obligations. The term "loans and advances" also covers all exposures as defined in relevant legislation.

Morsman (2003) observed that long-term loan portfolios often have a higher proportion of non-performing loans compared to short-term loans, leading to lower profitability. Notably, larger banks tend to place less value on loans due to their extensive diversification of asset portfolios.

Dang (2011) further emphasizes the crucial role of loan portfolio quality in determining a bank's profitability. According to Dang, there is a positive correlation between high-quality loan portfolios and increased bank profitability. In essence, the health and performance of a bank's loan portfolio significantly influence its overall financial success.

2.2.5 Government Securities

Government securities refer to debt instruments issued by a sovereign government to raise funds for various purposes, including routine government activities and specific projects such as infrastructure and defense. These financial instruments operate similarly to corporate bonds, where corporations issue debt to raise capital for purposes like purchasing equipment, expanding operations, or settling existing debts. The issuance of government debt allows authorities to acquire additional funds without resorting to tax increases or reducing expenditures in other budgetary areas whenever financial support for a project is needed (James Chen, 2021).

2.2.6 Share and Debenture

The smallest unit of a company's capital is referred to as shares, which are acquired in the open market, specifically the stock market, to generate funds for the company. The price at which these shares are offered is known as the share price, representing the ownership stake of a shareholder in the company.

Debentures, on the other hand, are a type of long-term debt instrument issued by a company, authenticated with its common seal, to denote the company's indebtedness to debenture

holders. The capital raised through debentures is essentially borrowed capital, making the debenture holders creditors of the company. Debentures may be redeemable or irredeemable, and they can be freely transferred. The return for debenture holders comes in the form of fixed-rate interest. While debentures are typically secured by a charge on company assets, there are also unsecured debentures. Notably, debentures do not grant voting rights to the holders (Surbhi, 2012).

2.3 Theoretical Review

Portfolio management involves the investment and administration of a collection of securities, tailored to meet the preferences of investors while simultaneously minimizing risk and maximizing returns. Typically, investors delegate the decision-making process to a managing entity that makes decisions on their behalf. Rubinstein (2006) emphasized that various peripheral aspects, such as capital appreciation, consistent income, safety of investment, marketability, liquidity, and tax liability reduction, depend on the specific needs of investors.

In the realm of portfolio management, investment strategies are employed to effectively handle assets and securities, which may be structured continuously or intermittently. Discretionary portfolio management not only necessitates systematic analysis but also the implementation of actions and sound judgments. For instance, portfolio management places a significant emphasis on assessing the level of risk and potential returns. This is crucial because different assets have distinct risk-return profiles, impacting the overall portfolio performance. The primary goal is to optimize returns while keeping risks at a minimum for the investments (Campbell, 2002).

Various theories are utilized to elucidate the impact of portfolio management strategies on financial performance, particularly in the context of optimizing returns while considering risks.

2.3.1 Markowitz Portfolio Theory

Markowitz (1953) introduced the portfolio model, shifting the traditional focus from maximizing expected returns alone to considering the diversification of portfolios. Previously, investors primarily aimed at maximizing returns without much attention to risk. Markowitz emphasized the importance of diversifying portfolios, where investors opt for a

mix of assets instead of individual ones, effectively spreading and reducing risk. The model centers on balancing expected returns and the level of risk associated with those returns. The idea is that investors should select a diversified portfolio of assets to mitigate risk exposure while maintaining the desired level of profitability. In this context, risk is often equated with volatility, and investors generally favor less risky options when returns are comparable.

2.3.2 Modern Portfolio Theory

This theory revolves around optimizing the expected return of a portfolio relative to a specific measure of portfolio risk or limiting risks for a predetermined level of expected return. Despite the continued popularity of Modern Portfolio Theory (MPT) in finance, certain foundational assumptions and hypotheses of the theory have been questioned, particularly in related fields such as behavioral economics.

MPT operates on the principle of diversification, aiming to optimize investment portfolios by combining various types of assets while assessing the returns and risks associated with each. The expected return is calculated based on historical performance, while risk calculation relies on past volatility. The emphasis lies in evaluating the risks and profitability of the entire investment portfolio rather than focusing solely on individual assets that may fluctuate in value. This approach allows for the construction of a diversified portfolio with multiple assets to maximize returns for a given level of risk (Merton, 1973).

2.3.3 Theory of Active Portfolio Management

This approach to portfolio management is characterized by dynamic and active strategies aimed at outperforming market benchmarks and maximizing returns, contingent on risk exposure and stock risk. Investors or mutual funds often aim to replicate benchmark indices closely, adhering to the buy-and-hold investment strategy (Fama, 1992). In contrast to passive managers, active managers strive to achieve returns surpassing the benchmark index. Typically, active managers actively seek valuable information, including insights from research analysts, with the goal of capitalizing on market inefficiencies for profitable endeavors, such as purchasing undervalued stocks and short selling overvalued ones.

Additionally, there are instances where the objective is to mitigate risk below the benchmark index, a goal achievable through proactive portfolio management..

2.4 Empirical Review

2.4.1 International context

Jeroz (2007) conducted research on investment companies, emphasizing the importance of regularly monitoring, reviewing, and modifying portfolios based on current market conditions. He specifically recommended evaluating portfolios by benchmarking against set risk and return targets. However, the study did not acknowledge the existence of passive investors and the potential drawbacks of active portfolio management, which can be costly and may not always provide significant benefits.

In a study on investor information access and financial disclosure practices, Miriti (2008) found that the precision of an inside investor's private signal increases with their shareholding. The research suggested that insiders with more confidential information may engage in larger information-motivated dealings, leading to greater returns. However, the study did not explore how insider dealings, information asymmetry, and financial disclosures impact investment portfolios in firms.

Omondi (2009) investigated portfolio management and liquidity risk in Centum Investments, focusing on the effects of induced liquidity shock during financial crises without deposit insurance funds. The study revealed that investors responded to the liquidity shock by increasing cash holdings and selling securities, rather than liquidating bank loans. The role of an institutional lender of last resort in mitigating liquidity constraints was not clearly addressed, and the study overlooked the potential influence of the Central Bank of Kenya (CBK) in regulating market liquidity and inflation.

Top of Form

Taney (2010) argued that the primary source of income for banks is lending, emphasizing the significance of prudent risk management. According to the study, credit risk poses the greatest threat to investors in the banking sector, and the success or failure of banks often hinges on the effective management of loan portfolio risks. The research, however, did not identify specific credit risk strategies for managing loan portfolios.

Oyedijo (2012) investigated the impact of product and market diversification on the financial growth and performance of selected Nigerian companies. The study found that diversification based on relationships significantly influenced performance, while unrelated diversification had a negative and insignificant effect on growth and performance. The limited sample size of only three companies raised concerns about drawing comprehensive conclusions for all Nigerian companies.

Micheni (2013) focused on Centum Investments, aiming to identify portfolio management strategies and their effects on the company's financial performance. The conclusion highlighted that the company's performance resulted from a combination of strategies, and further research was recommended to determine the specific contribution of each strategy.

Wafula (2014) explored the diversification effect on portfolio returns, specifically in mutual funds in Kenya. The study concluded that diversification positively impacted the portfolio returns of mutual funds and recommended periodic portfolio evaluations in response to changing economic conditions. However, the study did not consider the passive nature of some investors and the potential costliness of active portfolio management, which could dilute marginal benefits.

Mutega (2016) investigated the effect of asset diversification on the financial performance of Kenyan commercial banks. The research found a positive correlation between financial performance and various investments, including financial assets, cash equivalents, and loans. The study recommended further research into the diversification of cash equivalents and other investments in banks for a more comprehensive understanding of asset diversification.

Oliinyk and Kozmenko (2017) addressed the task of constructing an investment portfolio for a financial institution, utilizing funds from both internal equity and borrowed sources. They optimized the portfolio considering a restriction on risk measured by the VAR indicator. The study employed the Pontryagin maximum principle to determine optimal strategies for managing the portfolio assets, finding the optimal function for managing the

investment portfolio in terms of the share of income received. Numerical results of optimal investment management for both the financial institution and the creditor were presented.

In the work by Danesh, Ryan, and Abbasi (2018), project portfolio management (PPM) was highlighted as a crucial element in large organizations' service delivery. The success of PPM was linked to understanding its issues and making quality decisions at the portfolio level. The paper proposed a new framework for classifying PPM multi-criteria decision-making (MCDM) methods, addressing key challenges and conducting a literature review on the applications of MCDM methods in PPM.

Mallick (2019) investigated bank portfolio management under banking regulation, asymmetric information about borrower types, and imperfect competition in the credit market. The study revealed that a monopoly bank faced binding incentive constraints for efficient borrowers and binding participation constraints for inefficient borrowers, resulting in an optimal portfolio on the efficiency frontier. The paper also explored duopoly competition between aggressive and defensive banks, highlighting the dominance of cooperative efficient portfolio diversification strategies in reducing portfolio variance for a given package of interest and loans. The alternatives of natural monopoly, entry deterrence, takeovers, and efficient portfolio diversification through mergers or interest swaps were discussed, with cooperative efficient portfolio diversification identified as the dominant strategy in the presence of negatively correlated portfolio returns between banks.

Platanakis and Urquhart (2019) made a valuable contribution to the literature on cryptocurrencies, portfolio management, and estimation risk. They compared the performance of native diversification, Markowitz diversification, and the advanced Black-Litterman model with VBCs, which controls for estimation errors in a crypto currency portfolio. The study demonstrated that the advanced Black-Litterman model with VBCs consistently generated superior out-of-sample risk-adjusted returns and lower risks. These results remained robust even when considering transaction costs and short-selling, emphasizing the preference for sophisticated portfolio techniques that address estimation errors in managing crypto currency portfolios.

Agblobi and Asamoah (2020) concluded that banks strategically invest to maximize profits while carefully considering associated risks in portfolio management. Their research focused on the effect of banks' portfolio management on profitability, analyzing data from five randomly selected commercial banks listed on the Ghana Stock Exchange between 2008 and 2017. The study revealed that holding government securities and investing in

subsidiaries had a significantly positive impact on the profitability of Ghanaian banks. However, non-performing loans had a significantly negative effect. The authors recommended that banks strike a balance between holding government securities and investing in subsidiaries to enhance profitability. Additionally, they suggested efforts to reduce non-performing loans through skill enhancement, strengthened due diligence procedures, and intensified monitoring activities.

Mohammed (2021) applied the concept and techniques of multi-criteria decision-making in a fuzzy environment to prioritize and select projects in portfolio management. The study utilized fuzzy AHP to identify preference weights for criteria and fuzzy TOPSIS to assess the gaps between projects and achieve organizational objectives. Twenty projects from the Iraqi Oil Company were evaluated against five key criteria, revealing that the measurement of criteria weights in fuzzy TOPSIS is crucial for adjusting rankings and determining the best project. The research serves as a valuable tool for stakeholders in enhancing the quality of portfolio management projects.

Umulkulthum and Abtulkabir (2022) conducted a study on the effect of investment portfolio choice on the financial performance of investment companies listed on the Nairobi Securities Exchange. Using a descriptive research design with secondary data, the study found that investment in bonds, real estate, and equities positively and significantly influenced the financial performance of investment companies.

2.4.2 National context

Paudel and Koirala (2006) conducted a study to assess the suitability of Markowitz and Sharpe models in portfolio selection for Nepalese investors. They applied these models to a sample of 30 stocks in the Nepalese stock market and found that despite being developed several decades ago, these basic models still provide effective decision-making tools for optimal portfolio selection in the Nepalese context.

In a separate investigation, Parajuli (2011) explored the impact of a bull-run in the stock market on the demand for portfolio management services offered by merchant bankers. The study highlighted that individuals seeking to capitalize on market fluctuations, yet lacking the expertise or time for stock trading, turn to portfolio management companies. Portfolio managers, acting on behalf of clients, handle the buying and selling of securities to manage investment portfolios. Nabil Investment, Beed Invest, and Vibor Capital were identified as

the three merchant bankers actively providing portfolio management services among the 14 licensed by SEBON (Securities Board of Nepal).

Shrestha (2013) defined investment as the use of savings for anticipated profit or benefits. It entails allocating funds with the goal of generating additional income or achieving growth in value. Investment involves dedicating saved resources, deferred from current consumption, with the expectation of future benefits. Investments can be categorized into real assets and financial assets. Real asset investments involve tangible assets like buildings, land, machinery, and factories, while financial asset investments represent indirect claims to real assets held by others. Real assets are generally less liquid compared to financial assets.

Bhujel 2021, conducted a study on the portfolio management of commercial banks in Nepal, aiming to investigate the impact of investment portfolio choices on the financial performance of these banks. The research employed a descriptive and analytical research design, relying primarily on secondary data. The findings indicated that investment choices significantly affect the financial performance of commercial banks in Nepal. The study revealed that investments in shares and debentures, government securities, and loans and advances have a positive influence on financial performance. However, the size of the commercial bank was found to have a negative impact on financial performance.

Similarly, in the same year, Sijapati conducted a study focusing on the investment portfolio analysis of commercial banks in Nepal. The primary objective was to analyze the investment portfolios of these banks and evaluate the associated risk and return. The research design was descriptive and analytical, primarily relying on secondary data. The study concluded that investment portfolios play a crucial role in reducing risk and increasing returns. However, the findings suggested that Nepalese commercial banks are not effectively investing their funds in profitable sectors, as they tend to avoid risks and prefer less risky assets.

2.5 Summary of articles and thesis

Studies	Major variables	Major finding
Edwin J. Elton, (1979)	Return on assets and sensitivity of expected return.	Realized returns are a very poor measures of expected return and that information surprises highly influence a number of factors in asset pricing model.
Michael Koehn, and M. santomero Anthony, (1980)	Bank capital, rate of return, risk, bank portfolio and assets.	The relationship between the risk of 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.
Jagdish Basnet's (2002)	Government securities, investment, loan and advance and foreign bill.	Banks are very strong in investment in comparison to individual investors.
Kalpana khania's (2003	Investment, loan and advance, real fixed assets and financial assets.	Negative correlation between portfolio return of five joint venture banks in Nepal.
Tejendra Prasad Poudel, (2004)	Risk , return, market price and common stock.	Commercial banking and finance sector has maximum portfolio expected rate of return than other sectors.

Kamwaro, (2013)	Financial performance (dependent variable) Bond, equity, real estate, mutual fund, size (independent variable)	Findings of the study revealed that investment portfolio choice affect the financial performance of investment companies listed in the Nairobi Securities Exchange. The study revealed that investment in bond and real estate positively
		influences the financial performance of investment companies listed in the NSE. The study also found that investment in real estate and equity by investment companies positively impacted in the financial performance. It was found that size of the company positively impacted in the financial performance of investment companies.
Ngari, (2018)	Profitability of commercial bank (dependent variable) Liquidity, financial assets, tenor, deposit mix and sector concentration (independent variable).	The study findings established that the amount of financial assets and liquidity held by a commercial bank had a significant contribution to the profitability. Further, the findings of the study revealed that tenor, deposit mix and sector concentration did not have a significant effect on the profitability of banks in Kenya over the study period.

Michael, Makau, & Ambrose, (2018)	Financial performance (dependent variable) Stock investment, real estate investments, bond investment (independent variable).	Major finding of the studies was positive impact of portfolio diversification on financial performance of investment firms.
Mishra, Kandel & Aithal, (2021)	ROA, ROE, NIM (dependent variable) Bank size, Loan ratio, Deposit ratio, Capital ratio, Inflation (Independent variable).	The survey results from the primary data analysis revealed that depositors and investors feel that higher loan ratio, deposit ratio, profitability ratio, capital ratio and stable inflation can increase profitability on banking sector.
Kenga, Georgina, Umulkulthum, & Abtulkabir, (2022)	ROI (dependent variable) Investment in bond, investment in equities, investment in real estate (Independent variable).	Major finding of this study was investment in bonds, investment in real estate and investment in equities positively and significantly affected the financial performance of investment companies.

2.6 Research gap

Numerous studies have explored the relationship between portfolio management and financial performance, with researchers like Jeroz (2007), Miriti (2008), Omondi (2009), Tanui (2010), Oyedijo (2012), Micheni (2013), Oyewobi et al. (2013), Mutega (2016), and Kenga et al. (2022) contributing to this body of knowledge. However, these studies have not delved into the specific impact of portfolio management components, such as loans and advances, government securities, shares and debentures, and due from other financial institutions, on the profitability of commercial banks. This research aims to address this gap by focusing on these crucial aspects.

While the concept of studying the relationship between portfolio management and financial performance is not entirely new, previous research has not thoroughly explored the specific objectives of this study. Existing studies have often examined portfolio management in banks during different time periods, such as the older periods analyzed by Parajuli (2011) and Jaiswal (2012). To contribute to the current knowledge, this research focuses on recent periods, using data from 2009/10 to 2018/19 and includes four banks (Jyoti Bikas Bank, Garima Bikas Bank, Lumbini Bikas Bank, and Muktinath Bikas Bank) that were not covered in previous studies.

Despite various studies exploring the impact of portfolio management on profitability in commercial banks, there is a notable lack of research on development banks. This study aims to fill this gap by specifically examining the relationship between portfolio management and profitability in development banks.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The research methodology encompasses aspects pertaining to the collection, acquisition, and analysis of data. It serves as the comprehensive blueprint for the research study conducted in the field, aiming to fulfill the objectives outlined in the preceding chapter. This section comprises the research design, the characteristics and origins of the data, details about the population and sample data, as well as the methods and models utilized for analysis. Emphasis is placed on ensuring the validity, reliability, and adherence to ethical standards throughout the study.

3.2 Research Design

This study aims to assess and appraise the portfolio management practices of development banks, offering recommendations based on the findings. The research employs a descriptive research approach to comprehensively describe and analyze relevant information gathered for the study. Secondary data is utilized, sourced from various platforms such as websites and annual reports of the respective banks. The research design involves the collection of information from diverse sources, with subsequent tabulation and analysis of data using financial and statistical tools. Ultimately, the study concludes with a summary, key conclusions, and recommendations derived from the analytical insights.

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3.3 Population, sample, and sampling design

As of mid-February 2023, Nepal Rastra Bank reported the presence of 17 development banks operating in Nepal. These development banks are categorized based on their paid-up capital and geographical reach, with licenses granted for district-level and national-level operations. Among them, there are 8 national level development banks, which are the focal

point of this study. The selection process for the study involved choosing four national level development banks as the sample. The criteria for selection included higher profitability, substantial paid-up capital, and the use of convenience sampling technique. This method, incorporating judgment, aims to gather optimal information to fulfill the study's objectives. The chosen sample for the study comprises the following national level development banks:

i. Jyoti Bikas Bank (JBBL)
ii. Garima Bikas Bank (GBBL)
iii. Lumbini Bikas Bank (LBBL)
iv. Muktinath Bikas Bank (MBBL).

3.4 Nature and sources of data

This study relies on secondary data, which consists of information previously published or utilized by others. The sources of secondary data include the Balance Sheet, Profit & Loss account, and literature publications of the relevant banks. The NEPSE's annual report has provided crucial data on the total investment in shares and debentures of the concerned bank for this research. Additionally, supplementary data and information were gathered from authoritative sources such as Nepal Rastra Bank, the Central Library of T.U., Nepal Stock Exchange Limited, Security Exchange Board, Economic Survey, National Planning Commission, various journals, magazines, and other published and unpublished reports from official sources.

3.5 Data collection instrument and procedure

3.5.1 Data Collection Techniques

The study primarily relies on secondary data, predominantly sourced from annual reports published by the respective banks. Given that all selected banks are listed on NEPSE (Nepal Stock Exchange), the data is considered highly reliable. The secondary data collection process encompasses a diverse range of published materials, including books by various authors, unpublished thesis reports, journals, internet websites, online libraries, and annual reports of listed companies such as those available through Nepal Stock Exchange and the Security Board of Nepal.

To acquire these secondary data, researchers visited the campus library of TU Central Library, leveraging its resources for a comprehensive review of the relevant literature and financial reports. The utilization of secondary data necessitates a distinct data collection procedure owing to the inherent differences in nature compared to primary data.

3.5.2 Data Processing

The significance of data lies in its organized and systematic presentation. To derive meaning, data must undergo verification and simplification for effective analysis. Gathering information requires thorough checking, editing, and tabulation to facilitate convenient computation and interpretation. Relevant data have been carefully inserted into meaningful tables, ensuring clarity and excluding unnecessary information. The aim is to extract conclusions from the available data using various financial and statistical tools. The utilization of an advanced computerized statistical program, such as SPSS, enhances efficiency in the calculation of statistical information.

3.6 Data Analysis Tools

The foundation of any research work lies in the thorough analysis and presentation of data. This study extensively employs a combination of financial and statistical tools to effectively achieve its objectives. The reliance on these tools enhances the accuracy, convenience, reliability, and authenticity of the analysis. Various financial, statistical, and accounting tools have been integrated into the study, contributing to a comprehensive and insightful examination of the subject.

The results derived from employing these tools are systematically organized under distinct headings, facilitating a structured presentation of findings. The subsequent step involves a comparative analysis of the results, allowing for the interpretation of data. The study employs two primary categories of tools to fulfill its objectives:

i. Statistical Tools

ii. Financial Tools

3.6.1 Statistical Tools

The study utilized various statistical tools to quantify data and present results in numeric format, facilitating a logical analysis of the information.

3.6.1.1 Average/ Mean

Kamwaro's (2013) definition, the average is computed by summing up all the numbers in a set of observations and then dividing this sum by the total number of observations. Essentially, the average is a representative value that is used to portray the entire group, encapsulating the typical characteristics of all the values within that group..

$$\text{Mean} = \frac{\Sigma x}{n}$$

Where,

X = Number in X-series

n = Number of Observations in a sample

3.6.1.2 Standard Deviation

Kamwaro (2013), the standard deviation (σ) serves as a crucial indicator of investment risk, representing an absolute measure of dispersion. A smaller standard deviation implies a lower degree of risk associated with a stock. Essentially, a diminutive standard deviation signals a high level of uniformity and homogeneity within the observed data series, while a larger standard deviation suggests the opposite. The formula used for calculating standard deviation is:

$$\sigma = \sqrt{\frac{\Sigma(x - \bar{x})}{n}}$$

Where,

σ = Standard Deviation
x = Number in X-series

$\bar{x}$ = Mean

n = Number of Observations in a sample

3.6.1.3 Coefficient of Variation

Kamwaro's (2013) work, the coefficient of variation (CV) emerges as a valuable metric for assessing risk. Calculated as the ratio of standard deviation to expected return, the CV offers a measure of risk per unit of return. This metric proves particularly useful when comparing alternatives with disparate expected returns. By normalizing risk against expected return, the coefficient of variation serves as a more meaningful basis for comparison. In situations where investors expect higher returns for shouldering greater risk, the CV succinctly captures the relative trade-off between expected return and risk.

$$CV = \frac{\sigma}{\bar{x}}$$

Where,

CV = Coefficient of Variation

$\bar{X}$ = Mean

σ = Standard Deviation

3.6.1.4 Multiple Regression Analysis

Multiple regression analysis extends the principles of simple linear regression by incorporating two or more independent variables to predict the values of a dependent variable. Despite the inclusion of multiple factors, the fundamental concept of estimating unknown values of the dependent variable based on known values of the independent variables remains unchanged. Multiple regression is a statistical tool employed to determine the most likely value of the dependent variable, utilizing the information provided by two or more independent variables. The multiple regression equation, as utilized by Nishat and Mir (2004), is examined in this context.

Multiple Regression Model

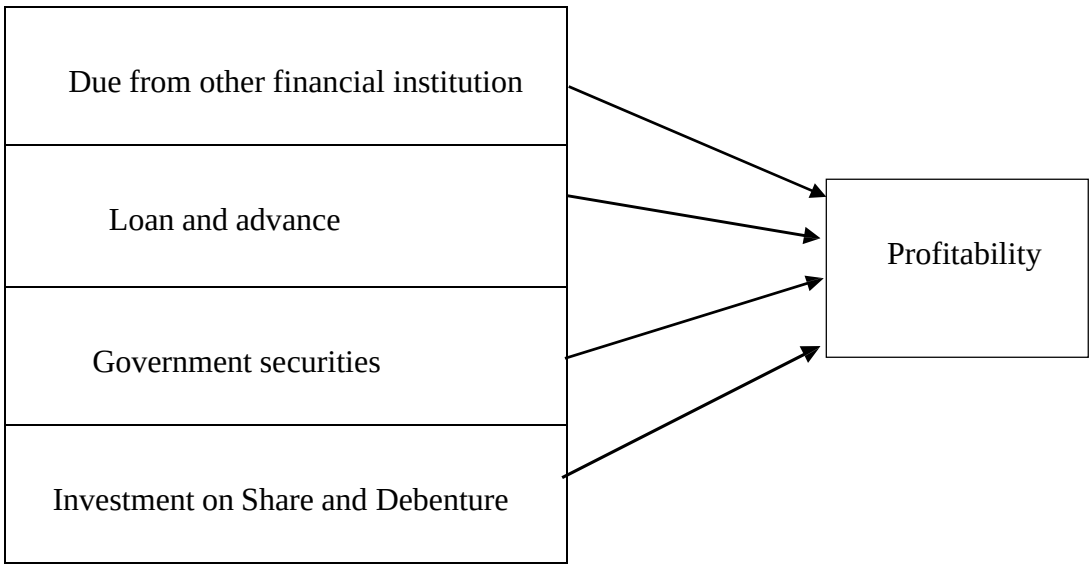
$$\hat{Y} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e_i$$

Where,

$\hat{Y}$	=	Profitability (dependent variable)
X_1	=	Due from other financial institution
X_2	=	Government securities
X_3	=	Loan and Advance
X_4	=	Investment on share and debenture
α	=	Constant
$\beta 1, \beta 2 \ldots \beta 4$	=	Regression coefficients of Factor 1 to Factor 4 respectively
e_i	=	Error term

3.7 Conceptual framework

Ngechu (2006) defines conceptual framework as a figure demonstrating how predictor variables and dependent variables link.



Source: (Andrews, Oscar & Prisca 2020)

3.7.2 Definition of variables

The profitability of development banks in Nepal was assessed through the dependent variable, absolute profit before tax. The independent variables considered in this analysis include amounts due from other financial institutions, loans and advances, government securities, and investments in shares and debentures.

Financial performance

Financial performance is a relative assessment of a company's ability to efficiently utilize assets within its primary business operations, resulting in revenue generation. It serves as a

broad indicator of the overall financial well-being of a firm during a specific timeframe. It is crucial to note that relying on a single metric is inadequate for defining a firm's financial performance comprehensively. Various measures, including but not limited to ROA (Return on Assets), ROE (Return on Equity), ROI (Return on Investment), return on capital employed, profit margin, and current ratio, can be employed to gauge financial performance. This study specifically focuses on ROA and ROE as key metrics for evaluating the financial performance of the firm.

Profitability (Dependent variable)

Profit is defined as the surplus of revenue over expenses, and the concept of profitability delves into a company's capacity to generate such profit. It holds substantial significance in the success of any business and is extensively studied for its correlation with overall performance across various industries, including banking and construction. Profitability can be assessed through metrics such as return on assets, return on equity (ROE), return on capital employed, net interest margin, earning before tax (EBT), and earning after tax (EAT). The calculation of profitability often involves absolute earning before tax (EBT), playing a crucial role in evaluating a company's financial performance (Mishra, Kandel & Aithal, 2021).

Government securities (Independent variable)

Government securities are financial instruments issued by the government to generate funds for diverse purposes. These instruments are often viewed as low-risk investments due to the generally perceived low likelihood of the government defaulting on its debt payments (Andrews & Prisca, 2020).

Loan and advance

Perez's (2015) perspective, loans and advances stand out as the primary and most valuable assets held by banks due to the income generated from them. This sentiment is echoed by Bismark & Chengyi (2015), who assert that the largest contributor to a bank's income and asset base is its loan portfolio. The duration for which a loan is extended to a client is termed as the tenor. As highlighted by Morsman (2003), long-term loans within the loan portfolio tend to exhibit a higher proportion of non-performing loans, leading to lower profitability compared to short-term loans.

Notably, larger banks may not place as much emphasis on loans as their valuable assets. This is attributed to the fact that these larger banks extensively diversify their asset portfolios. According to Dang (2011), the quality of a bank's loan portfolio plays a crucial role in determining its profitability. Dang emphasizes that there is a positive correlation between loan portfolio quality and bank profitability, particularly when the loan portfolio maintains a high standard of quality.

Due from other Financial Institutions

(Andrews & Prisca 2020) Refers to asset accounts in the general ledger, "Due from Other Financial Institutions" signifies the quantity and value of deposits and loans presently held by a bank on behalf of another bank or various financial institutions. These accounts play a crucial role in streamlining the collection of both cash and non-cash items, facilitating the transfer and settlement of security transactions, managing the transfer of participation loan funds, engaging in the purchase or sale of Central Bank funds, and serving various other purposes. Balances due to institutions encompass all interest-bearing and non-interest-bearing amounts, whether in the form of demand, savings, or time balances.

Investment on Share and Debenture

Investment in Share and debenture companies can secure funds for their operational needs through two primary avenues: issuing shares and issuing debentures. Shareholders possess ownership rights in the company, while debenture holders lack ownership stakes but receive a predetermined interest rate on their investment until maturity (Scott, 2021).

CHAPTER 4

RESULT AND DISCUSSION

4.1 Results

The Results section of a scientific research paper serves as the central presentation of key findings obtained through the application of methods for data collection and analysis. The author aims to present these findings in a logical sequence, devoid of personal bias or interpretation, thereby laying the groundwork for subsequent interpretation and evaluation in the Discussion section. One of the primary objectives of the Results section is to articulate the significance of the data in relation to the research questions.

In this chapter, data analysis has been conducted using financial tools in accordance with the research methodology outlined in the third chapter. During the analysis, data from various sources have been organized in tabular format based on their homogeneity. The tables created for analytical purposes are provided in the annexure. The outcomes of the analysis are juxtaposed with conventional standards, considering ratio analysis, compliance with directives from regulatory bodies like the NRB, and other relevant factors as specified by the tools employed. Additionally, graphical representations such as graphs, lines, and diagrams have been utilized to enhance clarity on the actual standing of the banks.

This section specifically focuses on the analysis of investment portfolio management in development banks, employing the following tools:

4.1.1 Ratio Analysis

Ratio analysis is a crucial method in financial analysis, involving the division of one item in a relationship by another. This tool is particularly valuable for assessing a firm's financial performance and can be expressed as a percentage for clarity. It facilitates quick and insightful qualitative judgments about a company's financial health. The objective of this chapter is to assess and scrutinize the financial status and performance of various development banks. Specifically, we focus on calculating and analyzing key ratios associated with the investment processes of development banks.

4.1.1.1 Return on Assets (ROA)

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

Table 4. 1 Return on Assets of selected Development bank in %

Fiscal year	MBBL	JBBL	GBBL	LBBL	Average
2012/13	1.85	2.1	2.15	1.25	1.83
2013/14	1.92	1.96	1.63	1.36	1.71
2014/15	1.96	2.25	2.01	1.56	1.94
2015/16	2.01	2.56	0.85	2.01	1.85
2016/17	2.25	2.46	1.98	0.39	1.77
2017/18	2.52	1.99	1.12	1.98	1.90
2018/19	1.56	1.36	0.98	2.32	1.55
2019/20	1.72	1.88	1.75	1.87	1.80
2020/21	1.79	2.14	1.69	1.36	1.74
2021/22	1.95	1.87	1.97	2.045	1.95
Average	**1.95**	**2.05**	**1.61**	**1.61**	**1.61**

Source: Appendix I, II and III

Figure 4.1: Return on Assets of Development banks

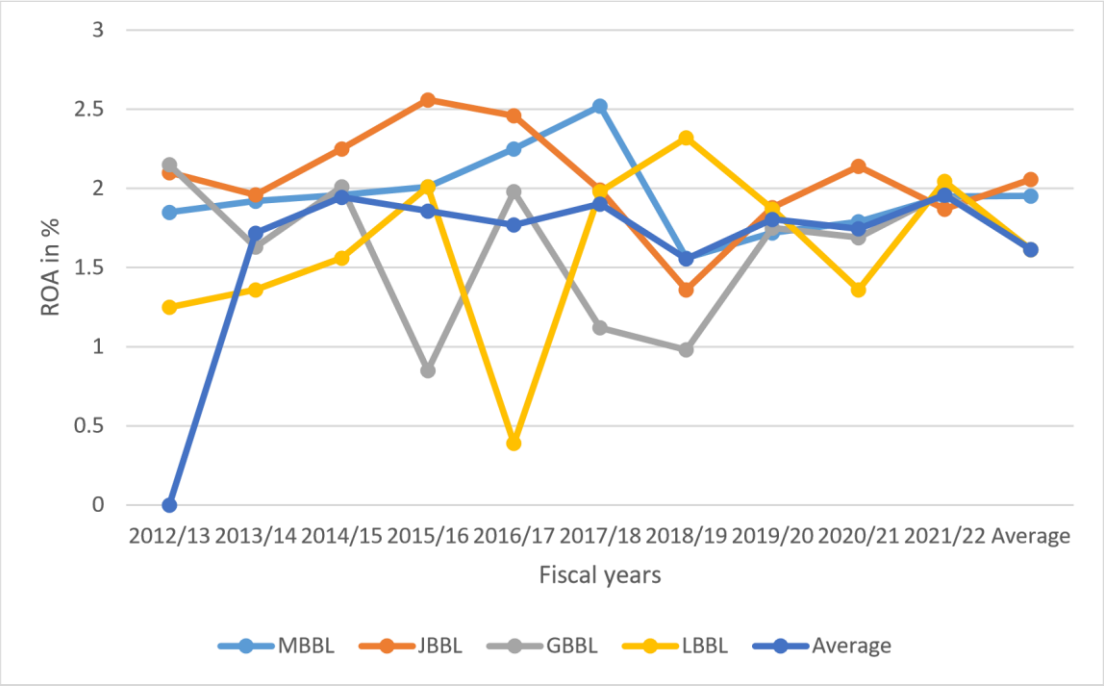


Table 4.1 indicates a varied trend in the return on total assets ratio among the sampled banks. The average return on total assets for MBBL, JBBL, GBBL, and LBBL is 1.95%, 2.05%, 1.61%, and 1.61%, respectively. Comparatively, JBBL exhibits the highest average return on total assets, suggesting that it utilizes overall resources more efficiently than MBBL, GBBL, and LBBL. However, the overall average return on assets for the entire group of banks is unsatisfactory at 1.61%, attributed to factors such as the increase in total assets through mergers and acquisitions, fixed assets, and other related aspects.

4.1.1.2 Return on Equity (ROE)

Return on equity (ROE) indicates the percentage of a bank's net profit relative to its shareholders' equity, serving as a gauge of how effectively equity contributes to the bank's overall profitability. This ratio is computed by dividing the bank's net profit by its shareholders' equity.

Table 4.2 Return on Equity of selected Development bank in %

Fiscal year	MBBL	JBBL	GBBL	LBBL	Average
2012/13	30.14	27.61	8.61	20.12	**21.62**
2013/14	29.9	22.81	10.04	16.92	**19.91**
2014/15	26.12	17.17	2.3	18.2	**15.94**
2015/16	30.47 v	27.28	15.49	19.41	**23.16**
2016/17	28.4	24.48	14.58	12.49	**19.98**
2017/18	22.84	20.01	15.2	22.35	**20.1**
2018/19	20.32	15.66	16.25	15.24	**16.86**
2019/20	17.38	16.65	14.06	18.03	**16.53**
2020/21	16	14.71	11.24	12.98	**13.73**
2021/22	17.33	13	12.97	17.43	**15.18**
Average	**23.89**	**19.938**	**12.074**	**17.317**	**18.304**

Source: Appendix I, II and III

Figure 4.2: Return on Equity of Development banks

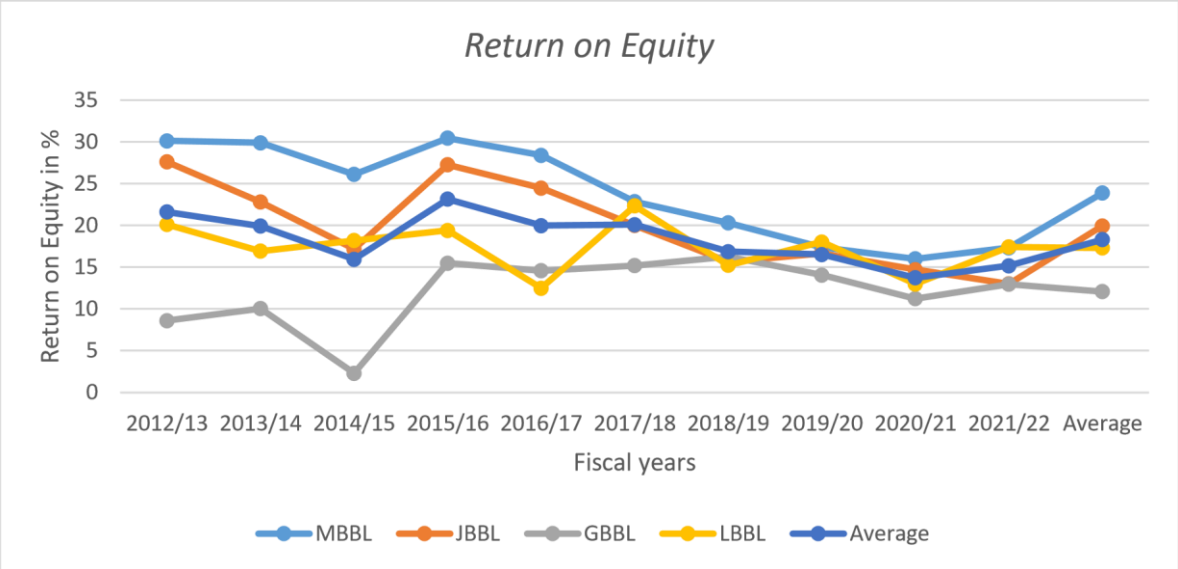


Table 4.2 illustrates a declining trend in the return on equity (ROE) for DBs over the specified period. The average ROE for MBBL, JBBL, GBBL, and LBBL is 23.89%, 19.938%, 12.0731%, and 17.317%, respectively. Notably, MBBL exhibits the highest ROE

compared to JBBL, GBBL, and LBBL, suggesting that MBBL's equity is more effective in generating net profit. Despite the decreasing trend, the overall average ROE for DBs stands at 18.304%, signifying that the equity of DBs is sufficient for generating net profit.

4.1.1.3 Investment Portfolio Analysis

Investing involves dedicating financial resources with the anticipation of generating additional returns in the future. Banks, in pursuit of profits, allocate their resources to various sectors. The primary components of their investment portfolio typically include government securities, loans and advances, as well as shares and debentures, along with amounts owed by other financial institutions. In this analysis, we aim to examine and compare the investment allocations of selected banks based on these three key areas.

Table . 4.3 Investment portfolio of MBBL in %

F/Y	MBBL			
	G.S	**L/A**	**S/D**	**O.F.I**
2012/13	10.1	79.5	0.65	9.75
2013/14	15.25	72.5	0.45	11.8
2014/15	11.29	79.58	0.36	8.77
2015/16	9.89	85.32	0.23	4.56
2016/17	7.25	87.24	0.12	5.39
2017/18	11.28	80.79	0.78	7.15
2018/19	9.36	75.6	0.25	14.79
2019/20	7.54	82.74	0.39	9.33
2020/21	12.08	76.28	0.98	10.66
2021/22	13.25	74.15	0.1	12.5
Average	**10.72**	**79.37**	**0.43**	**9.47**
Standard deviation	**2.46**	**4.81**	**0.29**	**3.18**
CV	**0.22**	**0.06**	**0.67**	**0.33**

Source: Appendix I, II and III

Table 4.3, MBBL has allocated 79.37% of its investments to loans and advances, 10.72% to Government securities, 9.47% to other financial institutions, and 0.43% to shares and debentures. The coefficient of variation (CV) for loans and advances is the smallest among the categories, suggesting a higher level of consistency compared to other types of securities. Additionally, the CV for government securities is lower than that for shares and debentures, indicating a greater level of consistency in the former compared to the latter.

Table. 4.4 Investment portfolio of GBBL in %

F/Y	GBBL			
	G.S	**L/A**	**S/D**	**O.F.I**
2012/13	8.23	85.2	0.15	6.42
2013/14	7.26	82.56	0.88	9.3
2014/15	9.45	81.25	0.45	8.85
2015/16	8.58	82.65	0.1	8.67
2016/17	12.25	79.45	0.9	7.4
2017/18	8.95	82.78	0.89	7.38
2018/19	9.85	78.75	1.01	10.39
2019/20	7.28	81.56	0.85	10.31
2020/21	8.18	83.65	0.92	7.25
2021/22	8.99	83.25	0.96	6.8
Average	**8.90**	**82.11**	**0.71**	**8.27**
Standard deviation	1.44	1.93	0.34	1.42
CV	0.16	0.02	0.48	0.17

Source: Appendix I, II and III

According to Table 4, GBBL has allocated 82.11% of its investments in loans and advances, 8.90% in Government securities, 8.27% in other financial institutions, and 0.71% in shares and debentures. The coefficient of variation (CV) for loans and advances is the lowest among these categories, suggesting a higher level of consistency in this investment compared to others. Additionally, the CV for government securities is lower than that for shares and debentures, indicating a greater level of stability in the former as opposed to the latter.

Table. 4.5 Investment portfolio of JBBL in %

F/Y	JBBL			
	G.S	**L/A**	**S/D**	**O.F.I**
2012/13	12.35	79.45	1.24	6.96
2013/14	11.05	82.9	0.71	5.34
2014/15	10.25	81.87	0.91	6.97
2015/16	8.49	85.45	0.63	5.58
2016/17	7.84	83.69	0.78	7.69
2017/18	10.28	81.47	0.75	7.5
2018/19	7.32	84.71	0.45	7.52
2019/20	6.38	88.21	0.56	4.85
2020/21	7.96	82.3	0.87	8.87
2021/22	7.58	81.25	1.56	9.61
Average	**8.95**	**83.13**	**0.84**	**7.08**
Standard deviation	**1.91**	**2.49**	**0.33**	**1.51**
CV	**0.21**	**0.03**	**0.39**	**0.21**

Source: Appendix I, II and III

According to Table 4.5, JBBL has allocated 83.13% of its investments in loans and advances, 8.95% in government securities, 7.08% in other financial institutions, and 0.84% in shares and debentures. The coefficient of variation (CV) for loans and advances is the lowest among these categories, indicating a higher level of consistency in this type of investment compared to others. The CV for government securities is also lower than that for shares and debentures, suggesting a greater degree of stability in government securities compared to shares and debentures.

Table . 4.6 Investment portfolio of LBBL in %

F/Y	LBBL			
	G.S	**L/A**	**S/D**	**O.F.I**
2012/13	10.87	81.9	0.91	6.32
2013/14	9.87	82.9	0.71	6.52
2014/15	8.47	82.58	1.24	7.71
2015/16	9.25	83.14	0.73	6.88
2016/17	8.14	80.21	0.8	10.85
2017/18	9.17	79.15	1.94	9.74
2018/19	10.13	81.98	0.86	7.03
2019/20	7.85	84.18	0.74	7.23
2020/21	8.19	80.19	1.28	10.34
2021/22	7.28	81.5	1.12	10.1
Average	**8.92**	**81.77**	**1.00**	**8.27**
Standard deviation	**1.13**	**1.54**	**0.38**	**1.76**
CV	**0.12**	**0.018**	**0.37**	**0.21**

Source: Appendix I, II and III

Table 4.6, LBBL has allocated 81.77% of its investments in loans and advances, 8.92% in government securities, 8.27% in other financial institutions, and 1% in shares and debentures. The coefficient of variation (CV) for loans and advances is the smallest among the categories, suggesting a higher level of consistency compared to other types of securities. Additionally, the CV for government securities is lower than that for shares and debentures, indicating a higher level of stability in the investment in government securities compared to shares and debentures.

The investment portfolio of commercial banks above table 4.3, 4.4, 4.5 and 4.6 can be shown in following figures:

Figure 4.3: Investment in government securities in %

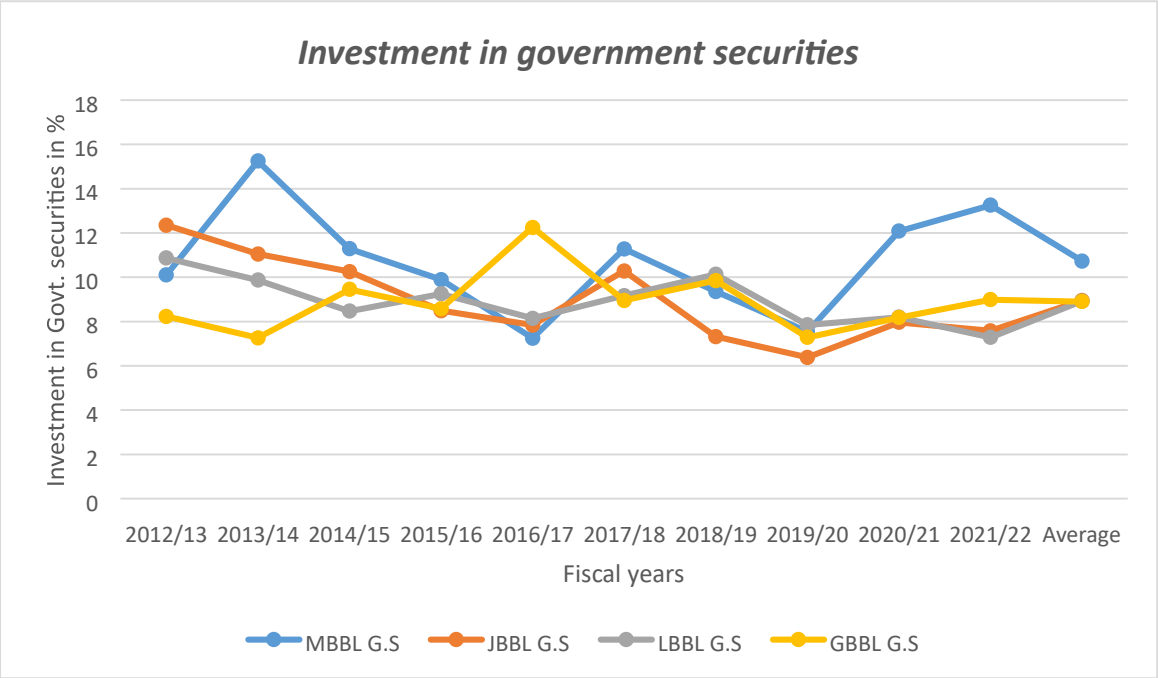


Figure 4.4: Investment in loan and advance in %

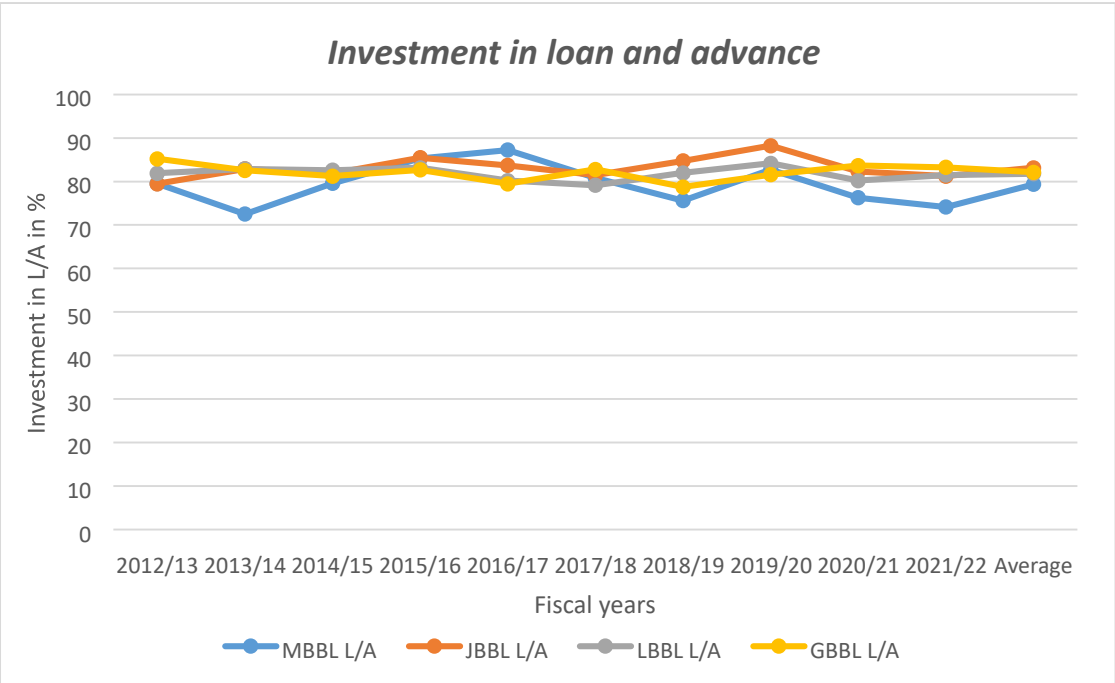


Figure 4.5: Investment in share and debentures in %

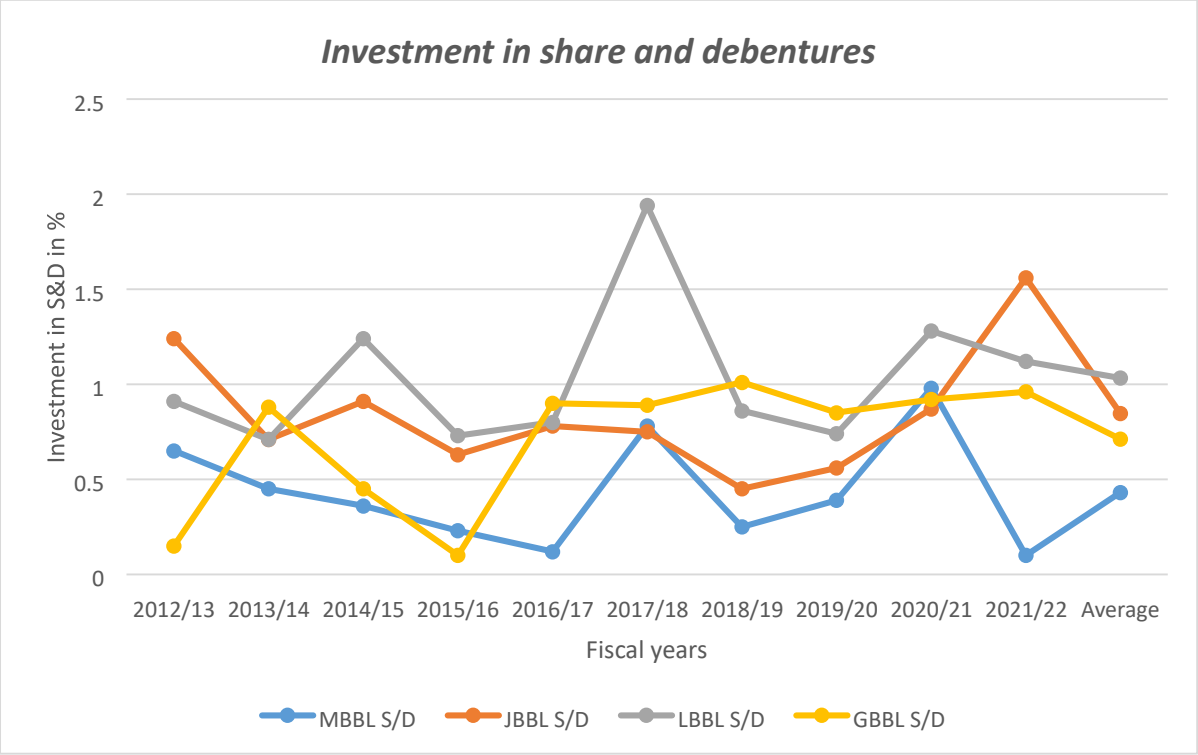
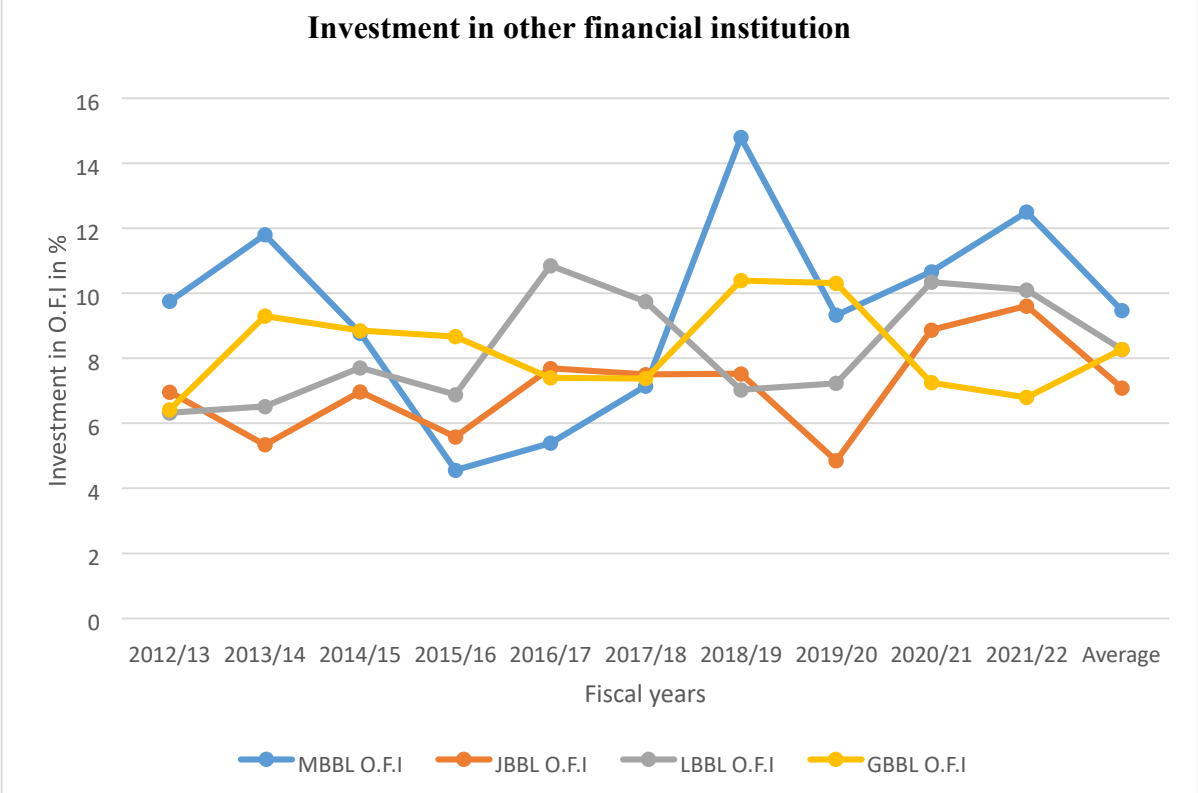


Figure 4.6: Investment in other financial institution in %



Tables 4.3, 4.4, 4.5, and 4.6 indicate that Development Banks predominantly allocate a significant portion of their funds to loans and advances, with a smaller allocation to shares and debentures. According to the data, more than 85% of investments are directed towards loans and advances, over 10% towards government securities, less than 1% towards shares and debentures, and more than 7% in other financial institutions.

The coefficient of variation (CV) for loans and advances is the lowest among the various securities, suggesting a higher level of consistency in this type of investment compared to others. The CV for government securities is lower than that for shares and debentures, indicating greater stability in government securities investments.

Figure 4.3 reveals a fluctuating trend in Development Banks' investments in government securities, while Figure 4.4 shows a similar fluctuation in the investment trend for loans and advances. In contrast, Figure 4.5 depicts a decreasing trend in investments in shares and debentures. Figure 4.6 illustrates that investments in other financial institutions are fluctuating, and investments in shares and debentures are less consistent than other types.

In conclusion, Development Banks display a primary interest in investing in loans and advances, which offer higher returns. They show less inclination towards investing in shares and debentures, possibly due to constraints imposed by NRB (Nepal Rastra Bank) compliance. Additionally, investments in government securities exhibit fluctuating trends.

4.1.1.4 Risk and Return on Individual Investment Assets and Investment Portfolio

Risk plays a crucial role in investment decisions, as higher-risk investments demand a greater return compared to lower-risk ones. This section utilizes standard deviation and coefficient of variation as metrics to assess risk, while average return serves as a gauge for expected returns.

4.1.1.4.1 Risk and return on Share and Debenture

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

Table 4.7 Risk and return analysis of investment on Share and Debenture in %

Fiscal year	MBBL	LBBL	JBBL	GBBL	Average
2012/13	-29.2	-47.12	-48.32	-36.52	-40.29
2013/14	-25.3	-15.25	-24.85	-35.24	-25.16
2014/15	-32.1	8.25	21.36	-7.14	-2.4075
2015/16	45.25	64.25	39.05	44.15	48.175
2016/17	69.26	35.18	62.41	110.62	69.3675
2017/18	-17.25	-28.15	-18.21	0.19	-15.855
2017/19	65.21	51.25	59.14	68.8	61.1
2019/20	-14.21	-18.62	-65.14	-27.15	-31.28
2020/21	-41.81	-1.05	-13.5	-29.14	-21.375
2021/22	5.36	-13	18.06	25.36	8.945
Average	**2.521**	**3.574**	**3**	**11.393**	**5.122**
Standard deviation	**41.9427**	**36.0473**	**43.8675**	**49.9749**	**40.3214**
CV	**16.6373**	**10.0859**	**14.6225**	**4.3864**	**7.8722**

Source: Appendix IV, V and VI

Table 4.7 show the fluctuating risk and return on shares and debentures of DBs'. The average returns on shares and debentures for MBBL, LBBL, JBBL, and GBBL are 2.521%, 3.574%, 3%, and 11.393%, respectively. The standard deviations for these institutions are 41.9427%, 36.0473%, 43.8675%, and 49.9749%, with corresponding coefficients of variation (CV) of 16.6373, 10.0859, 14.6225, and 4.3864, respectively.

GBBL outperforms other banks with the highest average return, while LBBL exhibits better performance in terms of standard deviation. Despite this, GBBL stands out due to its lowest coefficient of variation. The overall average return on shares and debentures is 5.122%,

with a standard deviation of 40.3214%, indicating a relatively risky investment. The CV for DBs' return on shares and debentures is 29.5597, showing inconsistency.

4.1.1.4.2 Risk and return on Government Securities

Government securities refer to fixed-income financial instruments issued by the government. These investment options are considered highly secure since the likelihood of the government defaulting on interest or principal repayments is minimal. It is possible to assess the risk and potential return associated with government securities like treasury bills and national savings bonds.

Table 4.8 Risk and return analysis of investment on Government Securities in %

Fiscal year	MBBL	LBBL	JBBL	GBBL	Average
2012/13	4.59	5.05	5.36	6.36	5.34
2013/14	6.25	6.18	7.15	7.15	6.6825
2014/15	5.25	4.58	4.85	9.18	5.965
2015/16	4.15	3.17	7.28	4.15	4.6875
2016/17	8.17	1.47	2.14	2.19	3.4925
2017/18	2.45	0.98	1.69	4.17	2.3225
2018/19	1.9	1.78	1.25	9.12	3.5125
2019/20	2.84	1.98	3.65	2.17	2.66
2020/21	3.67	5.36	5.81	8.45	5.8225
2021/22	5.96	6.21	5.98	1.27	4.855
Average	**4.523**	**3.676**	**4.516**	**5.421**	**4.534**
Standard deviation	**1.9367**	**2.0301**	**2.2177**	**3.0235**	**1.4768**
CV	**0.4281**	**0.5522**	**0.4910**	**0.5577**	**0.3257**

Source: Appendix IV, V and VI

Table 4.8 presents a comparison of risk and return on government securities among various development banks (DBs). The return of DBs has shown variability over the specified period. The average returns on government securities for MBBL, LBBL, JBBL, and GBBL stand at 4.523%, 3.667%, 4.516%, and 5.421%, respectively. The standard deviation for the returns on government securities for these banks are 1.9367%, 2.0301%, 2.2177%, and 3.0235%, in the same order. The coefficient of variation (CV) for MBBL, LBBL, JBBL, and GBBL is 0.5613, 0.5358, and 0.3885, respectively.

Upon analyzing the results, it is evident that GBBL outperforms other banks in terms of average return, having the highest return. Conversely, MBBL exhibits the lowest standard deviation, indicating comparatively lower risk. However, when considering both return and risk, MBBL demonstrates better performance due to its lowest CV.

The overall average return on government securities for all DBs combined is 4.534%, with a standard deviation of 1.4768% and a CV of 0.3257. These figures suggest that investments in government securities among DBs are relatively consistent and less risky.

4.1.1.4.3 Risk and return on Loan and Advance

The calculation for the return on loans and advances involves dividing the earnings generated from the total amount of loans and advances by the overall sum of loans and advances. These financial instruments serve as a primary source for generating returns within an organization.

Table No. 4.9 Risk and return analysis of investment on Loan and Advance in %

Fiscal year	MBBL	LBBL	JBBL	GBBL	Average
2012/13	9.89	12.45	8.41	10.04	10.1975
2013/14	11.25	13.87	12.35	12.44	12.4775
2014/15	13.25	17.25	12.35	13.08	13.9825
2015/16	11.25	13.25	9.28	11.06	11.21
2016/17	15.25	10.73	12.25	10.08	12.0775
2017/18	8.48	7.14	8.21	8.46	8.0725
2018/19	8.24	8.14	9.25	7.35	8.245
2019/20	9.17	6.25	12.21	8.72	9.0875
2020/21	13.84	8.62	11.8	10.78	11.26
2021/22	7.87	13.14	14.78	10.22	11.5025
Average	**10.849**	**11.084**	**11.089**	**10.223**	**13.8112**
Standard deviation	**2.5697**	**3.5016**	**2.1611**	**1.7563**	**1.9063**
CV	**0.2368**	**0.3159**	**0.1948**	**0.1718**	**0.1763**

Source: Appendix IV, V and VI

Table 4.9 show the varying risk and return associated with loans and advances of DBs (presumably, development banks). The return on these loans fluctuates over the observed period. The average returns on loans and advances for MBBL, LBBL, JBBL, and GBBL are 10.849%, 11.084%, and 10.175%, with corresponding standard deviations of 2.5697%, 3.5016%, 2.1611%, and 1.7563%. The coefficient of variation (CV) for MBBL, LBBL, JBBL, and GBBL is 0.2368, 0.3159, 0.1948, and 0.1718, respectively.

LBBL outperforms other banks based on average return, boasting the highest return, while GBBL exhibits superior performance in terms of standard deviation, having the lowest value. However, GBBL is deemed better overall due to its lowest CV. Across all DBs, the average return on loans and advances is 13.8112%, with a standard deviation of 1.9063% and a CV of 0.1763. This suggests that while the return on loans and advances is consistent, it comes with a higher level of risk.

4.1.1.4.4 Risk and return on other financial institution

Investment on Other financial institution is more valuable assets to generate profit. Banks generate return by interbank (other financial institution) lending for short term. Its important tools to manage liquidity in optimal.

Table 4.10 Risk and return analysis of investment on other financial institution

Fiscal year	MBBL	LBBL	JBBL	GBBL	Average
2012/13	7.65	6.15	4.85	5.36	**6.0025**
2013/14	9.14	8.18	7.19	8.96	**8.3675**
2014/15	8.28	5.17	8.74	9.38	**7.8925**
2015/16	10.41	4.98	5.18	4.15	**6.18**
2016/17	11.21	7.82	9.28	6.87	**8.795**
2017/18	7.14	6.74	7.52	7.18	**7.145**
2018/19	8.24	5.71	6.28	3.12	**5.8375**
2019/20	7.25	4.86	7.82	5.15	**6.27**
2020/21	9.18	6.94	4.36	7.96	**7.11**
2021/22	6.12	4.18	7.85	4.78	**5.7325**
Average	**8.462**	**6.073**	**6.907**	**6.291**	**6.933**
Standard deviation	**1.5550**	**1.3287**	**1.6754**	**2.0994**	**1.1073**

CV	0.1837	0.2187	0.2425	0.3337	0.1597

Source: Appendix IV, V and VII

Table 4.10 show the risk and return metrics for DBs' financial institutions. The return of DBs has exhibited fluctuations over the period under consideration. MBBL, LBBL, JBBL, and GBBL have average returns of 8.462%, 6.073%, 6.907%, and 6.291%, respectively. Corresponding standard deviations for their returns are 1.5550%, 1.3287%, 2.0994%, and 1.1073%. The coefficient of variation (CV) for MBBL, LBBL, JBBL, and GBBL is 0.1837, 0.2187, 0.2425, and 0.3337, respectively. MBBL stands out with the highest return, making it the best performer, while LBBL exhibits the lowest standard deviation, signifying better stability. MBBL, however, surpasses others in overall performance due to its lower CV. Looking at the collective data for DBs, the average return on other financial institutions is 6.993%, with a standard deviation of 1.1073% and a CV of 0.1597. This suggests a consistent yet riskier pattern in the returns on other financial institutions within DBs.

4.1.2 Investment Portfolio Return

The anticipated return on a portfolio (Rp) is determined by taking the weighted average of the expected returns on each individual asset within the portfolio. The weights are assigned based on the proportion of the total portfolio invested in each asset. This study focuses on calculating the investment portfolio of development banks, considering allocations to government securities, loans and advances, shares and debentures, as well as amounts due from other financial institutions.

Table 4.11 Investment Portfolio Return

Banks	Proportion (WG)	Proportion (W_L)	Proportion (W_S)	Proportion (Wo)	RG	RL	RS	Ro	Portfolio return (R_P)
MBBL	0.1072	0.7937	0.043	0.0947	4.523	10.849	2.521	8.462	10.0054
LBBL	0.892	0.8177	0.103	0.0827	3.676	11.084	3.574	6.073	13.2127
JBBL	0.895	0.8313	0.084	0.0708	4.516	11.089	3	6.907	14.0011
GBBL	0.89	0.8211	0.071	0.0827	5.421	10.223	11.393	6.291	14.547
Average	0.69605	0.81595	0.07525	0.082725	4.534	10.81125	5.122	6.9325	12.9363

Source: Author 2023

Table 4.11 show the portfolio returns of various sample banks, with MBBL, LBBL, JBBL, and GBBL recording returns of 10.0054%, 13.2127%, 14.0011%, and 14.547%, respectively. Notably, GBBL exhibits the highest portfolio return, while MBBL has the lowest. This suggests that GBBL effectively manages its investments. On average, Development banks achieve a portfolio return of 12.9363%.

Despite this, the overall portfolio return for Development banks is lower than the average return on investment in loans and advances. However, it surpasses the average returns on investment in government securities, investments in other financial institutions, and shares and debentures among the sampled Development banks.

4.1.3 Analysis of the Regression

Regression analysis involves examining the relationship between one variable, known as the dependent variable, and one or more other variables, called independent variables. The goal is to estimate the average value of the dependent variable based on the known values of the independent variable(s). In this context, there are two main types of variables: the dependent variable, which is either influenced or to be predicted, and the independent variable, which influences the value or is utilized for prediction.

In the specific study mentioned, Return on Assets (ROA) serves as the dependent variable, while portfolio management factors such as shares, debentures, government securities, loans and advances, and other financial institution investments act as independent variables. The focus is on understanding how these independent variables.

Model

$$ROA = \alpha + \beta 1 \text{ Share \& Debenture} + \beta 2 \text{ Govt. Securities} + \beta 3 \text{ L/A} + \beta 4 \text{ other financial institution} + \varepsilon i$$

Table 4.12 Analysis of the Regression

Model	Coefficients	Standard Error	P value
(Constant)	2.98	2.14	0.178
Share & debenture	0.14	0.89	0.468
Govt. Securities	0.09	0.07	0.029
Loan & advance	198.25	1.87	0.017
Other financial institution	0.24	0.48	0.0259
R Square	0.392		

Source: Author, 2023

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

$$ROA = 2.98 + 0.14\ X_1 + 0.09\ X_2 + 198.25\ X_3 + 0.24\ X_4$$

According to the regression equation, the baseline profitability of Development Banks (DBs) is 2.98, assuming zero investment in share and debenture, government securities, loan & advance, and other financial institutions. The coefficient for share & debenture is 0.14, with a p-value of 0.468, indicating insignificance and suggesting no impact on DB profitability. On the other hand, the coefficient for government securities is 0.09, with a significant p-value of 0.029, suggesting that increasing investment in government securities would positively affect DB profitability by a factor of 0.09.

Similarly, the coefficient for investment in loan & advance is 198.25, with a significant p-value of 0.017, implying a substantial positive impact on DB financial performance.

Additionally, the coefficient for investment in other financial institutions is 0.24, with a p-value of 0.0259, indicating a significant positive effect on DB profitability.

The R-squared value of 0.392 implies that 39.2% of the variability in profitability is explained by the portfolio management factors (share & debenture, government securities, loan & advance, and other financial institutions). In summary, the regression analysis suggests that investment in share and debenture, government securities, and loan & advance has a positive impact on the profitability of Development Banks in Nepal.

4.2 Major Findings

After conducting the essential analysis for this study, the ultimate and crucial step is to compile the results. Using different categories of analysis employed in this research, a thorough overview of the key findings is outlined below:

i. The average ROA of MBBL, JBBL, GBBL and LBBL is 1.95 %, 2.05%, 1.61% and 1.61% respectively. The overall average ROA of DBs is not satisfactory i.e.
1.61%. It indicates that the DBs are not able to utilize their overall resources efficiently.

ii. The average ROE MBBL, JBBL, GBBL and LBBL is 23.89 %, 19.938 %, 12.0731 % and 17.317% respectively. The overall average ROE of DBs is sufficient i.e. 18.304%, it indicates that the equity of DBs is sufficient in generating the net profit.

iii. ROA and ROE both financial tools are used to analyze financial performance of development bank that was satisfactory but not sufficient.

iv. Development banks have invested more than 80% on loan and advances, more than 8% on government securities, less than 1% on share & debentures and more than 7% in other financial institution. It can be concluded that Development banks are mainly interested on loan and advances which gives high return. They are less interested to invest on share & debentures which also gives high return but have high risk. Development banks have also invested on

government securities and other financial institution more consistently which are less risk and low return.

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

vi. The overall average return on govt. Securities of DBs is 4.534%, standard deviation is 1.4768% and CV is 0.3257. It indicates that the investment on govt. securities is consistent and less risky.

vii. The overall average return on loan & advance of DBs is 13.8112%, standard deviation is 1.9063% and CV is 0.1763. It indicates that the return on loan & advance is consistent but riskier.

viii. The overall average return on other financial institution of DBs is 6.993%, standard deviation is 1.1073% and CV is 0.1597. It indicates that the return on other financial institution is consistent but riskier.

ix. The portfolio returns on MBBL, LBBL, JBBL and GBBL is 10.0054 %, 13.2127 % 14.0011 % and 14.547% respectively. In overall, the Development banks portfolio return is 12.9363% which is less than the average rate of return on investment on loan & advance. But it is more than the average rate of return on investment on govt. securities, investment on other financial institution and share & debentures of sample Development banks.

x. The estimated coefficients of share and debenture, govt. Securities, loan & advance on ROA are 2.98, 0.14, 0.09, 198.25 and 0.24 respectively. It suggests that share and debenture, govt. Securities, loan and advance and investment in other financial institution indicates positive impact on profitability of DBs in Nepal.

xi. The value of R^2 is 0.392, which indicates there is sufficient variability in profitability (ROA) explained by portfolio management (share & debenture, govt.

Securities, L/A and due from other financial performance).

4.3 Discussion

This research employs financial indicators such as Return on Assets (ROA), Return on Equity (ROE), and various ratios to assess the financial performance of banks, particularly focusing on Development Banks (DBs). The findings suggest that the financial position of DBs is satisfactory, aligning with a study conducted by Bhujel (2021) on Commercial Banks (CBs), indicating consistency in results possibly due to the use of similar financial tools for analysis.

The study reveals that Nepalese Development Banks primarily prioritize investments in loans and advances, government securities, and other financial institutions, showing a lower interest in investing in shares and debentures. This trend differs from Shrestha's (2011) findings on Nepalese commercial banks, where government securities were favored, but the researcher did not emphasize loan and advance investments. Additionally, the research highlights the significant impact of portfolio management, encompassing shares, debentures, government securities, loans and advances, and other financial institutions, on the profitability of DBs. This aligns with similar conclusions drawn in studies by Mishra, Kandel, & Aithal (2021) and Kenga, Georgina Umulkulthum, Abtulkabir (2022) on investment companies, which found positive impacts of various portfolio choices on financial performance. Discrepancies in results may stem from differences in sectors studied (commercial banks vs. investment companies) or variations in the economies of different countries.

Notably, certain variables, such as shares and debentures, were found to be insignificant in this study, suggesting that while DBs prioritize loans and advances for their high returns, they show less interest in high-return but high-risk investments like shares and debentures. Moreover, DBs consistently invest in government securities and other financial institutions, which are deemed less risky but offer lower returns.

In-depth financial performance analysis of Nepal's development banks (DBs) is provided by the study's findings, which center on important indicators including return on equity (ROE), return on assets (ROA), and other investment returns. The average ROA across the four banks (MBBL, JBBL, GBBL, and LBBL) is not satisfactory, suggesting that these banks are not utilizing their resources efficiently. However, the average ROE is sufficient, indicating that the equity of these banks is effective in generating net profit. The study also reveals that the banks

have invested heavily in loans and advances, which offer high returns, and to a lesser extent in government securities, which offer lower returns but are less risky. The banks have shown less interest in investing in shares and debentures, despite their high return potential, likely due to their associated high risk. The variability in profitability, as indicated by the R^2 value, is sufficiently explained by portfolio management. This suggests that the banks' investment strategies in shares and debentures, government securities, loans and advances, and other financial institutions have a significant impact on their profitability.

However, the study also highlights some areas of concern. For instance, the return on share and debenture investments is inconsistent and riskier compared to other investment types. Similarly, while the return on loans and advances is consistent, it is also riskier. While the DBs in Nepal have demonstrated satisfactory financial performance in some areas, there are opportunities for improvement, particularly in resource utilization and investment strategy. Future research could focus on identifying strategies for mitigating investment risks and improving resource efficiency to enhance profitability. The banks' investment strategies reveal a significant inclination towards loans and advances, which yield high returns. Conversely, there is a lesser focus on government securities, which, despite offering lower returns, carry less risk. The banks exhibit a minimal interest in shares and debentures, which, while offering high returns, are associated with high risk. The study also uncovers that the variability in profitability, as represented by the R^2 value, is adequately explained by portfolio management. This indicates that the banks' investment strategies in shares and debentures, government securities, loans and advances, and other financial institutions significantly influence their profitability.

CHAPTER 5

SUMMARY AND CONCLUSION

This section comprises a succinct overview, final remarks, and practical ramifications. The summary serves as a concise introduction to the entire study, while the conclusions and implications are drawn from a thorough analysis of pertinent data employing various tools.

5.1 Summary

This study aims to scrutinize the portfolio investment management practices of development banks in Nepal, utilizing financial and statistical tools to enhance effectiveness and informativeness. The research covers a decade of data from 2012/13 to 2021/22. In this summary section, the researcher provides an overview of the entire study.

Development banks and financial institutions currently play a pivotal role in the Nepalese economy, contributing significantly to capital formation, efficient fund utilization, and the provision of diverse banking services. Development banks mobilize funds from the public, offering attractive interest rates and generate profits by lending primarily to businesses, industries, agriculture, and special projects. Their main objective is to channel idle resources from scattered sources into productive areas, fostering economic growth. As intermediaries, banks bridge the gap between saving and investment, crucial for orderly economic development.

Investment portfolio management emerges as a vital tool for resource optimization. Portfolio theory guides the selection of optimal portfolios, aiming for the highest return for a specific risk level or the lowest risk for a given return. Investment decision-making is a significant function of financial management.

Banks are advised to invest in securities that are commercial, durable, marketable, stable, transferable, and possess high market prices. Diversification across different sectors and securities is crucial for risk mitigation. The study focuses on four development banks as samples to analyze their portfolio investment management.

The research incorporates a literature review and assesses the financial strength and weaknesses of development banks based on annual reports, utilizing various tools such as ratio analysis, risk and return analysis, and statistical tools like arithmetic mean, standard deviation, coefficient of variation, and multiple regression. Secondary data are sourced from NRB reports, annual reports, and other relevant data.

The findings indicate that JBBL has the highest ROA (2.05%) compared to the other three development banks. Government securities exhibit lower risk and return, while loans and advances show moderate risk and return. Share and debenture investments, along with lending to other financial institutions, present moderate risk and return. The overall coefficient of variation (CV) for development banks is 0.216, suggesting consistent portfolio returns.

The study reveals that development banks have not been successful in mobilizing resources through investments in shares and debentures of other companies. The regression analysis demonstrates a positive impact on profitability, indicating that share and debenture, government securities, other financial institution lending, and loans and advances influence the profitability of development banks in Nepal. The analysis further suggests sufficient variability in profitability explained by investment portfolio management components (share and debenture, government securities, loans and advances, and investments in other financial institutions).

5.2 Conclusion

This study scrutinized the portfolio management practices of development banks in Nepal, employing various statistical and financial tools to assess portfolio behavior. The analysis focused on the risk and return associated with investment assets, including stock prices, dividends, income from government securities, revenue from investments in other financial institutions, and income from loans and advances.

Development banks in Nepal predominantly prioritize loans and advances due to their high returns, exhibiting less interest in investing in shares and debentures, which, despite offering high returns, entail higher risks. The consistent investment in government securities and other financial institutions is observed, characterized by lower risk and lower returns. Financial tools such as Return on Assets (ROA) and Return on Equity (ROE) were utilized to evaluate the financial performance, indicating satisfactory but not entirely sufficient results.

The R-squared value suggests a significant level of variability in profitability explained by portfolio management, encompassing shares and debentures, government securities, loans and advances, and other financial institutions. Regression analysis further indicates a positive impact of these elements on the profitability of development banks in Nepal.

The overall average return on assets for development banks is deemed unsatisfactory, leading to the conclusion that their financial situation is suboptimal. The inclination towards high-return, high-risk loans and advances, and the lesser focus on shares and debentures contribute to this unsatisfactory state. The consistent investment in lower-risk, lower-return government securities also plays a role. In summary, the portfolio management of development banks in Nepal is deemed inefficient in generating substantial profits.

The study concludes that investment portfolio management significantly influences the profitability of development banks in Nepal. Notably, investments in shares and debentures, government securities, other financial institutions, and loans and advances positively impact the profitability of these banks in the Nepalese context.

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5.3 Implications

Findings and conclusions have been analyzed to derive valuable implications, which have been subsequently presented.

Managerial Implications

i. Development banks in Nepal have struggled to formulate effective investment policies and implement them successfully. Instead of considering portfolio optimization, they operate based on the directives of the NRB and the government. It is crucial for development banks to analyze investment areas, develop efficient strategies, and make informed investment decisions.

ii. The absence of investment portfolio management concepts has led banks to prefer investing in secure, less risky, and liquid assets. While low-risk assets offer less profit, high-risk assets can yield more. To balance risk and return, development banks should diversify their funds across various assets with appropriate weights, enabling them to maximize profits with lower risk through portfolio diversification.

iii. Findings indicate that development banks in Nepal predominantly invest in loans and advances, followed by government securities and other financial institutions. However, they allocate a minimal percentage of their total outside investment to shares and debentures of other companies. It is recommended that development banks prioritize investments in shares and debentures to achieve a more balanced portfolio.

iv. Regularly revising the portfolio condition and upgrading it in line with the changing environment is essential for development banks. Maintaining equilibrium in the portfolio should be a constant effort, with banks continuously seeking competitive and high-yielding investment opportunities to optimize their portfolios.

v. The unsatisfactory position of return on assets for development banks underscores the need for a focus on better asset utilization. Reducing the proportion of idle assets can contribute to increasing returns. Development banks must closely monitor all investments, assessing the suitability of projects and sectors for optimal results.

Implication for future researcher

i. This research exclusively delved into the portfolio management of Development banks. As a recommendation for future researchers, it is suggested to explore the correlation between loan portfolio management and lending performance, as well as the impact of portfolio management on the overall economic growth of the country.

ii. The study's observations were confined to the Development banking sectors, making the results non-representative of the entire banking landscape in Nepal. Subsequent research should encompass a broader range of observations from various sectors within the banking industry beyond Development banks.

iii. The study's sample size comprised only four banks, which may not be deemed sufficient. Future studies are encouraged to expand the sample size to obtain a more comprehensive understanding of portfolio management in the banking sector.

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Appendix I

Total investment and interest earned from Government securities of MBBL, LBBL, JBBLand GBBL.

(Rs. in millions)

IGS	MBBL	LBBL	JBBL	GBBL
2012/13	4525	3525	452	3525
2013/14	6025	4325	752	5225
2014/15	7525	6525	1012	8525
2015/16	8745	7255	894	8945
2016/17	9865	8565	2545	9855
2017/18	12547	13547	1251	12515
2018/19	18245	14245	2524	18242
2019/20	20912	15233	2452	19524
2020/21	21356	19356	3135	21356
2021/22	25458	20458	3565	25458
IEGS				
2012/13	207	178	24	224
2013/14	376	267	53	373
2014/15	395	298	49	782
2015/16	362	229	65	371
2016/17	805	125	54	215
2017/18	307	132	21	521
2018/19	346	253	31	1663
2019/20	593	301	89	423
2020/21	783	1037	182	1804
2021/22	1517	1270	213	323

Source: Annual report of MBBL, LBBL, JBBL, GBBL

Appendix II

Total investment and interest earned from loan and advance of MBBL, LBBL, JBBL andGBBL. (Rs. in millions)

IL&A	MBBL	LBBL	JBBL	GBBL
2012/13	2387	3200	5719	3031
2013/14	4377	3496	4774	3388
2014/15	6625	5503	4331	4682
2015/16	9904	8007	5268	5891
2016/17	1733	12990	14952	4009
2017/18	2526	18851	65186	9138
2018/19	2500	28201	81530	24602
2019/20	37719	26244	12061	17744
2020/21	34835	19804	10088	11908
2021/22	27330	28535	25160	29317
IE LA				
2012/13	236	398	480	304
2013/14	492	484	589	421
2014/15	877	949	534	612
2015/16	1114	1060	488	651
2016/17	264	1393	1831	404
2017/18	214	1345	5351	773
2018/19	206	2295	7541	1808
2019/20	3458	1640	1472	1547
2020/21	4821	1707	1190	1283
2021/22	2150	3749	3718	2996

Source: Annual report of MBBL, LBBL, JBBL, GBBL

Appendix III

Total investment and interest earned from other financial institutions of MBBL, LBBL,JBBL and GBBL.

(Rs. in millions)

IOFI	**MBBL**	**LBBL**	**JBBL**	**GBBL**
2012/13	3515	35458	1123	462
2013/14	2548	45255	1256	526
2014/15	4785	56215	1356	569
2015/16	5625	62454	1456	725
2016/17	8896	66215	1562	875
2017/18	6152	72154	1592	527
2018/19	7105	13908	1642	716
2019/20	3054	75466	1619	1502
2020/21	14554	10692	1936	2858
2021/22	17994	10094	4977	7587
IEOFI				
2012/13	268	2180	54	24
2013/14	232	3701	90	47
2014/15	396	2906	118	53
2015/16	585	3110	75	30
2016/17	997	5178	144	60
2017/18	439	4863	119	37
2018/19	585	794	103	22
2019/20	221	3667	126	77
2020/21	1336	742	84	227
2021/22	1101	421	390	362

Source: Annual report of MBBL, LBBL, JBBL, GBBL

Appendix IV

Total investment of share and debenture of MBBL, LBBL, JBBL and GBBL.

(Rs. in millions)

Fiscal years	**MBBL**	**LBBL**	**JBBL**	**GBBL**
2012/13	9978	6559	422	4037
2013/14	12761	3210	536	11969
2014/15	13499	9022	815	46113
2015/16	21429	8110	1257	10315
2016/17	53150	4528	3316	9318
2017/18	13637	3268	5005	30888
2018/19	31817	3371	4361	23229
2019/20	50838	2755	6816	45437
2020/21	54195	2309	1176	11698
2021/22	37502	2035	4083	36812

Source: Annual report of MBBL, LBBL, JBBL and GBBL

Appendix V

(Rs. in millions) **Net profit, Total assets, EPS, DPS, and MPS of MBBL**

Fiscal years	Total assets	Net profit	EPS	DPS	MPS
2012/13	5092	121	40.01	10	264
2013/14	6090	151	41.32	14	630
2014/15	9091	236	35.99	12	564
2015/16	13043	358	43.10	20	1307
2016/17	19760	496	32.09	22	971
2017/18	34949	575	22.10	8.84	378
2018/19	34649	5755	10.36	21	378
2019/20	52377	8070	27.94	16.85	370
2020/21	101247	15040	24.83	40	657
2021/22	120340	35192	23.72	38	439.90

Source: Annual report of MBBL

Appendix VI

Total investment and interest earned from loan and advance of MBBL, LBBL, JBBL andGBBL. (Rs. in millions)

IL&A	**MBBL**	**LBBL**	**JBBL**	**GBBL**
2012/13	4305	3200	5719	3031
2013/14	4377	3496	4774	3388
2014/15	6625	5503	4331	4682
2015/16	9904	8007	5268	5891
2016/17	1733	12990	14952	4009
2017/18	2526	18851	65186	9138
2018/19	2500	28201	81530	24602
2019/20	37719	26244	12061	17744
2020/21	34835	19804	10088	11908
2021/22	27330	28535	25160	29317
IE LA				
2012/13	236	398	480	304
2013/14	492	484	589	421
2014/15	877	949	534	612
2015/16	1114	1060	488	651
2016/17	264	1393	1831	404
2017/18	214	1345	5351	773
2018/19	206	2295	7541	1808
2019/20	3458	1640	1472	1547
2020/21	4821	1707	1190	1283
2021/22	2150	3749	3718	205

Source: Annual report of MBBL, LBBL, JBBL, GBBL

Appendix VII

Net profit, Total assets, EPS, DPS, and MPS of LBBL

(Rs. in millions)

Fiscal year	Total assets	Net profit	EPS	DPS	MPS
2012/13	8706	51	18	23	105
2013/14	7008	48	14	36	215
2014/15	6227	30	27	45	250
2015/16	7447	158	20	48	111
2016/17	21205	179	18.76	55	184
2017/18	63759	435	18.48	61	260
2018/19	25956	620	26.69	65	221
2019/20	29985	620	13.94	51	280
2020/21	34496	378	17.76	39	310
2021/22	44125	433	20.57	26	170

Source: Annual report of LBBL

Appendix VIII

Shareholders' equity of MBBL, LBBL, JBBL, and GBBL

(Rs. in millions)

Fiscal years	Total Shareholders' equity of MBBl	Total Shareholders' equity of LBBL	Total Shareholders' equity of JBBL	Total shareholders' equity of GBBL
2012/13	824	105	817	485
2013/14	857	622	890	526
2014/15	997	917	1031	974
2015/16	3441	7447	1031	1202
2016/17	2321	2008	1004	2829
2017/18	3539	2357	2552	3262
2018/19	3514	2173	2880	2788
2019/20	4314	2209	3605	3238
2020/21	4811	2716	4504	3675
2021/22	5627	2906	5245	4597

Source Annual report of MBBL, LBBL, JBBL, and GBBL

Appendix IX

Net profit, Total assets, EPS, DPS, and MPS of LBBL

(Rs. in millions)

Fiscal year	Total assets	Net profit	EPS	DPS	MPS
2012/13	8706	51	18	23	105
2013/14	7008	48	14	36	215
2014/15	6227	30	27	45	250
2015/16	7447	158	20	48	111
2016/17	21205	179	18.76	55	184
2017/18	63759	435	18.48	61	260
2018/19	25956	620	26.69	65	221
2019/20	29985	620	13.94	51	280
2020/21	34496	378	17.76	39	310
2021/22	44125	433	20.57	26	170

Source: Annual report of LBBL