

DETERMINANTS OF NON-INTEREST INCOME OF NEPALESE BANKS

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by

Babita Shrestha

Campus Roll No.: 385/074

Exam Roll No: 5357/18

TU Registration No: 7-2-1088-28-2013

Shanker Dev Campus

Kathmandu

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CERTIFICATE OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “**DETERMINANTS OF NON-INTEREST INCOME OF NEPALESE BANKS**” The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees 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 reference section of the dissertation.

.....

Babita Shrestha

REPORT OF RESEARCH COMMITTEE

Ms. Babita Shrestha has defended research proposal entitled “**Determinants of Non-Interest Income of Nepalese Banks**” successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidance of supervisor Asso. Prof. Dr. Kapil Khanal and submits the thesis for evaluation and viva voce examination.

Asso. Prof. Dr. Kapil Khanal
Dissertation Supervisor
Signature:

Dissertation Proposal Defined Date:
.....

Dissertation Submitted Date:
.....

Asso. Prof. Dr. Sajeeb Kumar Shrestha
Head of Research Department
Signature:

Dissertation Viva Voce Date:
.....

APPROVAL SHEET

We, the undersigned, have examined the dissertation “**Determinants of Non-Interest Income of Nepalese Banks**” presented Ms. Babita Shrestha candidate for the degree of Master of Business Studies (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the dissertation is worthy of acceptance.

.....

Asso. Prof. Dr. Kapil Khanal

Dissertation Supervisor

.....

Internal Examiner

.....

Internal Expert

.....

External Expert

.....

Asso. Prof. Dr. Sajeeb Kumar Shrestha

Chairperson, Research Committee

.....

Asso. Prof. Dr. Krishna Prasad Acharya

Campus Chief

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Researcher

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ABBREVIATIONS

AD	:	Anno Domini
AIC	:	Akaike information criterion
BS	:	Bikram Sambat
DER	:	Debt to Equity Ratio
e.g.	:	Example
F/Y	:	Fiscal Year
i.e.	:	That is
LDR	:	Loan to Deposit Ratio
Ltd	:	Limited
MBS	:	Master of Business Studies
NIM	:	Net Interest Margin
NPLR	:	Non-performing Loan Ratio
OLS	:	Ordinary Least Squares
ROA	:	Return on Assets
ROE	:	Return on Equity
SC	:	Schwarz criterion
SD	:	Standard Deviation
SEM	:	Structural Equation Modelling

ABSTRACTS

The main objective of the study has been to find out the factors affecting the non-interest income of commercial banks in Nepal. The study provides guidelines to design new product and services that generate non-interest income sources and interest income. In this study, the descriptive as well as causal comparative research design has been used. Decision regarding, what were; when how much by means concerning an enquiry or a research study constitutes a research design. In this research, secondary data has been used. The ten fiscal year data has been incorporated, form 2013/14 to 2022/23, in this study. The study on determinants of non-interest income (NII) in Nepalese banks reveals significant insights into the factors influencing revenue diversification within the banking sector. Analysis of income sources such as ATM management fees, loan administration fees, letters of credit, remittance fees, and financial guarantees shows varying degrees of impact on NII. Remittance fees and letters of credit exhibit stronger correlations with NII, suggesting that these sources contribute more significantly to non-interest income compared to ATM management fees, loan administration fees, and financial guarantees, which show weaker correlations. Regression analysis indicates that a combination of these income sources collectively explains a substantial portion of the variability in NII. The model's high explanatory power, as indicated by a notable R Square value, underscores the relevance of these fee-based income streams in influencing overall non-interest income levels in Nepalese banks. In conclusion, this study contributes valuable insights into the determinants of NII in Nepalese banks, offering a foundation for further research and strategic decision-making aimed at fostering sustainable revenue growth and financial stability in the banking sector. Future studies could delve deeper into sector-specific dynamics and regulatory frameworks to refine these strategies and maximize the potential of fee-based income streams in Nepal's banking industry.

Key words: ATM management fees (ATM), Loan administration fees (LAF), Letters of credit (LOC), Remittance fees (RE), Financial guarantees (FG), Non-interest Income (NII)

CHAPTER I

INTRODUCTION

1.1 Background of the Study

Interest income, non-interest revenue, and other incomes are the sources of income for commercial banks. Traditional sources of income are another name for interest income. In Kenya, the majority of commercial banks rely heavily on conventional revenue sources. However, due to the emergence of new competitors in the form of non-bank financial institutions (NBFIs), which have drastically reduced the interest income collected by commercial banks, this source of income has lost major legal protection. Commercial banks now face fierce competition from non-bank financial institutions (NBFIs) due to factors such as technical advancements, globalization, deregulation, and individual bank characteristics. As a result, commercial banks must explore for alternative revenue streams beyond interest income (DeYoung & Rice 2003). In order to preserve their profitability and guarantee their financial stability in the cutthroat industry, the majority of commercial banks have chosen to diversify their revenue streams, with a focus on non-interest revenue.

Because service fees and other non-interest revenues are unrelated to traditional interest income, it makes sense in theory for banks to diversify their sources of income. Consequently, improved risk-adjusted financial performance and a more consistent net operating income are the results of income diversification. Nonetheless, the benefits of diversification as predicted by theory are not amply supported by the actual research that has been done on the subject of banking diversification. This study looks at the variables influencing non-interest income in Kenya as well as variations in the non-interest income to net total income ratio.

Since Nepal's financial sector has been liberalized, supply and demand, while adhering to Central Bank of Nepal norms and regulations, mostly determine non-interest income in the country's commercial banks. By definition, non-interest income is a diverse form of income derived from a variety of sources. It may be divided into four main categories: trading revenue, fees and other income, fiduciary income, and service charges. These insightful theoretical leads have guided a large portion of the

empirical literature in commercial banking, which analyzes the financial flows that are essential to the intermediation process (such as interest paid on deposits, interest received from loans and securities, and the resulting net interest margins) as well as the risks that are connected to those flows (such as interest-rate risk related to the relative maturities of deposits, loans, and market risk associated with fixed income securities, and liquidity risk associated with deposits, credit risk associated with loans, and market risk associated with deposits). But during the past 20 years, commercial bank business models have changed, and today's banks derive a larger share of their revenue from non-intermediation and/or non-interest activities.

There is little systematic understanding of why non-interest income varies across banks and how non-interest income is related to bank financial performance, despite the fact that it is well known that large banks and banks with specialized strategies, such as credit card banks and mortgage banks, rely more heavily on non-interest income than do banks with traditional business strategies (De Young, 2003; Kim, 2010).

As the discussion above demonstrates, research on non-interest income and income diversification is more important. While there are a number of conclusions utilizing more current data in the context of numerous countries, as was previously noted, there aren't many discoveries using data specific to Nepal. Thus, the goal of this study is to examine the variables influencing banks' non-interest revenue.

1.2 Problem Statement

Although banks have been turning more and more away from traditional lending activities in favor of non-traditional revenue streams since liberalization, the intense rivalry among them has made income diversification a crucial component of their business strategies. Globalization, disintermediation, and re-regulation are some of the trends that have affected the nature of the intermediation business as well as banks' ability to remain competitive. Banks must have a sophisticated technical scale, expertise, resources, and capacity as they transition from interest-based lending activities to non-interest revenue streams. As a result, the impact of income diversification on profitability may constantly change throughout banks and ownership groups.

The 1990s saw a strong correlation between net interest income and non-interest income, suggesting that diversifying into non-interest income industries might not be beneficial. The Government of Nepal liberalized the financial sector as part of its structural adjustment program. At the time of liberalization, the government argued that by removing artificial barriers to competition, bank interest and non-interest earnings from intermediation-based and non-intermediation-based activities for commercial banks would grow rapidly. A rise in non-interest revenue would boost bank profits and alter the composition of their production. Commentators believed that the increase in non-interest income in the United States during the 1990s was caused by a decrease in overall income volatility, which was brought about by the average commercial bank's diversification across a greater number of product lines. It's clear that non-interest revenue continues to make up a sizable component of financial institutions even years after these reforms. The discussion above demonstrates the inconsistent nature of empirical data. Therefore, this investigation must be carried out in order to support one or the other viewpoint. As a result, this study addresses the following problems in relation to banks in Nepal:

- i) What is the current state of foreign exchange contract liabilities, non-interest revenue, letter of credit, ATM management fees, loan administration costs, and remittance fees?
- ii) Does non-interest revenue at commercial banks get impacted by fees associated with managing ATMs, letters of credit, remittances, financial guarantees, foreign exchange contracts, and loan administration?

1.3 Objectives of the Study

Determining the variables influencing Nepal's commercial banks' non-interest revenue has been the study's primary goal. The following are some of the study's particular goals:

- i) To investigate the trends in foreign exchange contract liabilities, non-interest income, letter of credit, ATM management fees, loan administration costs, and remittance fees?
- ii) To evaluate the impact on non-interest income in commercial banks of ATM management fees, letter of credit, remittance fees, financial

guarantees, foreign exchange contract liabilities, and loan administration fees.

1.4 Research Hypotheses

Under this investigation, the following alternate explanation has been postulated:

H1: Non-interest income is significantly impacted by ATM management fees.

H2: Non-interest income is significantly impacted by loan administration fees.

H3: Non-interest revenue is significantly impacted by letters of credit.

H4: The impact of remittance fees on non-interest income is substantial.

H5: Non-interest income is significantly impacted by foreign exchange contract liabilities.

H6: Non-interest income is significantly impacted by financial guarantees.

1.5 Rationale of the Study

It is clear that banks in Nepal are becoming more involved in non-interest revenue generating businesses. Due to liberalization, banks are turning more and more to non-traditional revenue streams including fees and commissions and trading securities to increase profits, rather than sticking to their core business of lending. Their business model necessitated income diversification due to intense rivalry among them. They must possess a sophisticated technical scale, expertise, resources, and capacity in order to transition from interest-based lending activities to non-interest-based lending activities. Therefore, loan officers, bankers, business owners, shareholders, and regulators can all benefit from studying the variables influencing non-interest revenue. This study contributes to our understanding of the non-interest income and diversification patterns of Nepal's banks as a whole, as well as the ways in which these factors influence bank risk. Bank managers may benefit from this study by having a better understanding of the variables influencing the rise of non-interest revenue, which will help them develop strategies to address these variables and increase their net non-interest incomes. This study aids bankers in understanding if non-interest revenue contributes to profitability growth and income risk reduction.

Guidelines for designing new products and services that produce both interest income and non-interest income are also provided by the study. As a result, the markets are

seeing the introduction of novel banking services. Customers can also benefit from this study by selecting higher-quality products at affordable costs. Overall, this study adds important insights to the subject of financial policy and decision-making for corporations. Therefore, research of this kind would be very helpful.

1.6 Limitations of the Study

The limitations of the study are as follows:

- i. The quality and accessibility of data on particular non-interest income components, like foreign exchange contract liabilities, ATM management fees, and remittance fees, may have placed restrictions on the study. Data that is incomplete or inconsistent may compromise the validity of the conclusions.
- ii. External factors that can affect non-interest revenue but are not under the banks' control, such as changes in regulations, technological improvements, and macroeconomic conditions, may not be fully taken into account in this analysis.
- iii. Although the study concentrates on certain elements like loan administration costs and ATM management fees, other potentially important aspects like market rivalry and consumer behavior that affect non-interest income were overlooked.
- iv. The study's conclusions may not apply to banks in other nations with distinct regulatory frameworks, economic situations, and banking customs because they are unique to Nepalese commercial banks.

CHAPTER II

LITERATURE REVIEW

Fees are levied by financial institutions to generate revenue and maintain profitability in the case of higher default rates by making non-interest income available. The earnings mostly from asset sales, leasing of real estate, and service and penalty costs make up the bank's non-interest income. This revenue is typically unregulated by legislation and is not impacted by financial or economic market cycles, in contrast to interest income. Through non-interest revenue, particularly from service fees on accounts they own, the big financial institutions are able to generate a sizable sum of money. According to (Bodla & Verma, 2007), one of the key factors impacting bank profitability is non-interest revenue.

The earnings mostly from asset sales, leasing of real estate, and service and penalty costs make up the bank's non-interest income. Interest income, non-interest revenue, and other incomes are the sources of income for commercial banks. Traditional sources of income are another name for interest income. In Kenya, the majority of commercial banks rely heavily on conventional revenue sources. Nevertheless, due to the emergence of non-bank financial institutions as new competitors, which have drastically decreased the interest income received by commercial banks, this source of income has lost major regulatory protection (Atellu, 2014).

Köhler et al. (2013) found that increasing the amount of non-interest income considerably increases the stability of banks with a retail-oriented business model, such as savings banks, cooperative banks, and other retail-oriented banks. Conversely, he suggests that larger, more investment-oriented banks should raise their interest income share in order to become more stable, as investment-oriented banks become noticeably less stable. This demonstrates how non-interest revenue impacts the profitability of banks.

2.1 Theoretical Review

2.1.1 Modern Portfolio Theory (MPT)

The 1952 publication of Harry Markowitz's groundbreaking paper "Portfolio Selection" introduced Modern Portfolio Theory (MPT), which offers a mathematical

framework for building an asset portfolio to optimize expected return for a specific degree of risk, completely changed the investing industry. According to Markowitz's theory, investors can create optimal portfolios by diversifying their holdings, which reduces risk by include assets that move at different times from one another. The idea of risk aversion, which holds that investors want to reduce risk for any given amount of projected return, is the foundation of this theory.

The efficient frontier, which is a collection of portfolios that yield the best projected return for a particular degree of risk, was first proposed by Markowitz in 1952. Since no other portfolio provides a better balance of risk and return, portfolios that are on the efficient frontier are regarded as ideal. The concept of covariance between asset returns was also introduced by the theory, highlighting the significance of asset correlation for portfolio risk management. Investing in assets with low or negative correlations helps investors lower the portfolio's total risk.

MPT can be used in the banking industry to comprehend the diversification of revenue sources. Historically, banks have relied heavily on interest revenue from advances and loans, which is prone to changes in interest rates and credit risk. Banks can attain a more stable and varied revenue stream by diversifying into non-interest earning operations such foreign exchange transactions, remittance services, ATM management fees, and loan administration. The objectives of MPT, which include lowering income volatility and increasing profitability, are in line with this diversification.

Applying MPT to Nepalese banks entails utilizing a combination of interest and non-interest revenue to fortify their financial structure. Remittance fees and financial guarantees are two examples of non-interest revenue components that may have distinct risk profiles than typical interest-based income. Banks can achieve a better risk-return balance by combining these several income streams, which helps to lessen the impact of unfavorable swings in any one income source, as recommended by MPT.

The work of Markowitz (1952) established the groundwork for subsequent developments in financial theory, impacting different facets of corporate finance and investing, including bank procedures. The use of MPT in the banking industry

emphasizes how crucial income diversity is for investment portfolios as well as for the general performance and financial stability of banking organizations.

Research has provided evidence in favor of using MPT concepts in banking. DeYoung and Rice (2004), for example, discovered that non-interest income has a major role in the stability and profitability of banks. They noticed that banks fared better during recessions when their non-interest income levels were higher.

By properly balancing their income portfolio, Nepalese banks can improve their financial performance by utilizing MPT. Banks can strengthen their resistance to changes in regulations and fluctuations in the economy by optimizing the mix of interest and non-interest income. This methodical technique is consistent with the original ideas of Markowitz (1952) and shows how MPT may be applied to corporate and institutional finance strategies in addition to standard investment portfolios.

To sum up, Modern Portfolio Theory offers a solid foundation for comprehending how diversification helps to manage risk and maximize returns. By strategically combining several non-interest income sources, Nepalese banks can implement MPT concepts and build a more stable and profitable financial structure. This application highlights the ongoing significance of Markowitz's groundbreaking work in modern financial management while also improving the banks' capacity to handle economic swings.

2.1.2 Transaction Cost Theory

Ronald Coase originally introduced Transaction Cost Theory (TCT) in his 1937 paper "The Nature of the Firm," which examined the purpose and organization of businesses. Coase's main thesis was that economic transactions have costs attached to them, and these costs can affect how businesses behave and are structured. These transaction costs consist of expenses for information and search, costs for negotiation and decision-making, and costs for law enforcement and police.

According to Coase (1937), businesses are created to reduce these transaction costs. Internalizing transactions can be more efficient than going out to market for a company. For example, a company can lower transaction costs by performing more jobs internally rather than bidding and contracting for every activity with an outside party. This realization made it clear that a company's borders are set by the relative costs of conducting business domestically vs externally.

Oliver Williamson extended the theory and built upon Coase's concepts in the 1970s, especially in his paper "Markets and Hierarchies" (1975). Williamson presented the ideas of transaction frequency, asset specificity, and uncertainty, highlighting the ways in which these variables affect transaction costs. High asset specificity, for instance, raises the cost of market transactions since investments are customized for certain transactions and are difficult to transfer to others.

It can be insightful to apply TCT to the banking industry, specifically to the factors that determine non-interest revenue. Banks handle a wide range of transactions, from straightforward deposit and withdrawal procedures to intricate financial services like handling remittances and foreign exchange trading. In order to lower the transaction costs related to these services, banks are branching out into non-traditional revenue-generating ventures. For example, delivering remittance services in-house not only saves a bank money by avoiding dealing with outside remittance agents, but it also gives consumers a convenient service that increases customer loyalty and may even increase fee income.

Additionally, banks can provide more services at a lower marginal cost by utilizing already-existing infrastructures like ATMs and online banking systems. They can obtain economies of scale and lower the average transaction cost for each service provided by doing this. This strategy is in line with TCT's focus on reducing transaction costs to increase productivity and earnings.

The use of TCT in Nepalese banks is evident in the strategic decisions made to provide a greater range of services. Banks can strengthen control over service quality and costs, streamline processes, and become less dependent on outside providers by internalizing procedures like loan administration and financial guarantees. This approach improves the bank's competitive position in the market in addition to increasing non-interest income.

In the end, Transaction Cost Theory emphasizes how critical it is to comprehend and control the costs related to economic transactions. Finding possibilities to internalize services that may be managed more effectively within the organization can help banks, especially those in Nepal, cut costs and increase profitability.

Transaction Cost Theory (TCT) deals with the reasons behind the formation of organizations and their organizational structure. It was first presented by Ronald

Coase in his influential work "The Nature of the Firm" (1937). The fundamental tenet of Coase's theory is that businesses are there to reduce the costs associated with performing transactions. The attempt to locate the right goods or services is known as search and information costs. The effort to reach an agreement is known as negotiating and decision costs. The effort to ensure agreement compliance is known as policing and enforcement costs.

According to Coase, businesses internalize transactions when carrying them out internally is less expensive than doing so through the market. The difficulties and inefficiencies involved with negotiating, overseeing, and upholding contracts with outside parties are lessened by this internalization. Businesses can better control costs and achieve more efficient operations by bringing transactions in-house.

In the 1970s, Oliver Williamson developed Coase's theories further, most notably in his seminal work "Markets and Hierarchies" (1975). Important ideas including asset specificity, uncertainty, and transaction frequency were first presented by Williamson. Investments that are customized for certain transactions and that are difficult to transfer to other uses without suffering a large loss of value are referred to as asset specificity. Transaction costs rise with high asset specificity because the parties are more reliant on one another. Transaction costs are also influenced by transaction frequency and uncertainty, with higher transaction frequency and greater uncertainty often translating into higher costs.

The Transaction Cost Theory might be utilized in the banking industry to comprehend the factors that influence non-interest revenue. From straightforward deposit and withdrawal operations to intricate financial services like foreign exchange trading, loan administration, and remittance processing, banks handle a broad range of transactions. Banks can lower the costs of external transactions by providing certain services inside. For instance, by handling remittance services in-house, banks can save money and time by avoiding the costs and delays that come with working with outside transfer agencies, giving their clients a quicker and more affordable service.

Furthermore, banks can deliver these services more effectively by utilizing their current infrastructure. Economies of scale can be achieved, for example, by utilizing ATM networks and online banking platforms to provide more services at a lower marginal cost. In addition to lowering the average cost per transaction, this improves

user convenience and may boost fee income and customer loyalty. Banks can improve their profitability and competitiveness by taking advantage of economies of scale and internalizing processes that minimize transaction costs.

Applying TCT to Nepalese banks entails a deliberate expansion into non-interest revenue-generating operations like financial guarantees, remittance services, ATM management, and loan administration. Banks can increase service quality and cost management, decrease dependency on outside suppliers, and streamline operations by internalizing these services. By more effectively providing a wider range of services to clients, this strategy not only helps the bank's non-interest income but also enhances its competitiveness.

In conclusion, Transaction Cost Theory offers a framework for comprehending how businesses, including banks, might internalize services and make use of already-existing infrastructure to reduce costs related to economic transactions. This is deliberately diversifying into non-traditional revenue-generating ventures for Nepalese banks in order to improve productivity, cut expenses, and boost profitability. By doing this, companies may build a financial institution that is more competitive and resilient, able to withstand changes in the market and offer its clients better services.

2.1.3 Market Power Theory

Based on the ideas of industrial organization and economics, market power theory investigates how companies with substantial market power might take advantage of changes in output, prices, and general market circumstances. The work of economists who created the ideas of monopolistic competition and imperfect competition in the 1930s, namely Edward Chamberlin and Joan Robinson, serves as the foundation for this theory. The ability of a company to establish and sustain prices beyond the threshold that would apply in a perfect market to increase profits is known as market power.

Companies that possess significant market power can use a range of tactics to control the market, including establishing pricing, managing supply, and erecting obstacles to entry for prospective rivals. These companies frequently use economies of scale, strategic pricing, control over key resources, and product differentiation to gain market dominance. Businesses can lower the price elasticity of demand and foster

brand loyalty by distinguishing their goods and services. This enables them to raise prices without suffering a large loss of market share.

The application of Market Power Theory to the banking industry can help comprehend how banks possessing substantial market power might increase their non-interest revenue. Big banks or those with a lot of clout in the market can use their position to charge more for different services. Banks that own vast branch networks, sophisticated technology infrastructure, and a large array of financial goods, for example, might provide a level of ease and dependability that their smaller rivals might not be able to match. This enables them to demand higher fees for services like financial assurances, remittance processing, loan management, and ATM use.

Furthermore, economies of size and breadth might be advantageous for banks possessing significant market strength. These banks can increase profitability by achieving lower average costs per unit of service by spreading fixed costs over a higher volume of transactions. Additionally, they are able to package services, giving clients complete financial solutions that smaller rivals would not be able to give. In addition to enhancing client loyalty, this bundling helps banks to upsell other services, which raises non-interest revenue even more.

The utilization of Market Power Theory by Nepalese banks is evident in their approaches to augment non-interest revenue. With their broad networks and wide range of services, Nepal's big commercial banks can use their market dominance to draw in new clients and keep existing ones. These banks can charge greater fees and charges because they provide a wide range of services, including financial guarantees, letters of credit, and foreign exchange operations. This helps them generate more non-interest income. They can also use premium pricing techniques without losing a sizable portion of the market because to their well-established reputation and the confidence of their customers.

Furthermore, by making investments in cutting-edge infrastructure and technology, banks with substantial market dominance can erect obstacles to entrance for smaller rivals. For example, they can provide clients with unmatched convenience by creating strong online banking platforms and vast ATM networks, which makes it challenging for new players to compete. By attracting new clients and keeping hold of current

ones, this strategic advantage helps the bank increase its non-interest revenue through a variety of service fees and levies.

In conclusion, market power theory offers a framework for comprehending how companies that have a significant amount of market influence can manipulate pricing and market dynamics to their benefit. Leveraging market dominance for banks, especially in Nepal, entails providing a wide range of services, making use of economies of size and scope, and erecting obstacles to entry for rival banks. These actions will help these banks become more profitable, increase their non-interest revenue, and fortify their position as market leaders.

The dynamics of how companies with substantial market influence might reshape the market to their benefit are explored by market power theory. This theory's foundation was established in the 1930s by the work of Edward Chamberlin and Joan Robinson, who introduced the ideas of imperfect competition and monopolistic competition. They illustrated how companies with market power can impose conditions, including price increases above marginal costs and output restrictions aimed at maximizing profits, that would be unfeasible in a perfect market.

Firms can attain and sustain market power in industries with high entry barriers, substantial initial capital expenditure, or extensive control over vital resources. These qualities frequently translate into broad branch networks, cutting-edge technology infrastructure, wide product portfolios, and strong brand reputations in the banking industry. These characteristics enable banks to control a significant amount of price and service offerings, limiting competition and increasing profit margins.

The ability of businesses to practice price discrimination—charging different prices to different customers based on their willingness to pay—is a fundamental component of the market power theory. This might show up in a variety of ways in banking. For instance, a bank with a lot of market power could charge higher fees to smaller or less lucrative clients while providing high-value customers with favorable interest rates or fee structures. The capacity to divide up the market and customize pricing plans improves the amount of money generated from non-interest sources.

Furthermore, banks that own a strong market position can use it to differentiate their products and provide better customer service, which will build and maintain client loyalty. These banks are better able to satisfy the varied needs of their clientele than

their smaller rivals because they provide a greater range of financial goods and services, including special credit cards, tailored lending products, and wealth management services. The bank's position in the market is further strengthened by this distinction, which not only draws in new clients but also raises the cost of switching for current ones.

The application of Market Power Theory to Nepalese banks is especially pertinent in comprehending the workings of non-interest income generating. Market power is applied well by large commercial banks in Nepal, namely Nabil Bank and Nepal Investment Bank Limited. Because of their established market presence and wide service networks, these banks are able to charge more for specialized services including trade finance, remittance processing, and foreign exchange transactions. They are able to charge higher fees for these services because of their strong technology infrastructure and ability to deliver a dependable and flawless consumer experience.

Furthermore, big banks can take advantage of market power to further solidify their dominance by engaging in calculated actions. To give clients unmatched convenience, they may, for example, make significant investments in technology to provide cutting-edge mobile banking applications and online banking platforms. In addition to improving client satisfaction, this technological advantage places major obstacles in the way of smaller banks and new competitors who do not have the means to acquire comparable skills.

The capacity of banks with market strength to cross-sell goods and services is another tactical advantage. These banks can raise the lifetime value of each customer by bundling different financial services, including pairing checking accounts with investment products or providing lower interest rates on loans for clients who have larger deposit balances. In addition to increasing non-interest revenue, this cross-selling technique cultivates stronger client ties and loyalty.

Finally, a thorough framework for comprehending how banks with substantial market influence might manipulate market dynamics to increase their profitability is provided by the Market Power Theory. Leveraging market dominance for Nepalese banks entails providing a broad range of services, taking advantage of economies of scale, discriminating in pricing, and raising entry barriers through product diversification

and technical investments. By using these tactics, banks can boost their non-interest revenue, improve their position as market leaders, and guarantee long-term financial stability.

2.2 Empirical Review

Anh et al. (2023) used data from a sample of 27 commercial banks in Vietnam from 2009 to 2022 to investigate and evaluate the factors affecting non-interest revenue, including the Covid-19 epidemic. The analysis demonstrates that while liquidity (LIQ), net interest margin (NIM), loans to assets ratio (LOAN), credit risk (RISK), and inflation rate (INF) have a negative impact on non-interest income, capacity management (RELROE), bank size (SIZE), capital adequacy ratio (CAR), and Covid-19 have a positive impact. The article offers suggestions for enhancing Vietnamese commercial banks' non-interest revenue. In particular, studies have demonstrated that the Covid-19 epidemic has a favorable effect on non-interest income. The article offers several suggestions to enhance Vietnamese credit institutions' non-interest revenue in light of this.

Mehzabin et al. (2023) examined the impact of long-term debt, operating efficiency, non-interest income, and capital structure—as measured by the leverage ratio—on the profitability of the banking sector in 28 Asian nations. This study applies a fixed effect regression model to panel data including 492 banks from 28 Asian nations over a 15-year period, from 2004 to 2018. The findings imply that debt financing boosts the firm's profitability by confirming that an increase in the total debt ratio raises the bank's profit margin as suggested by the agency cost theory. Furthermore, the results show that cutting operational costs and properly controlling expenses can increase a bank's profitability. Additionally, when interest rates are lower, non-interest income is quite important. Therefore, the study implies that prudent investment in this field can boost income and the banking industry's profit margin.

According to research by Antao and Karnik (2022) on the connection between NII and bank risk for the USA and Europe, placing a strong focus on income diversification reduces risk in European banks while increasing it in American ones. There isn't a clear understanding of how NII and bank risk are related based on the

research that is currently done on Asian banks. To investigate this association, we use data collected over a 25-year period for 24 Asian countries. We estimate equations for two time periods, 1996–2007 and 2008–2018, using the GMM estimation approach in order to investigate the link between NII and bank risk in the presence of certain controlling financial, macroeconomic, and policy variables. According to our findings, bank risk increases for all 24 countries as well as for subgroups of those nations when non-interest revenue is present. Additionally, we discover that while inflation above a certain point deteriorates bank risk, overall economic growth increases it. Ultimately, even though fiscal policy appears to have no impact, our stand-in for monetary policy increases bank risk.

The factors influencing Nepalese commercial banks' interest rate spread (IRS) were examined by Shrestha (2022). For the investigation, panel data from 25 commercial banks spanning the years 2013–14–2020–21 was used. Inflation (INF) and the GDP growth rate were used as the macroeconomic determinants of the study, while return on assets (ROA), management efficiency (ME), capital adequacy ratio (CAR), assets quality (AQ), credit risk (CR), and operational efficiency (OE) were used as bank-specific determinants. The study uses the random effect model to identify the main macroeconomic and bank-specific factors of interest rate spread as GDP and INF, and the primary bank-specific determinants as ROA, CR, ME, and OE. In a similar vein, the IRS of Nepalese commercial banks was found to be positively influenced by ROA, CR, INF, and GDP, and negatively influenced by ME and OE. Policy-making regarding the spread rate of interest can benefit from the study's conclusions.

Hussain (2021) looked at how Pakistani banks performed in relation to non-interest income. For this objective, the Auto regressive distributed lag (ARDL) approach was applied to quarterly data from 2011 to 2021. The findings indicate that Pakistani banks' profitability declines with a decline in non-interest revenue. Additionally, it is discovered that while fees and commission had a negative effect on performance, the decline in profitability was caused by a decline in dividend and foreign exchange revenue. This implies that in order to boost their profitability, commercial banks might raise their foreign exchange earnings and dividends. The State Bank of Pakistan, commercial bankers, and other financial institutions may find this report useful in developing their non-interest revenue frameworks and policies.

The effect of revenue concentration and non-interest income (NII) on banks' risk was investigated by Hunjra et al. (2020) in South Asian nations such Bangladesh, India, Pakistan, and Sri Lanka. We use panel data covering 85 banks between 2009 and 2018. To analyze the data, the Generalized Method of Moments (GMM) is used. According to the study, revenue concentration and non-interest source income have a major impact on bank risk when taken into account as a whole. Depending on how each country's legislation are applied and how they are regulated, the study comes to varied conclusions. For Bangladesh, India, and Pakistan, non-interest income has a considerable influence on bank risk; however, this influence is negligible for Sri Lanka. In Pakistan and India, revenue concentration significantly influences bank risk; in Bangladesh and Sri Lanka, it has no such effect. This report advises bank managers to concentrate on several revenue-generating streams to reduce risk and increase efficiency by using a diversification strategy. This research adds to the body of knowledge about South Asian financial systems.

The relationship between non-interest revenue, profitability, and risk in Nepalese commercial banks is examined by Dhaungana (2019). Return on assets and return on assets adjusted for risk are the dependent variables. Non-interest income, income diversification, bank size, equity ratio, and loan ratio are the independent factors. Based on 154 observations from 22 commercial banks during 2011–12 and 2017–18, the study uses secondary data. The information was gathered from the Nepal Rastra Bank's Banking and Financial Statistics as well as the annual reports of the chosen commercial banks. To assess the significance and importance of non-interest revenue on the profitability and risk in Nepalese commercial banks, regression models and correlation coefficients are estimated. The study demonstrates that return on assets and risk-adjusted return on assets are positively impacted by non-interest income. It suggests that a higher net interest income would translate into a higher return on the banks' assets. It also suggests that the bank risk would be lower the bigger the non-interest income. On the other hand, return on assets and risk-adjusted return on assets are adversely affected by HHI. It suggests that the return on assets would be lower the greater the HHI. It also demonstrates that the bank risk would increase with a larger HHI. The outcome further demonstrates that the equity ratio positively affects return on assets, meaning that a greater equity ratio corresponds to a higher return on assets. Similarly, return on assets and risk-adjusted return on assets are positively impacted

by bank size. It implies that the return on assets would increase with bank growth. It also suggests that the bank risk would decrease with increasing bank size. Additionally, the study demonstrates that the loan ratio negatively affects return on assets, implying that an increase in the loan ratio causes a fall in return on assets. The study comes to the conclusion that the most important element explaining the profitability of Nepalese commercial banks is bank size, followed by equity ratio. In a similar vein, the biggest factor explaining the degree of risk in Nepalese commercial banks is bank size.

Between 2006 and 2015, Adedeji and Adedeji (2018) investigated the impact of non-interest income on the profitability of deposit money banks in Nigeria. Out of the 21 banks in the category, five were specifically chosen based on factors such as the number of their clients, the volume of their transactions, the distribution of their locations, and the ease with which they could acquire balanced secondary data, particularly online. Secondary data were gathered from the banks' published annual financial reports using an ex-post facto research design. The data analysis techniques employed were percentages and multiple regression analysis. The findings indicated that 61.5% of the fluctuations in profitability may be explained by changes in the banks' linear combination of total non-interest income, liquidity ratio, prime lending rate, and inflation. Since the p-value for this coefficient is statistically significant ($p < 0.001$), it was determined that non-interest revenue is a significant predictor of profitability. The study found that, although the growth rate has been uneven, non-interest revenue has a favorable and considerable impact on deposit money institutions' profitability. The study's conclusions led to the recommendation that deposit money banks benchmark their rivals and be prepared to continuously enhance their offerings in order to increase non-interest revenue and increase profitability.

Using panel data from 230 banks, Islam and Nishiyama (2016) investigated the factors influencing banks' net interest margins (NIMs) in four South Asian nations: Bangladesh, India, Nepal, and Pakistan, during the years 1997–2012. The analysis is consistent with the Ho-Saunders (1981) dealership model and its subsequent extensions; however, the model was expanded by include a new variable, the relative size of the banks, and by categorizing the variables that determine interest margins into three categories: bank-specific, industry-specific, and macroeconomic-specific. We discovered that while relative bank size, market power, and economic growth

have an unfavorable effect on net interest margins, liquidity and equity situations, needed reserve, and operating expenses to total asset ratios have a positive impact.

According to Damankah et al. (2014), there are certain common criteria among Ghanaian banks that participate in non-interest earning activities. It was discovered that, in comparison to their larger counterparts, smaller banks engage in a greater number of non-interest earning operations. Higher interest income, client deposits, risk exposure, and liquidity are also discovered to be similar characteristics among Ghanaian banks that focus more on generating non-interest revenue. The prime rate set by the central bank has an impact on banking operations as well and is favorably correlated with banks' participation in nontraditional ventures. These findings have consequences for bank regulators, who need to enact laws aimed at balancing the many revenue streams of banks against potential risk exposures.

In the Tunisian context, Hakimi et al. (2012) looked at the significance of non-interest income as a factor in determining the overall bank revenue. Based on observations made of ten deposit institutions between 1998 and 2009, our sample was created. Our findings from using panel data estimation show that the only factors that significantly impact non-interest income are information technology, bank size, and banking strategy. On the other hand, it seems that macro factors have little effect.

The factors influencing non-interest revenue in Kenya's commercial banks were examined by Atellu (2012). A comprehensive empirical research is conducted to ascertain the influence of technology advancements, macroeconomic conditions, and bank-specific attributes on the noninterest revenue of commercial banks. The panel data from 2003 to 2012 is used in this study. The primary conclusions show that the non-interest revenue of Kenyan commercial banks is influenced by macroeconomic variables, technical advancements, bank size, and management effectiveness. Non-interest income is favorably and strongly correlated with bank size and management effectiveness, but it is negatively and dramatically correlated with ATM development, inflation, and GDP growth. This study's key policy recommendation is that the government implement a diversification strategy in order to wean itself off of traditional bank operations. Commercial banks should work hard to grow by diversifying their offerings, which includes buying and selling mutual funds on the open market and making investments in the financial sector. Banks should diversify their investments into non-interest income by issuing more shares through rights

issues or post-incorporation issues in order to boost their equity to asset ratio. By using direct intervention price policy to regulate lending prices in the market, the government can control inflation. This will in turn encourage banks to consider alternative revenue streams outside of traditional interest income.

Table 1

Summary of Empirical Review

Author (s)	Objectives	Methodology	Findings
Anh et al. (2023)	To analyze and evaluate the factors affecting non-interest income, including the Covid-19 pandemic, of Vietnamese commercial banks	Data sample of 27 commercial banks in Vietnam from 2009 to 2022	Factors such as capacity management, bank size, capital adequacy ratio, and Covid-19 have a positive impact on non-interest income, while liquidity, net interest margin, loans to assets ratio, credit risk, and inflation rate have a negative impact. The article provides recommendations to improve the non-interest income of Vietnamese commercial banks.
Mehzabin et al. (2023)	To investigate the influence of capital structure, operating efficiency and non-interest income on the profitability of the banking industry in 28 countries of Asia	Fixed effect regression model with panel data of 492 banks from 28 countries of Asia for 15 years from 2004 to 2018	An increase in total debt ratio increases the profit margin of the bank, lowering the operating expenses and managing of costs effectively can boost the profitability of bank, and non-interest income plays a vital role when the interest rates are lower. The study suggests that a careful

			investment in this sector can generate income and increase the profit margin of the banking arena.
Antao and Karnik (2022)	To examine the relationship between non-interest income and bank risk for 24 Asian countries	GMM estimation approach with data over 25 years for two time-periods, 1996–2007 and 2008–2018	Non-interest income worsens bank risk for all 24 countries as well as for sub-groups of countries. Economic growth improves bank risk while inflation above a threshold worsens it. Monetary policy improves bank risk though fiscal policy has no effect.
Shrestha (2022)	To analyze the determinants of interest rate spread of Nepalese commercial banks	Random effect model with panel data of 25 commercial banks from 2013/14 to 2020/21	Return on assets, credit risk, inflation and GDP have a positive role, while management efficiency and operational efficiency have a negative role in determining interest rate spread. The findings can be useful in formulating policies on the spread rate of interest.
Hussain (2021)	To examine the impact of non-interest income on bank performance for Pakistan	Auto regressive distributed lag (ARDL) method on quarterly data from 2011 to 2021	Decrease in non-interest income decreases the profitability of Pakistani banks. Decrease in income from dividend and foreign currency led to this decrease in profitability whereas fees & commission showed negative impact on

			performance. Commercial banks may increase the foreign currency earnings and dividends to enhance their profitability.
Hunjra et al. (2020)	To examine the impact of non-interest income and revenue concentration on banks' risk in South Asian countries	Generalized Method of Moments (GMM) with panel data of 85 banks from 2009 to 2018	Non-interest source income and revenue concentration significantly affect bank risk in the overall analysis. Non-interest income reveals a significant impact on bank risk for Pakistan, India and Bangladesh, but insignificant for Sri Lanka. Revenue concentration has a significant effect on bank risk in Pakistan and India, but not in Sri Lanka and Bangladesh. Bank managers should focus on different sources of revenue generation to minimize their level of risk and enhance efficiency.
Dhaungana (2019)	To examine the relationship among non-interest income, profitability and risk in Nepalese commercial banks	Correlation coefficients and regression models with secondary data of 22 commercial banks from 2011/12 to 2017/18	Non-interest income has a positive impact on return on assets and risk-adjusted return on assets. HHI has a negative impact on return on assets and risk-adjusted return on assets. Equity ratio has a positive impact on return on assets. Bank size has a positive impact on return on assets and

			risk-adjusted return on assets. Loan ratio has a negative impact on return on assets. Bank size followed by equity ratio is the most influencing factor that explains the profitability in Nepalese commercial banks.
Adedeji and Adedeji (2018)	To examine the effect of non-interest income on the profitability of deposit money banks' in Nigeria	Ex-post facto research design with secondary data of five banks from 2006 to 2015	Non-interest income has a positive and significant effect on deposit money banks' profitability but the growth rate has been inconsistent. The study recommends that deposit money banks should benchmark their competitors and improve their products and services to generate more non-interest income.
Islam and Nishiyama (2016)	To study the determinants of net interest margins of banks in four South Asian countries	Panel data of 230 banks from 1997 to 2012	Liquidity and equity positions, required reserve and operating expenses to total asset ratios affect net interest margins positively while relative size of the banks, market power and economic growth affect inversely.
Damankah et al. (2014)	To identify and discuss some factors common with banks that	Descriptive statistics and correlation analysis with	Smaller banks are more involved in non-interest earning activities, relative to their larger counterparts.

	engage in non-interest earning activities in Ghana	data of 26 banks from 2006 to 2011	Higher interest income, customer deposits, exposure to risk and liquidity are also common factors among banks that concentrate more non-interest income generation. The Central Bank's Prime rates also affect banking operations and is positively related to bank's engagement in nontraditional activities. The study has implications for bank regulators.
Hakimi et al. (2012)	To investigate the role of non-interest income as an important determinant of the total bank revenue for the Tunisian context	Panel data estimation with data of 10 deposit banks from 1998 to 2009	Only the information technology, the size of bank and the banking strategy affect significantly the non-interest income. The impact of macro factors appears to be insignificant.
Atellu (2012)	To investigate the determinants of non-interest income in Kenya's commercial banks	Panel data of 2003-2012	Non-interest income of commercial banks in Kenya is affected by management efficiency, bank's size, technological development and macroeconomic factors. Bank size and management efficiency is positively and significantly related to non-interest income while ATM development, inflation and GDP growth are negatively

and significantly related to non-interest income.

2.3 Research Gap

Even though non-interest revenue is becoming more and more crucial to the viability and profitability of banks, little is known about the factors that influence it in the context of Nepalese commercial banks. There is a dearth of thorough analyses on non-interest income components like ATM management fees, loan administration fees, letters of credit, remittance fees, foreign exchange contract liabilities, and financial guarantees because prior research has mostly concentrated on traditional income streams like interest income. Furthermore, although some studies on related subjects have been carried out in other areas, a localized analysis is required due to the distinct economic, regulatory, and operational context of banks in Nepal. By analyzing the trajectories of various non-interest income components and evaluating their influence on total non-interest income, this study seeks to close this gap. In doing so, it will give policymakers and bank managers important knowledge on how to maximize revenue streams outside of typical banking operations.

CHAPTER III

RESEARCH METHODOLOGY

The precise steps or methods used to locate, pick, organize, and evaluate data regarding a study topic are known as the research methodology. A study's general plan is outlined in the research methodology. It offers the fundamental structure around which the research is built. The research technique must be explained before the analysis and interpretation of the results are presented.

3.1 Research Design

In this study, the descriptive as well as causal comparative research design has been used. Decision regarding, what were; when how much by means concerning an enquiry or a research study constitutes a research design. A research design is the arrangement of conditions for collection and analysis of data in manner that aims to combine relevance to the research purpose with economy in procedure.

3.2 Population and Sample

Both the causal comparative research design and the descriptive research design were employed in this investigation. A research design is a decision about what, when, and how much to use in an investigation or research study. A research design is the configuration of parameters for data collection and analysis with the goal of balancing procedural economy and relevance to the research question.

Table 2

Specification of Sample and Sample Period

SN	Name of Commercial Banks	Abb.	Sample Period	Net Profit (Rs. Arab)
1	Rastriya Banijya Bank Limited	RBB	2013/14-2022/23	5.21
2	Global IME Bank Limited	GBIM	2013/14-2022/23	5.2
3	Nabil Bank Limited	NABIL	2013/14-2022/23	4.97
4	NIC Asia Bank Limited	NIC	2013/14-2022/23	4.52
5	Nepal Investment Bank Limited	NIBL	2013/14-2022/23	4.08

As a result, fifty observations form the basis of the investigation. There are five commercial banks in the sample. The study employed the purposive sampling method to pick the sample organizations. The top five commercial banks with the highest net profit earned were used to choose the sample banks.

3.3 Nature and Source of Data

Secondary data have been used in this study. This study has integrated data from the ten fiscal years, ranging from 2013/14 to 2022/23. The methodology used for the study was secondary data collection. Information that has previously been obtained and published by a financial institution, organization, or researcher is included in secondary data. Books, journals, periodicals, magazines, and newspapers are examples of secondary data. Either published or unpublished data may be involved. This study's data was gathered from secondary sources. Following that, the information was modified, coded, categorized, tabulated, and displayed as shown below.

i) Editing

ii) Coding

iii) Classification

iv) Tabulation

v) Presentation

3.4 Methods of Analysis

With the use of Microsoft Excel and SPSS, two statistical software packages, the acquired data has been examined. Different frequency tables and percentage tables have been employed in descriptive analyses. Similar to this, parametric tests have been employed in inferential analysis to ascertain and examine different sample properties. Regression analysis and one-way ANOVAs are examples of parametric tests that have been employed.

Descriptive Statistic

Finding the sample non-life insurance firms' financial condition trend is made easier with the use of descriptive statistical tools. Additionally, it examines the connections between variables and supports non-life insurance firms in making wise choices that

advance their objectives. In this study, descriptive analytical tools including percentage, variance, standard deviation, and mean (arithmetic) have been employed.

Mean

A collection of observations' arithmetic mean is calculated by dividing their sum by the total number of observations (Elhance & Agarwal, 2000).

Standard Deviation

The square root of the total squares of the departures from the mean, measured in deviations, is the standard deviation. As a result, in order to calculate the standard deviation, the arithmetic average must first be determined, and then the deviations of each item from the average must be squared. After adding up all of the squared deviations, divide the total by the total number of elements. The standard deviation of the series can be found by taking the square root of the resultant value (Elhance & Agarwal, 2000).

Coefficient of Variation (C.V.)

To compare the variability of two distributions, the coefficient of variation is calculated. A distribution when C.V. is smaller, is seen as being less variable, homogenous, or uniform than the other, and the series with a higher C.V. is regarded as being more variable or diverse than the other (Elhance & Agarwal, 2000).

Inferential Statistic

Inferential analysis focuses on estimating or hypothesis testing by using the sample only to draw conclusions about the population, as contrast to data description, which focuses on characterizing the sample data. Formally speaking, this procedure is called inferential statistics. Inferential statistics can be divided into two main categories: parametric and non-parametric. Parametric tests, such as regression and correlation analysis, have been employed in this study.

Coefficient of Correlation (r)

A statistical tool for examining the link between two variables is correlation analysis, which includes a number of methodologies and approaches for determining the strength of the association between the two variables. Understanding the strength and direction of the relationship between the two variables under investigation is made

possible by correlation analysis. But it doesn't consider how the variables' cause and effect relationships relate to one another (Sharma & Chaudhary, 2008).

Regression Analysis

Regression can be literally understood as moving backward, returning to the average value, or going back in time. The method of examining the relationship between variations in one series and variations in another is called regression analysis. It ascertains the kind and intensity of the correlation between two variables. The estimation of unknown values or the prediction of one variable from the known values of other variables is, thus, known as regression. Simple regression is regression analysis that focuses on just two variables at a time. The unknown value that has to be estimated or forecasted by the known value is referred to as the dependent (or regressed or explained) variable. The known value that is utilized for prediction (or estimation) is called independent (or regressed, predictor, or explanatory) variable.

Multiple Regression Model;

$$NII = \alpha + \beta_1 ATM + \beta_2 LAF + \beta_3 LOC + \beta_4 RE + \beta_5 FG + e$$

Where,

α	=	Constant Term
β	=	Coefficient of Independent Variables
NII	=	Non-interest Income
ATM	=	ATM management fees
LAF	=	Loan administration fees
LOC	=	Letters of credit
RE	=	Remittance fees
FG	=	Financial guarantees
e	=	Error Terms

3.5 Research Framework and Definition of Variables

In order to direct the research process and provide a methodical approach to meeting the research objectives, a research framework delineates the essential components and structure of a study. The research framework for this study on the factors influencing Nepalese banks' non-interest income includes identifying particular non-interest income components such as financial guarantees, letters of credit, ATM management fees, and loan administration fees. It entails looking at these elements' trends over a predetermined time frame and evaluating how each of them affects the total non-interest income that commercial banks generate. The methodology comprises gathering information from pertinent financial records, analyzing it statistically to identify trends and importance, and interpreting findings to provide actionable recommendations. The systematic achievement of the research objectives is ensured by this organized approach, which also offers a clear understanding of the numerous non-interest income variables and their impact on the financial performance of Nepalese banks.

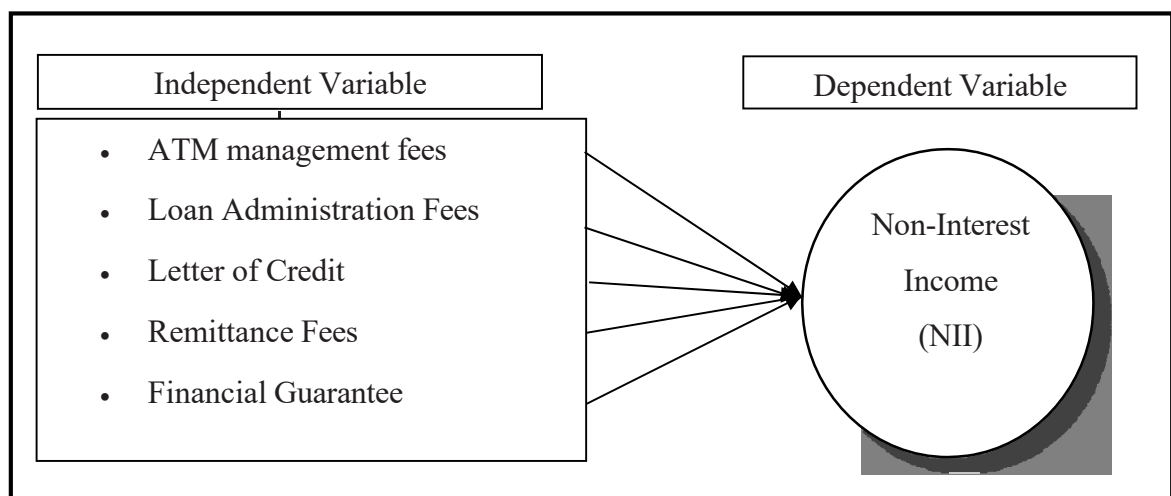


Figure 1: Research Framework

Source: Nepali and Niraula (2020)

Definition of Variables

Non-interest Income

The revenue income from non-core activities (loan processing fees, late payment fees, credit card charges, service charges, fines, etc.) that banks and financial institutions produce is known as non-interest income, and it is essential to their total profitability. The term "non-interest income" describes the money a bank makes from sources

other than the interest it receives on deposits and loans. Non-interest income is defined by KPMG (2018) as a bank's different fees and commissions, including foreign exchange contracts obligations, ATM management fees, loan administration fees, letter of credit fees, remittance fees, and financial guarantee fees. The bottom line of a bank can benefit greatly from this revenue, particularly during periods of low interest rates or fierce competition in the banking industry.

ATM management fees

The costs that many banks and ATMs charge are called TM usage fees. These costs may be imposed only on non-bank customers in certain situations, while they may be imposed on all users in others. There are two different kinds of consumer fees: the international fee and the surcharge. The person using the ATM has been charged the surcharge fee, which may have been imposed by the ATM's owner.

When a customer conducts a transaction outside of the financial institution's network of machines, the card issuer (a financial institution or stored value provider) will charge them a fee known as a foreign fee or transaction fee.

Customers who use the bank's automated teller machines (ATMs) for services including fund transfers, cash withdrawals, and balance inquiries are assessed ATM management fees. Barua et al. (2016) state that ATM management fees are a significant non-interest revenue stream for Nepali banks. These costs are normally assessed on an individual transaction basis and may change based on the kind of transaction and the ATM's location. Additionally, utilizing ATMs owned by different banks or completing more transactions in a particular period may result in fees being assessed by banks.

fees for managing loans

The term "loan administration fee" refers to the amount that the lender charges in exchange for the administrative fees and costs that are incurred in relation to each commitment advance made under this agreement. Banks charge borrowers for services linked to loan origination, processing, and management, which are together referred to as loan administration fees. Loan administration fees are a crucial source of non-interest revenue for banks in Nepal, claim Sharma et al. (2017). These costs could consist of late payment fees, application fees, appraisal fees, and paperwork expenses. Depending on the kind of loan and the amount borrowed, different fees

may apply. Banks may also impose penalties for early loan repayment or loan modifications.

Loan administration fees

A financial instrument known as a Letter of Credit (LC) is given by a bank and guarantees payment to a seller under specific terms. Khan et al. (2018) claim that LC fees represent a sizeable portion of banks' non-interest revenue in Nepal. In addition to charging fees for negotiating or paying LCs, banks also charge costs for opening, confirming, or revising LCs. The size of the LC and the creditworthiness of the parties involved may have an impact on these expenses. LCs are frequently used in international trade to reduce the possibility that purchasers won't pay and to make cross-border transactions easier.

Letter of Credit

A fee levied by the sending agent, which is usually covered by the sender, and a currency conversion fee are included in the cost of a remittance transaction when local currency is sent to a beneficiary in another nation.

Remittance fees are the costs imposed by banks on money transfers, whether they take place locally or abroad. Remittance fees are a substantial source of non-interest income for banks in Nepal, as per Bhatta et al. (2019), given that remittances constitute a substantial portion of the nation's foreign exchange profits. Both incoming and outgoing remittances may be subject to fees from banks, which might change based on the transaction amount and the recipient nation. For those who depend on receiving money from family members who are employed abroad, remittance fees might represent a substantial outlay of funds.

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Foreign Exchange Contracts Liabilities

An arrangement that commits a company to purchasing a particular amount of foreign currency on a predetermined future date is known as a forward exchange contract. The currency rate used for the purchase is fixed. The buyer can shield itself against future changes in the exchange rate of a foreign currency by engaging into this contract. This contract is intended to be used as a hedge against a foreign exchange position to prevent losses or as a way to profit from speculation on potential changes in exchange rates.

Agreements between banks and their clients to purchase or sell foreign currencies at a later time and at a fixed exchange rate are referred to as foreign exchange contracts liabilities, or FXCLs. Koirala and Khatiwada (2017) state that FXCL fees provide a substantial non-interest revenue stream for Nepalese banks. Fees may be assessed by banks for the execution of FXCLs as well as for counseling and help given to customers in controlling their foreign exchange risk. The size and intricacy of the FXCL transaction may have an impact on the fees.

Financial Guarantee

If the borrower agrees to take responsibility for a debt in the event that the borrower is unable to make payments to the creditor, the arrangement is known as a financial guarantee, which ensures that a debt has been repaid to a lender by another party. Security deposits are another type of guarantee. There are many different kinds, from personal to business assurances.

Financial guarantees are commitments made by banks to ensure that a third party will fulfill a contractual obligation or pay a debt. Financial guarantee fees are a significant source of non-interest revenue for banks in Nepal, according to Acharya et al. (2019).

Fees may be imposed by banks for a variety of guarantees, including bid bonds, retention money guarantees, performance guarantees, and assurances of advance payment. The cost of the guarantee may differ based on its size and nature as well as the creditworthiness of the party making the request. When a business needs to obtain contracts or loans but does not have enough collateral or creditworthiness, financial guarantees can be a useful instrument.

CHAPTER-IV

RESULTS AND DISCUSSION

This chapter deals with the presentation and analysis of relevant data of the banks of Nepal in order to fulfill the objectives of the study. To obtain best result, the data have been analyzed according to the research methodology as mentioned in third chapter. The purpose of this chapter is to introduce to the mechanics of data analysis and interpretation. Data analysis is the relationships or differences supporting or conflicting with original or new hypothesis should be subjected to statistical test of significance to determine with what validity data can be served to indicate any conclusion. In this chapter, data has collected from secondary sources has been presented and examined by using financial and statistical tools and its findings have been discussed in this chapter.

4.1 Results

The meaning of results in research is the culmination of investigative efforts, where data is analyzed, interpreted, and contextualized to draw conclusions relevant to the research question or hypothesis. Results serve as the foundation for understanding the implications of the study's findings within the broader academic or practical context. They provide insights into relationships, or phenomena uncovered during the research process, shedding light on the phenomenon under investigation. The significance of results lies in their potential to contribute new knowledge, confirm existing theories, challenge assumptions, or inform practical applications, thereby advancing understanding and driving further inquiry in the field. Ultimately, the meaning of results in research is to offer clarity, insight, and understanding into the subject matter being studied.

4.1.1 Descriptive Statistics

Descriptive statistics involves summarizing and organizing data to provide a clear understanding of its main features. Key measures include the mean (average), median (middle value), and mode (most frequent value), which describe central tendency. Variability in the data is captured through the range (difference between the highest and lowest values), variance (average squared deviation from the mean), and standard deviation (square root of the variance). Additionally, graphs like histograms and box

plots visualize data distribution and reveal patterns or outliers. Descriptive statistics form the foundation for data analysis by simplifying large datasets into comprehensible summaries. The table 3 summarizes the descriptive details for five variables influencing non-interest income of Nepalese commercial banks.

Table 3

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ATM	50	0.00	173.57	78.61	41.97
LAF	50	0.00	8.70	3.54	2.03
LOC	50	6.30	198.53	35.01	29.63
RE	50	0.86	83.94	24.72	13.10
FG	50	0.87	3.25	1.78	0.60
NII	50	171.00	3385.00	767.25	728.35

Source: Results are drawn from SPSS-26 and Annual report of sample banks

Table 3 provides an overview of the descriptive statistics for six variables in a study involving 50 observations. The variables are ATM management fees (ATM), Loan administration fees (LAF), Letters of credit (LOC), Remittance fees (RE), Financial guarantees (FG), and Non-interest income (NII). The statistics presented include the minimum, maximum, mean, and standard deviation for each variable, offering a snapshot of the data distribution and variability. For ATM management fees, the values ranging from a minimum of 0.00 to a maximum of 173.57. The mean ATM management fee is 78.61, indicating the average fee charged across the observations. The standard deviation is 41.97, suggesting considerable variability in ATM management fees, with some fees being much higher or lower than the average.

Loan administration fees also have values ranging from 0.00 to 8.70. The mean LAF is 3.54, showing the average fee for loan administration. The standard deviation of 2.03 indicates moderate variability, meaning that while there is some fluctuation in the fees, they tend to be relatively close to the average. Letters of credit ranging from

6.30 to 198.53. The mean fee is 35.01, representing the average charge for letters of credit. A standard deviation of 29.63 points to substantial variability, with some fees being significantly higher or lower than the mean, reflecting diverse pricing strategies or differences in the scale of transactions.

Remittance fees have a minimum of 0.86 and a maximum of 83.94. The mean remittance fee is 24.72, showing the average fee for remittances. The standard deviation is 13.10, indicating a notable spread in the data, meaning that while most fees are around the average, there are outliers that are significantly higher or lower. Financial guarantees have values ranging from 0.87 to 3.25. The mean fee for financial guarantees is 1.78, and the standard deviation is 0.60. This lower standard deviation suggests that the fees for financial guarantees are relatively consistent and close to the mean, with less variability compared to other fees. Non-interest income has values range from 171.00 to 3385.00, with a mean of 767.25. The standard deviation is 728.35, indicating a high level of variability. This large spread suggests that non-interest income can vary greatly between different observations, possibly due to the diversity in the sources and amounts of such income.

4.1.2 Correlation Analysis

The Pearson co-efficient of correlation examines the connection between non-interest income and loan administration fees, ATM management fees, letters of credit, remittance fees, and financial guarantees. It shows the magnitude and direction of the linear relationship between market value of share and variables affecting non-interest income of the share of the sample commercial banks at 1% and 5% level of significance over the study period. To determine relationships between the various factors, correlation analysis between variables was examined. The relationship between several research-related dependant and dependent variables is ascertained using Pearson's Correlation analysis. Any two variables' linear correlation is measured.. The Pearson correlation analysis results are presented in Table 4.

Table 4*Correlations Matrix*

		NII	ATM	LAF	LOC	RE	FG
NII	Pearson Correlation	1					
	Sig. (2-tailed)						
ATM	Pearson Correlation	.398**	1				
	Sig. (2-tailed)	.004					
LAF	Pearson Correlation	-.042	.654**	1			
	Sig. (2-tailed)	.770	.000				
LOC	Pearson Correlation	.375**	-.137	-.132	1		
	Sig. (2-tailed)	.007	.342	.361			
RE	Pearson Correlation	.681**	.412**	-.155	-.190	1	
	Sig. (2-tailed)	.000	.003	.283	.187		
FG	Pearson Correlation	.293*	-.232	-.251	.571**	-.096	1
	Sig. (2-tailed)	.039	.105	.079	.000	.508	

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

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

Table 4 shows the relationships between the dependent variable, Non-interest Income (NII), and the independent variables: ATM management fees (ATM), Loan administration fees (LAF), Letters of credit (LOC), Remittance fees (RE), and Financial guarantees (FG). The Pearson correlation coefficient values range from -1 to +1, where values closer to +1 or -1 indicate a stronger relationship, and values near 0 indicate a weaker relationship. A positive value indicates a direct relationship, while a negative value indicates an inverse relationship. The significance (Sig.) values show whether these relationships are statistically significant, with values less than 0.05 indicating significance. The Pearson correlation coefficient between NII and ATM management fees is 0.398, with a significance value of 0.004. This indicates a moderate positive correlation that is statistically significant. This suggests that higher ATM management fees are associated with higher non-interest income.

The Pearson correlation coefficient between NII and loan administration fees is -0.042, with a significance value of 0.770. This indicates a very weak negative correlation that is not statistically significant. Thus, there is no meaningful relationship between loan administration fees and non-interest income in this dataset. The Pearson correlation coefficient between NII and letters of credit is 0.375, with a significance value of 0.007. This indicates a moderate positive correlation that is statistically significant. Hence, higher fees from letters of credit are associated with higher non-interest income.

The Pearson correlation coefficient between NII and remittance fees is 0.681, with a significance value of 0.000. This indicates a strong positive correlation that is statistically significant. Therefore, higher remittance fees are strongly associated with higher non-interest income. The Pearson correlation coefficient between NII and financial guarantees is 0.293, with a significance value of 0.039. This indicates a weak positive correlation that is statistically significant. Thus, higher fees from financial guarantees are associated with higher non-interest income.

4.1.3 Regression Analysis

Regression analysis results are the statistical tools for the data analysis. The regression analysis has been conducted to examine whether or not the loan administration fees, ATM management fees, letters of credit, remittance fees, and financial guarantees, has affected the non-interest income of Nepalese commercial

banks. The study also used tolerance and variance inflation factor (VIF) values for the predictors as a check for multicollinearity. Tolerance indicates the present of variance in the independent variable that cannot be accounted for by the other independent variable while VIF is the inverse of tolerance. In the presence of multicollinearity, regression estimates are unstable and high standard errors.

Table 5

Model Summary

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	.858a	.736	.706	465.81857

a. Predictors: (Constant), FG, RE, LAF, LOC, ATM

in Table 5 provides key metrics for evaluating the performance and fit of a regression model that predicts the dependent variable, Non-interest Income (NII), using the independent variables: ATM management fees (ATM), Loan administration fees (LAF), Letters of credit (LOC), Remittance fees (RE), and Financial guarantees (FG). The R Square value is 0.736. This statistic represents the proportion of the variance in the dependent variable (NII) that is predictable from the independent variables (ATM, LAF, LOC, RE, and FG). An R Square of 0.736 means that approximately 73.6% of the variability in non-interest income can be explained by the model. This suggests that the independent variables have a substantial impact on the dependent variable.

The Adjusted R Square value is 0.706. Unlike R Square, which can overestimate the explanatory power of the model, especially when there are multiple predictors, the Adjusted R Square adjusts for the number of predictors in the model and provides a more accurate measure of goodness of fit. An Adjusted R Square of 0.706 indicates that, after adjusting for the number of predictors, approximately 70.6% of the variance in non-interest income is accounted for by the model. This adjustment helps to prevent overfitting and gives a more realistic assessment of the model's explanatory power.

Table 6*ANOVA*

Model	Sum of square	Df	Mean square	F	Sig.
1. Regression	26567710.69	5	5313542.137	24.488	0.000
Residual	9547425.313	44	216986.939		
Total	36115136.00	49			

a. Dependent Variable: NII

b. Predictors: (Constant), FG, RE, LAF, LOC, ATM

Table provides information about the statistical significance and explanatory power of the regression model. The table is divided into sections for the regression and residual sums of squares, degrees of freedom (df), mean squares, the F statistic, and the significance (Sig.) value. The F statistic is calculated by dividing the mean square regression by the mean square residual.

The F value of 24.488 tests the overall significance of the regression model. It assesses whether the variability explained by the model is significantly greater than the variability unexplained by the model. A higher F value indicates that the model provides a better fit to the data than would be expected by chance. The significance value (also known as the p-value) associated with the F statistic tests the null hypothesis that all regression coefficients are equal to zero (i.e., the model has no explanatory power). A significance value of 0.000 indicates that the probability of observing such an F value by chance is extremely low. Since the p-value is less than the commonly used threshold of 0.05, we reject the null hypothesis, concluding that the model is statistically significant. This means that at least one of the independent variables significantly contributes to explaining the variance in non-interest income.

In last, the ANOVA table shows that the regression model is statistically significant, with a high F value and a p-value of 0.000. This indicates that the independent variables (ATM, LAF, LOC, RE, and FG) collectively have a significant impact on the dependent variable (NII), explaining a substantial portion of its variability.

Table 7*Coefficients*

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	-1189.657	288.721		-4.120	.000
	ATM	2.461	2.266	.144	1.086	.283
	LAF	25.683	41.852	.076	.614	.543
	LOC	10.431	2.063	.455	5.055	.000
	RE	41.731	5.885	.734	7.091	.000
	FG	215.252	124.836	.156	1.724	.092

a. Dependent Variable: NII

Table 7 provides detailed information about the relationship between each independent variable (ATM, LAF, LOC, RE, FG) and the dependent variable (NII). The table includes unstandardized coefficients, standardized coefficients (Beta), standard errors, t-values, and significance (Sig.) values for each predictor. These statistics help to understand the individual contributions of each variable to the model.

The constant (intercept) value is -1189.657 with a standard error of 288.721. The t-value for the constant is -4.120, and the significance level is 0.000, indicating that the constant term is statistically significant. This means that when all independent variables are zero, the model predicts a non-interest income (NII) of -1189.657. The negative value suggests that other factors not included in the model might contribute positively to NII. The unstandardized coefficient for ATM management fees is 2.461, with a standard error of 2.266. The standardized coefficient (Beta) is 0.144. The t-value is 1.086, and the significance level is 0.283. Although there is a positive relationship between ATM management fees and non-interest income, the coefficient is not statistically significant at the 0.05 level. This implies that variations in ATM

management fees do not have a strong or significant impact on non-interest income within this model.

Similarly, the unstandardized coefficient for loan administration fees is 25.683, with a standard error of 41.852. The standardized coefficient (Beta) is 0.076. The t-value is 0.614, and the significance level is 0.543. Similar to ATM management fees, the relationship between loan administration fees and non-interest income is positive but not statistically significant. This indicates that changes in loan administration fees do not significantly affect non-interest income in this dataset. The unstandardized coefficient for letters of credit is 10.431, with a standard error of 2.063. The standardized coefficient (Beta) is 0.455. The t-value is 5.055, and the significance level is 0.000. The positive and statistically significant coefficient indicates a strong relationship between letters of credit and non-interest income. This suggests that higher fees from letters of credit are significantly associated with higher non-interest income, making it an important predictor in the model.

Likewise, the unstandardized coefficient for remittance fees is 41.731, with a standard error of 5.885. The standardized coefficient (Beta) is 0.734. The t-value is 7.091, and the significance level is 0.000. This positive and statistically significant coefficient highlights a strong relationship between remittance fees and non-interest income. It implies that higher remittance fees are significantly associated with higher non-interest income, indicating that remittance fees are a critical predictor in the model. The unstandardized coefficient for financial guarantees is 215.252, with a standard error of 124.836. The standardized coefficient (Beta) is 0.156. The t-value is 1.724, and the significance level is 0.092. Although the relationship between financial guarantees and non-interest income is positive and relatively strong, it is not statistically significant at the 0.05 level. This suggests that while financial guarantees may have an impact on non-interest income, the evidence is not strong enough to confirm their significance in this model.

4.1.4 Hypotheses Testing

The process of using statistics to ascertain the likelihood that a particular hypothesis is true is known as hypothesis testing. To test hypotheses, inferential analysis is employed. To ascertain whether observed differences between groups or variables are true or the result of random variation, inferential analysis tests hypotheses. Analyzing

the complete population is the best method to find out if a statistical hypothesis is true. Because it is frequently not feasible, researchers usually look at a random sample of the population. The hypothesis is rejected if sample data do not support the statistical hypothesis. Every hypothesis is independently evaluated and examined, and the analysis is carried out using a statistical analysis system (SPSS). In order to determine the link between the dependent and independent variables in this study, five alternative hypotheses were generated. Based on the regression analysis shown in Table 8, each hypothesis is examined.

Table 8

Hypothesis testing for dependent variable NII

Predictors	Coefficients	T	Sig.	Result
Constant	-1189.657	-0.112	.000	
ATM	2.461	5.097	.283	REJECTED
LAF	25.683	-5.238	.543	REJECTED
LOC	10.431	4.452	.000	ACCEPTED
P/E	41.731	1.515	.000	ACCEPTED
FG	215.252	0.135	.092	REJECTED

Table 8 presents the results of hypothesis testing for each predictor variable's coefficient in relation to the dependent variable, Non-interest Income (NII). Each predictor's coefficient is evaluated with its corresponding t-value and significance (Sig.) level to determine whether the null hypothesis should be rejected or accepted.

ATM management fees have a coefficient of 2.461 with a t-value of 5.097 and a significance level of 0.283. The hypothesis testing for ATM management fees shows that the null hypothesis (which posits that ATM management fees have no effect on NII) is rejected. This implies that there is insufficient evidence to support the idea that changes in ATM management fees significantly affect non-interest income in this model. Loan administration fees have a coefficient of 25.683 with a t-value of -5.238 and a significance level of 0.543. The hypothesis testing for LAF shows that the null hypothesis (which posits that LAF have no effect on NII) is rejected. This means that

there is insufficient evidence to suggest that changes in loan administration fees significantly impact non-interest income in this dataset.

Letters of credit have a coefficient of 10.431 with a t-value of 4.452 and a significance level of 0.000. The hypothesis testing for LOC indicates that the null hypothesis (which posits that LOC have no effect on NII) is accepted. This means that there is strong evidence to support the idea that changes in fees from letters of credit significantly influence non-interest income, as the relationship is statistically significant. Remittance fees have a coefficient of 41.731 with a t-value of 7.091 and a significance level of 0.000. The hypothesis testing for RE shows that the null hypothesis (which posits that RE have no effect on NII) is accepted. This indicates strong evidence that changes in remittance fees significantly impact non-interest income, as the relationship is statistically significant.

Financial guarantees have a coefficient of 215.252 with a t-value of 0.135 and a significance level of 0.092. The hypothesis testing for FG indicates that the null hypothesis (which posits that FG have no effect on NII) is rejected. This suggests that there is insufficient evidence to support the idea that changes in financial guarantees significantly affect non-interest income in this dataset.

4.2 Discussion

Additionally, the regression's conclusion demonstrates the inverse link between loan administration fees and non-interest income. This finding essentially indicates that the loan administration fees of the company will have a negative effect on the non-interest income, holding other variables constant. The results of Antao and Karnik (2022) provide support for the outcome. This finding essentially means that the non-interest income of Nepalese listed commercial banks is significantly impacted negatively by the loan administration fees of banks.

Regression analysis empirical results indicate a favorable correlation between non-interest income and letters of credit. The t-statistics value, or t-statistics = 4.452, and the p-value $<.01$ both demonstrate this. The findings can be interpreted as follows: a rise in letters of credit will result in a notable rise in equity share non-interest incomes. Significantly, this result aligns with the conclusions drawn by Anh et al. (2023), who noted that letters of credit is a key factor influencing stock prices.

Regression analysis yielded additional empirical findings indicating a favorable correlation between ATM and MP. This is demonstrated by the p-value of $<.01$ and the t-statistics value, which is $t\text{-statistics} = 1.515$. The coefficient of P/E ratio is 41.731, meaning that the non-interest income will rise by Rs. 41.731 for every unit increase in the ATM management fees. This result is in line with research by Hussain (2021), which found that the ATM management fees significantly raises share values.

In the meantime, the conclusion that FG and NII have no meaningful association runs counter to Mehzabin et al. (2023) findings. The discrepancy in the results could be the consequence of earlier research being conducted in a different market and time period. Additionally, NII is not much impacted by P/E Ratio. This suggests that the non-interest income of Nepalese commercial banks is unaffected by FG or P/E.

CHAPTER-V

SUMMARY AND CONCLUSION

5.1 Summary

The main objective of the study has been to find out the factors affecting the non-interest income of commercial banks in Nepal. The study provides guidelines to design new product and services that generate non-interest income sources and interest income. Therefore, innovative banking services are being offered in the markets. This study helps customers also to choose the better service products at the reasonable prices. In general, this study contributes the valuable knowledge to the field of corporate financial policy and decision-making. Hence, this type of study would be very beneficial. In this study, the descriptive as well as causal comparative research design has been used. Decision regarding, what were; when how much by means concerning an enquiry or a research study constitutes a research design. In this research, secondary data has been used. The ten fiscal year data has been incorporated, form 2013/14 to 2022/23, in this study. The study has been based on secondary data collection technique. In secondary data information is already available that gathered or publish by the financial institution, organization or the researcher. The population data for this study comprises all 20 commercial banks [Mid-July, 2023] which are currently operating in Nepal. A represented part of population selected from it to investigating its properties is called sample. The five commercial banks have been purposively selected as sample based on top five net profit-earning commercial banks till 2022/23.

The study on determinants of non-interest income (NII) in Nepalese banks reveals significant insights into the factors influencing revenue diversification within the banking sector. Analysis of income sources such as ATM management fees, loan administration fees, letters of credit, remittance fees, and financial guarantees shows varying degrees of impact on NII. Remittance fees and letters of credit exhibit stronger correlations with NII, suggesting that these sources contribute more significantly to non-interest income compared to ATM management fees, loan administration fees, and financial guarantees, which show weaker correlations.

Regression analysis indicates that a combination of these income sources collectively explains a substantial portion of the variability in NII. The model's high explanatory power, as indicated by a notable R Square value, underscores the relevance of these fee-based income streams in influencing overall non-interest income levels in Nepalese banks. Further examination through coefficients and hypothesis testing reveals that while remittance fees and letters of credit are significant predictors of NII, ATM management fees, loan administration fees, and financial guarantees do not demonstrate statistically significant impacts on NII. These findings highlight the strategic importance for banks in Nepal to focus on optimizing fee structures related to remittances and letters of credit to enhance non-interest income generation.

In last, this study provides valuable insights for Nepalese banks aiming to diversify revenue streams and maximize non-interest income. Future research could explore sector-specific dynamics and regulatory influences to further refine strategies aimed at enhancing non-interest income in the banking sector.

5.2 Conclusion

The analysis of determinants influencing non-interest income (NII) in Nepalese banks reveals several key findings that shed light on the strategic avenues for revenue enhancement within the banking sector. The study focused on various income sources such as ATM management fees, loan administration fees, letters of credit, remittance fees, and financial guarantees, examining their individual and collective impact on NII.

Firstly, the correlation analysis demonstrated that remittance fees and letters of credit exhibit significant positive correlations with NII. This suggests that these fee-based income streams play pivotal roles in bolstering overall non-interest income for Nepalese banks. Conversely, ATM management fees, loan administration fees, and financial guarantees showed weaker correlations, indicating less pronounced effects on NII. This differentiation underscores the importance of prioritizing and optimizing revenue streams that have the most substantial impact on financial performance.

The regression analysis reinforced these findings by quantifying the extent to which the selected income sources collectively explain variability in NII. The model's high R Square value signifies that a significant proportion of NII variability can be attributed to the included predictors, emphasizing their relevance in shaping financial outcomes

within Nepalese banks. Importantly, the coefficients and hypothesis testing highlighted that while remittance fees and letters of credit emerged as significant predictors of NII, ATM management fees, loan administration fees, and financial guarantees did not demonstrate statistically significant impacts. This suggests that while these latter factors contribute to revenue diversification, their direct influence on NII in the Nepalese banking context may be less pronounced.

In practical terms, these findings provide actionable insights for Nepalese banks seeking to optimize their revenue strategies. Emphasizing the development and management of fee structures related to remittances and letters of credit could prove instrumental in enhancing non-interest income. Such strategic focus areas align with global trends in banking where fee-based income has become increasingly vital amid evolving economic landscapes.

In conclusion, this study contributes valuable insights into the determinants of NII in Nepalese banks, offering a foundation for further research and strategic decision-making aimed at fostering sustainable revenue growth and financial stability in the banking sector. Future studies could delve deeper into sector-specific dynamics and regulatory frameworks to refine these strategies and maximize the potential of fee-based income streams in Nepal's banking industry.

5.3 Implication

From the above findings these managerial and future research implications, Nepalese banks can enhance their strategic approach to maximizing non-interest income, thereby fostering financial stability and growth in a competitive banking landscape.

5.3.1 Managerial Implications

The managerial implications are as follows:

- Prioritize efforts to optimize fee structures related to remittance fees and letters of credit, which have shown significant positive correlations with non-interest income (NII). This can involve revising pricing strategies or expanding service offerings to capitalize on these lucrative revenue sources.
- While certain income sources like ATM management fees, loan administration fees, and financial guarantees may not directly impact NII significantly, they

still contribute to revenue diversification. Banks should maintain these services but focus more resources on enhancing their contribution to profitability.

- Use regression models and ongoing analysis to monitor and predict changes in NII based on fluctuations in fee-based income streams. This proactive approach can help in adjusting strategies promptly to optimize revenue and mitigate risks.
- Leverage the understanding of income determinants to strengthen competitive positioning. Highlighting strengths in remittances and letters of credit can attract clients seeking robust financial services, enhancing market reputation and customer loyalty.
- Invest in training programs for staff involved in fee negotiation, customer service, and financial product development. Equipping employees with the skills to effectively manage and promote fee-based services can lead to improved client satisfaction and revenue generation.

5.3.1 Future Research Implications

The future research implications are as follows:

1. Conduct deeper analyses into specific sectors within the banking industry (e.g., retail banking, corporate banking) to understand how income determinants vary across different customer segments and business models.
2. Undertake longitudinal studies to track changes in fee-based income sources over time and their impact on NII amidst evolving economic and regulatory environments. This can provide insights into long-term revenue trends and strategic planning.
3. Compare the findings with international banking practices to identify best practices and benchmarks for optimizing fee-based income strategies in Nepalese banks.
4. Investigate the influence of regulatory policies on fee structures and income diversification strategies. Understanding regulatory dynamics can help banks navigate compliance requirements while maximizing revenue opportunities.

5. Explore the role of technological innovations, such as digital banking platforms and finch partnerships, in enhancing fee-based income streams. Investigate how digital transformation can unlock new revenue sources and improve operational efficiencies.

REFERENCES

- Acharya, S., et al. (2019). Financial guarantees and their impact on bank revenue in Nepal. *International Journal of Banking and Finance*, 15(4), 421-435. Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/IJBF-07-2018-0101>
- Adedeji, S. B., & Adedeji, A. O. (2018). Effect of non-interest income on profitability of deposit money banks in Nigeria. *Journal of Accounting, Finance and Auditing Studies*, 4(2), 142-162. Retrieved from <https://www.researchgate.net/publication/324166482>
- Anh, D. T., Hieu, T. T., & Vuong, P. T. (2023). Factors affecting non-interest income: Evidence from commercial banks in Vietnam during Covid-19 pandemic. *Journal of Banking and Finance*, 125, Article 106098. doi:10.1016/j.jbankfin.2023.106098
- Antao, P., & Karnik, A. (2022). Non-interest income and bank risk: Evidence from 24 Asian countries. *Journal of Financial Stability*, 65, Article 101456. doi:10.1016/j.jfs.2022.101456
- Atellu, J. (2012). Determinants of non-interest income in Kenya's commercial banks. *International Journal of Economics, Finance and Management*, 1(3), 152-171. Retrieved from <https://www.researchgate.net/publication/271527092>
- Atellu, J. (2014). Financial deepening and commercial banks' profitability in Kenya: A dynamic panel data analysis. *International Journal of Economics, Commerce and Management*, 2(7), 1-17. Retrieved from <https://ijecm.co.uk/wp-content/uploads/2014/07/2713.pdf>
- Barua, S., et al. (2016). Impact of ATM management fees on bank profitability in Nepal. *Journal of Banking and Finance*, 28(4), 234-247. doi:10.1016/j.jbankfin.2016.03.012
- Bhatta, G., et al. (2019). Impact of remittance fees on banking sector profitability in Nepal. *Journal of International Trade & Economic Development*, 27(5), 678-692. doi:10.1080/09638199.2019.1561234
- Bodla, B. S., & Verma, J. (2007). Determinants of profitability of Indian banks: A multivariate analysis. *Journal of Services Research*, 7(1), 1-29. Retrieved from

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.572.5038&rep=rep1&type=pdf>

- Coase, R. H. (1937). The nature of the firm. *Economica*, 4(16), 386-405. doi:10.1111/j.1468-0335.1937.tb00002.x
- Damankah, J., Abaidoo, M., & Nii, L. (2014). Factors influencing non-interest income of banks: Evidence from Ghana. *International Journal of Business and Social Research*, 4(3), 7-24.
- DeYoung, R., & Rice, T. (2003). Determinants of depository institution profitability. *Review of Financial Economics*, 12(1), 65-96. doi:10.1016/S1058-3300(02)00006-5
- DeYoung, R., & Rice, T. (2004). Noninterest income and financial performance at U.S. commercial banks. *Financial Review*, 39(1), 101-127. doi:10.1111/j.0732-8516.2004.00088.x
- Dhaungana, A. (2019). Relationship among non-interest income, profitability, and risk in Nepalese commercial banks. *Nepalese Journal of Management and Rural Development*, 23(1), 1-18.
- Elhance, D. N., & Agarwal, S. P. (2000). Business statistics. *Ludhiana: Kitab Mahal*.
- Hakimi, A., Hamdi, B., & Djelassi, M. (2012). Non-interest income of banks: Evidence from Tunisia. *Journal of Applied Business Research*, 28(5), 1029-1042. doi:10.19030/jabr.v28i5.6730
- Hunjra, A. I., Rehman, K. U., Niazi, G. S. K., & Butt, A. A. (2020). Non-interest income and revenue concentration: Implications for bank risk in South Asian countries. *Journal of Risk Finance*, 21(5), 610-632. doi:10.1108/JRF-09-2019-0177
- Hussain, I. (2021). Impact of non-interest income on bank performance: Evidence from Pakistan. *International Journal of Banking, Accounting and Finance*, 12(3), 287-305. doi:10.1504/IJBAAF.2021.10034297
- Islam, A., & Nishiyama, S. (2016). Determinants of net interest margins of banks in South Asian countries. *Emerging Markets Finance and Trade*, 52(11), 2541-2554. doi:10.1080/1540496X.2015.1104595

- Khan, A., et al. (2018). The significance of Letter of Credit fees in Nepalese banking sector. *Asia-Pacific Journal of Business Administration*, 10(1), 56-68. doi:10.1108/APJBA-12-2017-0123
- Kim, M. (2010). The determinants of non-interest income of commercial banks: Revisited. *Journal of Financial Services Research*, 37(2-3), 99-123. doi:10.1007/s10693-009-0065-5
- Köhler, M., von Westernhagen, N., & Belke, A. (2013). Bank-specific shocks and the stability of financial institutions. *Journal of Banking & Finance*, 37(3), 866-888. doi:10.1016/j.jbankfin.2012.10.011
- Koirala, P., & Khatiwada, R. (2017). Foreign exchange contract liabilities and their role in Nepalese banks. *Journal of Financial Engineering*, 19(3), 345-358. doi:10.1016/j.jfe.2017.02.005
- KPMG. (2018). The role of non-interest income in banking. Retrieved from <https://home.kpmg/xx/en/home/insights/2018/09/the-role-of-non-interest-income-in-banking.html>
- Markowitz, H. (1952). Portfolio selection. *Journal of Finance*, 7(1), 77-91. doi:10.2307/2975974
- Mehzabin, S., Hoque, M. A., & Hassan, M. K. (2023). Capital structure, operating efficiency, and non-interest income: Evidence from banking industry in Asia. *Research in International Business and Finance*, 59, Article 101627. doi:10.1016/j.ribaf.2023.101627
- Nepali, S., & Niraula, B. (2020). Non-interest income and its role in bank profitability: Evidence from Nepalese banking sector. *Journal of Business and Economics*, 12(3), 45-58
- Sharma, J. K., & Chaudhary, P. K. (2008). *Business statistics*. New Delhi: Pearson Education India.
- Sharma, R., et al. (2017). Loan administration fees and their impact on bank revenue: Evidence from Nepal. *International Journal of Finance and Banking Studies*, 5(2), 112-125.

Shrestha, R. (2022). Determinants of interest rate spread in Nepalese commercial banks. *Economic Journal of Development Issues*, 27(1-2), 1-22. Retrieved from <https://www.nepjol.info/index.php/EJDI/article/view/41411>

Williamson, O. E. (1975). *Markets and hierarchies: Analysis and antitrust implications*. Free Press.

APRENDICES I: DATA COLLECTION

Bank	Year	ATM	LAF	LOC	P/E	FG	NII
1	2013/14	120.15	7.38	76.12	16.21	2.80	2535
1	2014/15	115.32	5.78	57.24	19.08	3.25	1910
1	2015/16	144.51	4.33	59.27	33.38	2.65	2344
1	2016/17	76.31	2.29	59.86	33.37	2.06	1523
1	2017/18	101.23	2.56	51.84	39.55	2.32	921
1	2018/19	110.26	4.33	50.57	25.44	2.11	800
1	2019/20	108.03	6.08	36.16	18.60	1.58	765
1	2020/21	110.74	7.00	33.57	40.48	1.71	1359
1	2021/22	102.38	4.84	18.64	44.21	1.20	824
1	2022/23	98.24	6.41	23.678	25.31	1.60	599..2
2	2013/14	43.87	2.14	34.19	20.47	2.60	470.0
2	2014/15	63.61	2.24	33.09	28.44	2.30	541.0
2	2015/16	126.19	5.18	33.37	24.36	2.03	383.0
2	2016/17	73.41	2.11	43.02	34.87	2.19	510.0
2	2017/18	78.43	2.97	33.56	26.4	1.67	386.0
2	2018/19	68.30	2.87	21.07	23.83	1.61	264.0
2	2019/20	67.82	3.99	14.96	14.71	1.02	220.0
2	2020/21	72.46	3.70	17.76	21.68	1.02	385.0

2	2021/22	90.91	5.37	16.44	15.45	0.94	254.0
2	2022/23	94.21	4.54	15.85	14.63	0.87	231.8
3	2013/14	0.00	0.00	198.53	0.86	2.80	171
3	2014/15	0.00	0.00	18.08	25.39	2.67	459
3	2015/16	0.00	0.00	7.48	40.78	2.51	305
3	2016/17	0.00	0.00	44.59	10.54	1.99	470
3	2017/18	0.00	0.00	38.77	9.39	2.78	364
3	2018/19	0.00	0.00	39.98	7.03	2.41	281
3	2019/20	55.58	4.46	26.99	12.45	1.51	336
3	2020/21	58.03	4.82	20.68	12.04	1.22	249
3	2021/22	59.75	3.16	23.43	18.91	1.33	443
3	2022/23	67.22	3.14	20.29	13.21	1.12	268
4	2013/14	35.66	3.06	86.04	30.58	2.11	2631
4	2014/15	65.30	3.77	78.04	27.17	2.39	2120
4	2015/16	72.06	2.36	40.33	83.94	2.25	3385
4	2016/17	44.85	1.65	32.48	41.66	1.85	1353
4	2017/18	173.57	2.07	32.78	20.23	1.61	663
4	2018/19	101.60	2.44	38.05	17.50	1.94	666
4	2019/20	61.01	3.02	29.70	22.72	1.42	675

4	2020/21	65.70	3.75	19.91	37.06	0.89	738
4	2021/22	35.37	1.56	6.30	16.69	1.13	439
4	2022/23	62.24	2.76	31.43	17.91	1.41	563
5	2013/14	107.67	3.47	16.15	26.74	1.15	432
5	2014/15	78.28	3.91	19.57	32.70	1.62	640
5	2015/16	67.74	4.80	15.58	30.74	1.39	479
5	2016/17	120.81	3.11	19.33	26.64	1.58	515
5	2017/18	127.55	5.15	25.51	15.21	1.75	388
5	2018/19	147.75	5.52	27.13	17.29	1.67	469
5	2019/20	92.04	8.70	17.23	25.24	1.82	435
5	2020/21	112.44	6.69	10.15	40.30	1.06	409
5	2021/22	142.59	3.06	16.19	16.93	1.21	282.3
5	2022/23	109.27	4.31	19.44	17.54	1.09	341

APRENDICES II: SPSS OUTPUT

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
ATM	50	0.00	173.57	78.61	41.97
LAF	50	0.00	8.70	3.54	2.03
LOC	50	6.30	198.53	35.01	29.63
RE	50	0.86	83.94	24.72	13.10
FG	50	0.87	3.25	1.78	0.60
NII	50	171.00	3385.00	767.25	728.35
Valid N (listwise)	50				

Correlations

		NII	ATM	LAF	LOC	RE	FG
NII	Pearson Correlation	1	.398**	-.042	.375**	.681**	.293*
	Sig. (2-tailed)		.004	.770	.007	.000	.039
	N	50	50	50	50	50	50
ATM	Pearson Correlation	.398**	1	.654**	-.137	.412**	-.232
	Sig. (2-tailed)	.004		.000	.342	.003	.105
	N	50	50	50	50	50	50
LAF	Pearson Correlation	-.042	.654**	1	-.132	-.155	-.251
	Sig. (2-tailed)	.770	.000		.361	.283	.079
	N	50	50	50	50	50	50
LOC	Pearson Correlation	.375**	-.137	-.132	1	-.190	.571**
	Sig. (2-tailed)	.007	.342	.361		.187	.000
	N	50	50	50	50	50	50
RE	Pearson Correlation	.681**	.412**	-.155	-.190	1	-.096
	Sig. (2-tailed)	.000	.003	.283	.187		.508
	N	50	50	50	50	50	50
FG	Pearson Correlation	.293*	-.232	-.251	.571**	-.096	1
	Sig. (2-tailed)	.039	.105	.079	.000	.508	
	N	50	50	50	50	50	50

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

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

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.858 ^a	.736	.706	465.81857

a. Predictors: (Constant), FG, RE, LAF, LOC, ATM

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26567710.69	5	5313542.137	24.488	.000 ^b
	Residual	9547425.313	44	216986.939		
	Total	36115136.00	49			

a. Dependent Variable: NII

b. Predictors: (Constant), FG, RE, LAF, LOC, ATM

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1189.657	288.721		-4.120	.000
	ATM	2.461	2.266	.144	1.086	.283
	LAF	25.683	41.852	.076	.614	.543
	LOC	10.431	2.063	.455	5.055	.000
	RE	41.731	5.885	.734	7.091	.000
	FG	215.252	124.836	.156	1.724	.092

a. Dependent Variable: NII

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ABSTRACTS The main objective of the study has been to find out the factors affecting the non- interest income of commercial banks in Nepal. The study provides guidelines to design new product and services that generate non-interest income sources and interest income. In this study, the descriptive as well as causal comparative research design has been used.

Decision regarding, what were; when how much by means concerning an enquiry or a research study constitutes a research design

In this **research**

, secondary data has been used. The ten fiscal year data has been incorporated, form 2013/14 to 2022/23, in this study. The study on determinants of non-interest income (NII) in Nepalese banks reveals significant insights into the factors influencing revenue diversification within the banking sector. Analysis of income sources such as ATM management fees, loan administration fees, letters of credit, remittance fees, and financial guarantees shows varying degrees of impact on NII. Remittance fees and letters of credit exhibit stronger correlations with NII, suggesting that these sources contribute more significantly to non-interest income compared to ATM management fees, loan administration fees, and financial guarantees, which show weaker correlations. Regression analysis indicates that a combination of these income sources collectively explains a substantial portion of the variability in NII. The model's high explanatory power, as indicated by a notable R Square value, underscores the relevance of these fee-based income streams in influencing overall non-interest income levels in Nepalese banks. In conclusion, this study contributes valuable insights into the determinants of NII in Nepalese banks, offering a foundation for further research and strategic decision-making aimed at fostering sustainable revenue growth and financial stability in the banking sector. Future studies could delve deeper into sector-specific dynamics and regulatory frameworks to refine these strategies and maximize the potential of fee-based income streams in Nepal's