NON-INTEREST INCOME AND OPERATING EFFICIENCY OF COMMERCIAL BANKS IN NEPAL

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RECOMMENDATION

This is to certify that the thesis:

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VIVA-VOCE SHEET

We have conducted the viva-voce examination
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and found the thesis to be the original work of the student and written according
to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for Master's
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Rajendra Sharma Gautam

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LIST OF ABBREVIATIONS/ ACRONYMS

ABBS	Any Branch Banking System
A.D.	Anno Domini (The time from the birth of Jesus Christ)
AU	Assets Utilization
B.S.	Bikram Sambat
CEDA	Centre for Economic Development and Administration
etc.	et cetera
Fig.	Figure
FU	Funds Utilization
F.Y.	Fiscal Year
HIMALAYAN	HIMALAYAN BANK LIMITED
ICCMT	International Chamber of Commerce Management Team
i.e.	that is to say
KIST	KIST BANK LIMITED
Ltd.	Limited
MFIs	Micro Finance Institutions
NABIL	NABIL BANK LIMITED
NGOs	Non-Governmental Organizations
NIBL	NEPAL INVESTMENT BANK LIMITED
NIM	Net Interest Margin
NNIM	Net Non-Interest Margin
NPAs	Non-Performing Assets
NRB	Nepal Rastra Bank (The Central Bank of Nepal)
p.	page or page number
P.E.(r)	Probable Error
Pvt.	Private
ROA	Return on Assets
ROE	Return on Equity
SCBL	STANDARD CHARTERD BANK LIMITED
TA	Total Assets
URL	Uniform Resource Locator
viz.	namely
via	through

www	world wide web
&	and
%	percent or percentage

CHAPTER I

INTRODUCTION

This chapter is concerned with introductory phenomenon of the study. It starts with background of the study and highlights the problems that commercial banks are facing at present in relation to non-interest income and operating efficiency. It also explains why the research is carried out and what it aims, with adding significance of the study, limitations of the study and at last it shows how the study report is organized.

1.1 Background of the Study

Financial institutions are the financial intermediaries. They collect small and scattered saving of the individuals and swiftly mobilize it in the productive sector in the form of investment or loan. Saving and loan associations, banks, mutual funds, pension funds, credit unions, life insurance companies etc. are the examples of financial intermediaries. They are the most important financial institution in thousand of local towns and cities of the world.

Traditionally, Banks and other financial institutions were same but in modern time they work differently. Financial institutions have been limited on their work. So, they are classified into different categories such as commercial banks, development banks, finance companies, micro-finance companies, co-operatives etc. In modern Nepal, the banks are not financial institutions. The meaning of the banks has been written to commercial banks. Similarly, financial institutions meaning have for such institutions which are licensed by NRB but these apart from commercial banks. It is also included in Bank and Financial institution related act -2063 B.S. and under the combination section (2) and (47). However, Nepalese people know development banks and some MFIs are also the banks. It is their conventional perception only if we considered the meanings. Except Nepal, Financial institutions are also known as commercial banks. However, the particular name of their works may be different.

B. K. (2006) stressed that the term commercial banking is no longer a particularly good one for two reasons. *First*, bank are no longer the exclusive

supplier of credit for financing short-term business needs and thus the term does not adequately distinguish banks from certain other financial institutions. *Second,* Commercial banks have long since, ceased to adhere to the commercial loan theory *of* banking in the types of assets they acquire. Today bank holds many long-term loans to business, government and the expression. Commercial banking can therefore, be misleading if taken literally. Nevertheless the weight of tradition is such that the term commercial banking is still widely used to differentiate banks from other financial institutions.

However the meaning and definition of parties, simply the banks are institutions that deal in money and its substitutes. They accept deposits, make loans, and derive a profit from the difference in the interest paid to lenders (depositors) and charged to borrowers, respectively. From these deposits the banks make loans to individuals, business, government agencies and other bank. Banks also profits from fee charged for services such as checking accounts, credit cards and mortgages. Many banks now offer a number of other investment products and financial service including retirement accounts, annuities, mutual funds and investment management.

Commercial banks in Nepal are 'A' class organized institution licensed by NRB. They were established with a view to provide short-term debt necessary for trade and commerce of the country along with other ordinary banking business such as collecting the surplus in the form of deposit, lending debts by discounting bills of exchange, accepting valuable goods in security, acting as an agent of the client etc.

Ross (2002) stressed that there are rapid diversifications in the various sectors causing more fluctuation in interest rate as well as other matters also. In this condition, commercial banks are contributing their effort more aggressively towards to generate large amount of fee income through selling services such as security brokerage, insurance and trust services rather than income generate from loans. Banker now came to know that the fee incomes or service charges are the promising channel for boosting their income. Such incomes definitely assisting more adequately to commercial banks insulating from fluctuations in interest rate (p.132).

Koch and Scott (2004) concluded that likewise, a common view today is arising enthusiastically in the banking sectors that most banks must rely on non-interest income more whereas less to net interest income to be successful. It can be categories as highest earning banks that basically generate income from non-interest income. However, some of the fee incomes are stable whereas others are

highly volatile due to cyclical activities. Thus, an important issue has come to among the bank managers is that to obtain higher profit, it is necessary to make an appropriate customer and business mix focusing on fee based revenues (p.195).

At last, sources of income other than earning from loans and securities are called simply non-interest income. In other words, non-interest income is an important income to banks, which is received through operating on- and -off- balance sheet activities such as trust department services, service charge on deposit accounts, trading assets and liabilities (investment made and others), miscellaneous fees and charges for other banks' services. Now a day, due to the significant changes in the overall aspect of the community, its' share on total income is also growing. It directly affects on operating efficiency. Similarly, if the efficiency is high, the activities of leading commercial banks such as SCBL, NIBL, NABIL, HIMALAYAN, KIST in Nepal may lead for all to be globalized. In this way, they can run/drive their banking business towards the coming world with certainly.

1.2 Focus of the Study

Commercial banks are financial intermediaries, which provide the financial innovations to their clients. Specially, they help to facilitate trade and commerce in the nation. Instead of banking services, commercial banks generate mainly two types of incomes such as interest and non-interest income. The income from loan and advances, investment, agency balances, money at call and short notice as well as other income are included in interest income. Similarly, income from commission and discount, exchange gain/loss, non-operating income and other operating income are included in non-interest income. However, this study focuses on non-interest income of commercial banks. Likewise, it should be better operating efficiency to generate more non-interest income. Thus, the whole energy and effort is concentrated on analysis of non-interest income and operating efficiency of sampled commercial banks. More specifically the study focuses on trend of earning related ratios such as non-interest income to gross revenue, non-interest income to average assets, non-interest income per employee, net non-interest margin and trend of efficiency ratios such as non-interest expenses to operating revenue, assets utilization ratio, funds utilization ratio, average expense ratio etc. over the study period.

1.3 Statement of the Problem

Commercial bank is an institution that operates mainly for profit. Such profit is very important for its future growth and expansion. The profit of commercial banks maximize when their income increases and expense decreases. Basically, there are two sources of income i.e., interest and non-interest income of commercial banks. Generally, interest incomes are seemed specific with fewer titles whereas non-interest incomes have more title. On the other hand, interest is due to the transaction of credit, which is so complex- that there may not be found who have more hidden interest. Hence, it is also unsecured, can be proved by existence of non-performing assets that we are seeing time to time in banking industries and all natures respectively.

The tools, efficiency is tested to know, how the task is becoming well. Operating efficiency of a bank is tested to know about operating activities done before payment of tax to the government and dividends to the shareholders. The results of this measure may help to reduce operating expenses and also some bad debts, to increase operating incomes and sources, to plan and develop some strategies related to factors affecting by these etc.

At last, non- interest income can be achieved through operating activities. It may be easier and more important to attain than that interest income. However, *the consequences of noninterest income for the operating performance/efficiency of commercial banks are not well understood.* Although, the study of some chosen commercial banks in Nepal viz. SCBL, NIBL, NABIL, HIMALAYAN, KIST may consider that problem. Hence, the following questions have raised to carry out the study.

- What shares have the non-interest income on gross income of these commercial banks?
- Which sources are used to collect non-interest revenues?
- What qualities of earning and efficiencies from the operation of non-interest income can be achieved?
- How the earning and growth trends are moving in their direction with respect to different incomes?
- What is the relationship between operating efficiency and non-interest income?

1.4 Objectives of the Study

The overall objective of the study is to highlight the consequences of noninterest income for the operating performance/efficiency of selected Nepalese commercial banks in practices. However, the basic objective of the study is to suggest that there is to be seek a part of income rather than interest income. So, it helps to reduce other operating expenses, portion of bad debts and risks associated to interest incomes etc.

Being inside of these two main categories' objectives; the following set of specific objectives is used in the study.

- To determine the shares of non-interest income on gross income of those commercial banks.
- To assess the sources of non-interest income.
- To determine the qualities of earnings and efficiencies for non-interest income related factors.
- To measure the earnings and growth trends of different types of income in selected commercial banks.
- To examine the relationship between operating efficiency and non-interest income.

1.5 Significance of the Study

There are large varieties of a banks income in the modern world. However, the tough competition in all sectors may intervene a particular bank to go forward. So, in the study, the guidelines to follow the process for rapid change and gaining more are determined. So, study is brought to add knowledge about non-interest income and operating efficiency of commercial banks in Nepal for all people of the world. Some aspects of non-interest income are very crucial for the banks, so it may help them to formulate an appropriate policy and strategy to generate large amount of non-interest income in the banks.

It also be aimed that to fulfill the academic requirement in level of the Master of Business studies for the researcher himself. On the other hand, it is expected that the study will add a drop of literature to the literature on commercial banks in Nepal and for further researcher.

1.6 Limitations of the Study

This study has the following limitations.

- The study is basically based on secondary data.
- The study has based on five (5) leading commercial banks established in Nepal.
- The study has ignored environmental factor and government rules and regulations which affects the bank income.
- The study only covers five years period.
- Factors affecting the trend values like secular trend, seasonal variation, cyclical fluctuation are not considered in the study

1.7 Organizations of the Study

This research work has been organized in five chapters as mentioned below:

The first introduction chapter deals with background of the study, statement of the problems, objectives of the study, significance of the study and limitations of the study.

The second chapter review of literature has been presented for the conceptual framework and empirical review from books, reports, article journal, previous thesis etc. and research gap is also considers.

The third chapter, research methodology is incorporated including research design, population and samples, nature and sources of data, procedure employed for data collection, data processing and analysis method and lastly limitation of the methodology.

The fourth chapter deals with attractive presentation and analysis of collected data from different source. Based on the data analysis, operating efficiency of those banks is tested with respect to non-interest income and other related factors by using financial and statistical tools. It also includes the major findings of the study.

The fifth chapter presents the summary plus conclusion and offer suggestions for further improvement. And finally bibliography and appendixes are presented at the end of the report.

CHAPTER II

REVIEW OF LITERATURE

Reviewing different available literature from various sources are the major objective of this chapter. The prime focus for collecting external literacy information through various text books, research journals and research thesis. Various articles relating to different aspects of commercial bank will help to conduct the study smoothly. Review of literature is divided into two categories.

2.1 Theoretical Review

This sub-chapter presents the theoretical aspect of the study. It includes historical background of banking industry, evolution of banking in Nepal, the concepts of commercial banks, functions of commercial banks, sources of incomes and expenses along with non interest incomes that seem in Nepalese commercial banks and in practices lastly about operating efficiency.

2.1.1 Historical development of banking industry in Nepal

Banking service is the oldest service industry in Nepal. It has gone through the various stages of evolution and development since the Vedic times (200-1400 B.C.). Though the modern banking institution has a very recent origin in Nepal, some crude bank operations were in practice even in the ancient time in the Nepalese chronicle, it was recorded that the new era known as Nepal Sambat was introduced by Shankhadhar, a sudra merchant of Kantipur in 879 or 880 A.D; after having paid all the outstanding debts of the country. This shows the basis of money lending practice in ancient Nepal. Towards the end of the 8^{th} century, Gunkamdev had borrowed money to rebuild the Kathmandu valley. This record proves the existence of money lender function at the time.

Though the existence of money lender function start earlier, the process for the development of banking practices in Nepal can be categorized into following three periods.

First stage: This period covers the development in banking practices since ancient time before B.S. 1994 when the first commercial bank, Nepal Bank Ltd. was established.

In 11th century, during Malla Regime, there used to be community called Tankadhari, who used to lend the needy people. In the 12th century, Mandev introduced silver coins. In 15th century, Ratna Malla introduced copper coins. In 16th century Mahendra Malla lays down the prevail of Mahendra malli silver coins (mohor) and Siddhinarsingh Malla lays down the prevail of leather coins (chhalako paisa). During Prithivi Narayan Regime, king Prithvi Narayan Shah established "Koishi tosh khana" which was responsible for the managing financial transactions of the regime. Likewise, Jung Bahadur Rana established an institution called "Mulukikhana" for taking care of financial responsibility of the country.

These inconveniences led the Primeminister Ranodeep Singh (1877-1885) to establish Tejarath Addaha in Kathmandu, which was a government financial institution supplying credit to the people at 5% rate of interest against security of gold, silver and ornaments. The government servants were also entitled to take loans from Tejarath, repayable from their salary at the source. During the time of Chandra Samser (1901-1929) credit facilities of Tejarath were extended to some other parts of the country by opening its branches. Chandra Samser also established "Satahikhana" under "Mulukikhana" for facilitating exchange between Nepalese rupee and Indian rupee (company).

Second stage: This period commences from the period of establishment of Nepal Bank Limited (NBL) in B.S. 1994 before ADB/N(Agricultural Development Bank of Nepal) on B.S. 2024. NBL had the first commercial bank of Nepal to replace the older system of banking. It was established under the Nepal bank act of B.S.1993 and the late King Tribhuvan Bir Bikram Shahdev inaugurated this bank. At the time the authorized capital of NBL was Rs. 10 millions, divided into 100,000 shares of Rs. 100.00 each. NBL had a responsibility of attracting people towards banking sector from predominant sahu-mahajan's transaction and introducing other banking services as well. Being a commercial bank, it was natural that Nepal Bank Limited paid more attention to profit generating business. But it was the duty of the government to look into the neglected sector. Nepal Rastra Bank (NRB) was set up in 1956 A.D. (14th Baisakh 2013 B.S.) for the development of banking sector and to formulate the monetary policies, as a central bank of the country. Similarly, the

government established Rastriya Bannijya Bank (RBB) in B.S. 2022 (1965 A.D.), under Banijya bank act 1965 A.D. as a fully state owned commercial bank. As the agriculture is basic occupation of major Nepalese, Agricultural Development Bank of Nepal (ADB/N) was established in B.S. 2024 (1968 A.D.) with a view to promote the Nepalese farmer (Nepali Kisan).

Third Stage: This period covers the periods from the B.S. 2024 to till now, there have been established several banks and financial institutions on private and joint venture basis upto this time. There are altogether 31 commercial banks at present in Nepal. There have been established 88 development banks and 79 finance companies with large number of other type of financial institutions.

2.1.2 Meanings of commercial banks

According to Rosenberg (1982): Commercial bank is an organization chartered either by the comptroller of the currency and known as a national bank or chartered by the state in which it will conduct the business of banking. A commercial bank generally specializes in demand deposits and commercial loans.

According to Sharma (2005): Commercial banks are those institutions, which play the role of financial intermediary in collection and disbursement of funds from surplus unit to deficit unit.

According to Mithani (2008): Commercial banks are joint stock companies dealing in money and credit. So, a commercial bank may be defined as a financial intermediary that accepts chequable deposits of money from the public and also use the money with it for lending. The most distinctive feature of its is that it accept demand deposit and give short-term loans.

According to Encyclopedia Britannica (2009): By the 17th century most of the essentials of modern banking, including foreign exchange, the payment of interest and the granting of loans, were in place. The term "commercial banks" was first used to indicate bankers or other financial entities that extended short-term loans to business enterprise. Early commercial banks were limited to accepting deposits of money or valuables for safekeeping and verifying coinage or exchanging one jurisdiction's coins for business, consumers and non–business institutions.

According to Palikhe (2010): The term commercial bank is also misleading because the fact that commercial bank performs not only one but many type of functions. Today the commercial banks not only issue transfer deposits through

cheques but they also operate underwriters to new equity issue deal facilities, handle tax matters on behalf of their clients etc.

Principally, commercial bank accepts deposits and provides loans, primarily to business firms thereby facilitating the transfer of funds on the economy. *In the Nepalese context,* according to Nepal Commercial Bank Act (2031 B.S.): A commercial bank is one which exchanges money, deposits money, accepts, grants loan and performs commercial banking functions and which is not a bank meant for co-operative, agriculture industries or for such specific purpose. Similarly, in that act it is also mentioned, "The commercial banks are those banks, which provide short term & long term debts whenever necessary for trade & commerce. They accept deposits from the public and grand loans in different forms. They purchase and discount the bill for exchange, promissory notes, and exchange foreign currency."

2.1.3 Functions of commercial banks

Commercial banks perform several crucial functions, which may be classified into two categories (i) Primary functions, and (ii) Secondary functions.
Primary banking functions of the commercial banks include.

a) Acceptance of deposits from the public

Accepting deposits is the primary functions of a commercial bank. By receiving deposits from the public, commercial banks mobilize savings of the household sector. So, banks generally accept deposits in three types of accounts (i) current account (ii) savings account, and (iii) fixed deposit account.

Deposits in current account are withdrawable by the depositors by cheques for any amounts to the extent of the balance at their credit, at any time without any prior notice. Deposits of current account are thus known as demand deposits. Such accounts are maintained by commercial and industrial firms and businessmen and the cheque system is the most convenient and very safe mode of payment.

Besides, demand deposits commercial banks in Nepal also accept saving and fixed deposit. This may be either in the form of higher and lower interest rate or in the form of various deposit accounts. By creating such varieties of deposits, banks motivate savers and depositors in a variety of ways and encourage savings in the economy. Further, by keeping deposits with banks, depositors' money is not only secure and remains in safe custody, but it yields interest also. Moreover, banks'

demand deposits are in the form of liquid cash, for they serve as money to the business community and, therefore, is called bank money.

b) Lending of funds

Another major function of commercial bank is to extend loans and advances out of the money which comes to them by way of deposits to businessmen and entrepreneurs against approved collateral such as gold or silver bullion, governmental securities, easily saleable stocks and shares, and marketable goods.

Bank advances to customers may be made in many ways: (i) Overdraft (ii) Cash Credits (iii) discounting trade bills, (iv) money-at-call or very short- term advances, (v) term loans (vi) consumer credit (vii) miscellaneous advances.

c) Remmitance of funds

Commercial banks, on account of their network of branches throughout the country, also provide facilities to remit funds from one place to another for their customers by issuing bank drafts, mail transfers or telegraphic transfers, by using SWIFT etc. on nominal commission charges.

d) Use of cheque system

It is a unique feature and function of banks that they have introduced the cheque system for the withdrawl of deposits.

There are two types of cheques (i) the bearer cheque, and the crossed cheque. In modern business transactions, the use of cheques to settle debts is found to be muchmore convenient than the use of cash. Commercial banks thus, render an important service by providing an inexpensive medium of exchange such as cheques. In fact, a cheque is also considered as the most developed credit instrument.

e) Use of cards, machines and technology

Competition among the banks is rising enthusiastically. So, the banks are entering in new era. They are providing packaged services, which can be list as below.

ATM card: Automated teller machine (ATM) is cash dispense machine, an electronic telecommunication device that enables the clients of a bank to perform banking transactions without the need for a cashier, human clerk or bank teller. ATM card is amagnetic stripe or a plastic smart card with a chip that contains a unique

card number and some security information such as an expiration date. Every customers have a personal identification number (PIN). Using ATM cards, customer can access their bank accounts in order to make cashwithdrawls and check their account balances.

Debit card: A debit card is a payment card, which enables the customer with the option of making purchases at merchant locations as well as cash withdrawal from ATMs with access to the customer's bank account. So, the customer firstly advances the cash on his bank, gets card, buys the good from accepted merchant locations and pays through the received cards on there.

Credit card: It is also a type of payment card, which enables the customer with the option of making purchases on credit. Spend now and pay later! It is also a convenient financial management tool to a customer who firstly receives the card from his bank, buys goods at merchant locations by using the card and pays to the bank later.

Computer: Computer is an electronic device which performs several functions like calculating and storing data, printing results etc. In modern times, most of the banks use computers to store the record of their clients and print their balance reports.

Internet banking: It is the modern banking function. Through this customer can enjoy online banking service from any part of the world. Internet banking services make banking transaction easier to customer.

ABBS (Any Branch Banking System): It is the services which can provide by the group of banks to their customers. Any of the approved customer deals between or among the banks like for withdrawl and deposit of cash. This is possible for banks which have more than one branch network.

All these service can be achieved in the modern commercial banks which are the results of new development in technology. In this way, modern banking functions are increasing with tough competition. We can assume that like ATM, modern banks are seeking to use the ATM as a sales device to deliver pre approved loans and targeted advertising using products such as ITM (the Intelligent Teller Machine).

ii) Secondary Functions

In addition to these, commercial banks perform a multitude of other non – banking functions which may be classified as (a) agency service and (b) general utility services.

a) Agency service

A commercial bank acts as an agent of individual customers, business institutions and different organization. The agency services of banks may involve collection of interest and dividends on debt and share capital, buys and sells securities on behalf of the customers, collects cheques plus drafts promissiory notes etc. and receives their payments.

b) General utility services

Guarantee on behalf of customers: The need of bank guarantee arise in business. Generally, business customers enjoy this service. Sometimes, personal customers may also need a bank guarantee. A guarantee is a definite and irrevocable under taking by a bank on behalf of its customers to make payments upto a specified sum of money to the beneficiary on demand in case of default by its customers.

Facilitating foreign trade: The commercial bank efficiently arrange for the amount of foreign exchange required by business organization. Moreover, foreign trade transactions have been facilitated by the issuance of commercial letter of credit.

Issuance of traveler's cheque: The people travelling outside the country want to reduce the fear of getting money stolen during the travel. For remedy, bank sells the traveler's cheque.

Consultancy: Banks are large organization. They can expand their function to consultancy business. In this function, bank hire financial, legal and market experts, to provide advices to customers in regarding investment, trade, income tax etc.

Besides these, modern commercial banks are equally important in undertaking safe custody of important valuables and documents. Banks also offer some of the bank services at the door of highly valued customers like as payment of phone bills, water bills, electricity bills etc. Few large banks conduct research and survey in the economic conditions and they supply trade statistics and information. In addition to these, banks also inform their customers about the credit standing of other particles.

2.1.4 Incomes (Sources of income) in commercial banks

There may be various types of incomes in commercial banks. However, fund raised from sources cannot be categorized here because they are not truly gain and made contingency liability. Similarly, Net income is not a sources due to the tax liability and other expenses incurred. So, these two sources of incomes, interest and non –interest income are seemed as sources of income in commercial banks. The sum of these sources is known as *operating income* also.

Interest income: Interest incomes include interest and fee generated from loans, which represent normally two third or more of the total revenue of banks. Interest received from investment securities is also included as interest income.

Gaudel (2010) has explained that Companies sometimes keep their cash in short-term deposit investments such as certificates of deposit with maturities upto twelve months, savings account, and money market funds. The cash placed in these accounts earn interest for the business, which is recorded on the income statement as interest income. For such companies interest income is small or meaningless. (p.)

For the banks it is reverse, include income from loans and advances what they provide to business or individual customers.

Non-interest income: "Non-interest income are the fee incomes from -on-balance sheet and -off- balance sheet activities, where the later include loan and security guarantees and derivative services" (Gup and Kolari, 2005, p. 64).

Income received other than loan taken activities is non -interest income. So, they are fees and commissions received through miscellaneous services and represents one third of the banks income. However, their importance in banks' operating performance lies more. So, they are considered here to explain as follows which seem on Nepalese commercial banks.

a) Commissions and discounts

Commissions and discounts taken by the banks are the non -interest incomes. These can be achieved through providing banks' services to their customers. Service charges (on deposit accounts, received from safekeeping of valuables in secure vault, received from providing financial advice), Commission received from (remittance business, bills collection and purchase, insurance and trust services, cash management services, agency services etc.) discount taken on

different activities of buying etc. can be included in commission and discount menu. So, the banks earn non -interest income from commission and discount by providing such services.

b) Fee received from assisting in foreign trade and exchange fluctuation income

Joshi (2002) Foreign trade is very important for the economic development of the country because no nation cannot be independent itself in an every aspect. Therefore it is assume as an engine of economic growth (p. 192).

Basically, different countries are engaged in the foreign trade. At that time, there is occurs problem of payment through currencies with respective countries. So, the bank assist the traders engaged in foreign trade by solving such problems. For example, in Nepalese context, the bank discounts the bill of exchange drawn by Nepalese exporters to receive money in the home currency. Similarly, he also accepts the bills drawn by foreign exporters. Therefore, banks act as a facilitator to those businessmen who engaged in foreign trade. Instead of banks services, it charges fee to the traders. It is also a kind of source of non-interest income to the bank.

Similarly, foreign currency exchange is very important to develop cross - boader financial market as well as facilitated smoothly operation of business among different countries. However in today's financial marketplace, trading in foreign currency is carrying out primarily by the largest banks due to the risks involved and the expertise required to carry out such transaction. As a result, it is also a source of non -interest income.

c) Net securitization income/ securities brokerage and underwriting service charge

Commercial banks are trying to become financial departmental stores with multipurpose financial firms. It is focusing all its efforts to fulfill all the financial service needs of their customers in one spot. One of the biggest of all the banking services targets in recent years has been dealing in securities buy and sell orders for security trading customers referred to as security brokerage services. Likewise, marketing of new securities to raise funds for corporations and other institution referred to as underwriting services. So, from these services banks earn net securitization income, which can be included in non -interest income.

d) Other operating income

Operating income is that income which can be earned from both interest and non- interest income. Here, non -interest income also includes other operating income such as securities gain, fee received from dealing of (forward contract, standby credit letters, investment banking and merchant banking etc.). So, these non interest incomes seem more when such incomes are earned there.

e) Non -operating income

It is also a source of non-interest income. Profit on sale of investment and assets, dividend received from different institutions/organizations, subsidies received from Nepal Rastra Bank and similar other incomes are the examples of non-operating income. Similarly, the losses and expenses on these items are non-operating expenses.

f) Income from off-balance-sheet transactions

Off-balance-sheet items are contingent liabilities. By making these payment banks also earn some fees which can be recorded as non-interest income. In Nepalese scenario, some of these fee incomes are recorded on other operating income list. However, like the derivative securities, sources of non-interest income from the off-balance sheet items have been assessed for the emerging and future's banks of Nepal. Off balance sheet items are:

Loan commitment: It is a contractual commitment by a bank to loan to a customer (firm) a certain maximum amount at given interest rate terms. In return for making this loan commitment, the bank may charge an up-front fee (or facility fee). The bank may also charge the borrower a back-end fee (or commitment fee) on any unused commitment balances at the end of the period.

i) Up-front fee: The fee charged for making funds available through a loan commitment.
ii) Back-end fee: The fee charged on the unused component of a loan commitment.

By charging such fees bank earns non-interest income.

Letters of credit: It is the contingent guarantee sold by the banks to underwrite the trade or commercial performance of the buyers of the guarantees. For example: Once the bank issues the LC and sends it to the German exporter, the exporter

ships the goods to the U.S. importer. The probability is very high that in 90 days' time the U.S. importer will pay the German exporter for the goods sent *and* the bank keep the LC fee as profit. (10% of Face value). This may be a type of non-interest income to the bank.

Similarly, If unable to pay by importer becomes default. The bank is obliged, although importer should pay a compensation (offset) to bank. Clearly, the fee should exceed the expected default risk. The bank is generating more fee income as a non-interest income.

When issued securities: It is a commitment by a bank to buy or sell securities before they are issue. This can expose the bank to future or contingent interest rate risk. Instead of such risk, the banks sell the security at a small margin above they expect to pay at the primary auction. Margined profit from bearing risk, is a type of non-interest income.

Loans sold: Loans originated by the bank and then sold to other investors that can be returned to the originating institution. Instead of loan origination, loan sales present a contingent (long term) credit risk to the seller. Such credit risk may allow the bank to adopt the fee on loans sold. This type of fee income to banks is also a non-interest income.

Derivative Securities: Those are the futures, forward, swap and option positions taken by a bank for hedging and other purposes. Contingent credit risk is likely to be present when banks expand their positions in futures, forward, swap and option contracts. The risk relates to the fact that the counterparty to one of these contracts may default on payment obligations, for such risk bank may charge a service fee. Income from such service fee is a type of non-interest income. (Saunders and Cournett, 2001, p.374-375)

2.1.5 Expenses of commercial banks

Interest expenses: Interest expense is a cost associated with borrowing money. It must be reported on income statements and there are certain types of interest expenses which may be tax deductible. The interest expense includes interest paid on a debt in a given accounting period, and it can also include points

paid to secure a loan at a lower interest rate along with prepayment penalties for loans which are repaid early.

Interest expense is the sum of interest paid on all interest-bearing liabilities including transaction accounts, time and saving deposits, short-term noncore liabilities and long term debt. Gross-interest income minus gross interest expense is labeled net interest income. (Koch and Macdonald, 2003, p.108)

Non-interest expenses: Ross (2002) has explained that a fixed operating cost is that a financial institution must incur, such as anticipated bad debt provisions. Non-interest expenses can include employee salaries and benefits, equipment and property leases, taxes, loan loss provisions and professional service fees. Companies will counterbalance non-interest expenses by generating revenue through non-interest income. (p.132)

Non-interest expenses are such expenses except interest paid to the creditors. Similarly, those expenses which are paid by bank to the personnel in main categories viz. wages and salaries, bonus etc. Second various expenses like legal charge, layout expenses, office supplies, maintenance cost, insurance of deposit, depreciation on fixed assets, loan losses etc. are also the examples of non-interest expenses.

2.1.6 Operating efficiency

Koch and Macdonald (2003) has explained It is a key management area that many studies have found to be the primary factor distinguishing high- and low- profit banks is operating efficiency. It deals with the production of output, such as deposit and loan accounts and securities services, at a minimum cost per account (p. 68).

With increased competition from outside the industry bank continue to experience interest margin pressures. Individual banking companies and the banking industry as a whole are striving to find greater efficiencies in their day-to-day operations. In large banking companies, some of these efficiencies are sought by merging entities and therefore in the process, eliminating redundancies in all aspects of operations. For smaller institutions, efficiency gains are usually achieved by controlling costs and generating more diverse and higher levels of non-interest revenues. (http://www.olsonresearch.com)

The most popular view, non-interest income may increase if the operating activities are efficiently run. So, operating efficiency is used to evaluate operating

performance which indicates what is going on. Operating efficiency in a individual company is tested to know about operating activities done before payment of tax to the government and dividends to the shareholders and known as EBIT. When evaluating a bank's operating efficiency, an analysis of the bank's level of non-interest expense relative to the bank's non-interest income gives the result of efficiency by saying how the expense is controlled to generate more revenue.

However, not all the banks calculate the efficiency ratio in the same way. The ratio can be calculated in many ways. (i) non-interest expense divided by operating revenue (ii) operating expense divided by operating revenue. Regarding these two ratios, banks desire a lower efficiency ratio because this means that the bank is making considerably more than it is spending and is therefore on sound fiscal footing. For example: if a bank spends Rs.10 million and makes Rs.15 million in a given year. Its efficiency ratio is 0.67. One way to conceptualize the efficiency ratio is to say it is the measure of what a bank must spend in order to make one rupee. In the above example, the bank must spend 67 paisa.

Besides these two ratios, other some ratios, pursued to evaluate the overhead structure of the banks, leave the same meaning as we considered before. On the other hand, there are presented in the study other two ratios which are assets utilization/efficiency (AU) and funds utilization (FU), banks desire a higher efficiency ratio. So, it cannot say typically what the ratios indicate and how they measure, it depends on their presentation and creation.

2.2 Review of Related Studies

Gup and Kolari (2005) stressed that non-interest income includes all other sources of incomes from fiduciary activities, service charges on deposits, gains or losses and commission and fee on assets held in trading accounts, foreign-exchange trading gains or losses, loan and security guarantees, derivative securities services and other off-balance sheet activities. These categories of income have increased in relative importance for many banks as a result of deregulation's impact on the permissible financial services (p.63).

Ross (2002) added that the expenses entitled to wages, salaries and other personnel expenses are an important item for most banks as non-interest expenses. Such expenses item has been rapidly increasing in recent years in the banking firms.

Similarly, under the non-interest expenses category, the cost of bank furniture and equipment also can be included. Likewise, other numerious small expenses item like legal fees, office supplies and repair costs are also taken as non-interest expenses. (p. 132).

Saunders and Cournett (2001) also mentioned that off-Balance-Sheet (OBS) activities are now an important source of fee income for many banks, they have the potential to produce positive as well as negative future cash flows. OBS activities can be grouped into five major categories. Loan commitments, letters of credit, when issued securities, loans sold and derivative securities.(p.374).

On the other hands, noninterest expenses accumulate personnel expenses and generally large expenses that they are relative to non-interest income generation. For example, expense in this categories includes salaries and employee benefits, expenses of premises and fixed assets such as utilities, depreciation and deposit insurance as well as other expenses of the time transactions like losses on sale of real estate loans and premises (p. 320).

Paudal (2000) had prepared a study on *"Financial performance of Annapurna Finance company Limited: with reference to working capital management"* in the year 2000. The basic objective of the study was to analyze the working capital management especially with respect to receivable and investment policy of AFC. He conclude that the company is facing the problems of investing high amount in sundry debtors and loan (advances) to the clients and staff which does not help to increase the income but they are idle. In his study, he recommends that the company should control and collect that amount of receivables within short period and also encourage the clients to invest the loans in productive sector.

Young and Rice (2003) had prepared a research paper under a study on "*Non-interest income and financial performance at U.S. commercial banks"* . The objective was to give empirical literature on the topic for Federal Reserve Bank of Chicago. They mentioned that non-interest income accounts for over 40 percent of operating income in the U.S. commercial banking industry. This paper demonstrates a number of empirical links between bank non-interest income, business strategies, market conditions, technological change and financial performance between 1989 and 2001. The results indicate that well managed banks expand more slowly into noninterest activities, and that marginal increases in non-interest income are associated with poorer risk-return tradeoffs on average. These findings suggest that

noninterest income is co-existing with, rather than replacing, interest income from the intermediation activities that remain banks' core financial service function.

Craigwell and Maxwell (2005) had prepared and empirical note about "*Non-interest income at commercial banks in Barbados".* That note had two purposes (i) to provide some stylized facts about trends in commercial banks' non-interest income in Barbados over the period 1985-2001, and (ii) to identify the factors that shaped these trends using casual observation of the literature and panel data econometrics. They suggested that the incidence of non-interest income declined over the period, contrary to the findings in other countries of the Caribbean and the wider developed world. The empirics supported bank characteristics and market developments like the ATM technology as the most influential factors shaping the trend of non-interest income in the banking industry in Barbados.

Baral (2005) had prepared an research article viz. "*Health check-up of commercial banks in the framework of CAMEL: A case study of joint venture banks in Nepal".* There were six joint venture banks as a population of the study until the study period and all of which were selected as sample. They were NABIL, SCBL, HIMALAYAN, NSBI, NBBL and EBL. He examines the financial health of those banks in the CAMEL framework. The health check-up had conducted on the basis of publicly available financial data and concluded that the health of joint venture banks was better than that of the other commercial banks.

In his study, he diagnoses earning or profitability indicators- ROE, ROA, PM etc. show that financial health of joint venture banks is not so weak. In addition, earning performance of joint venture banks, as indicated by ROA is fair. But the financial health, as implied by profitability indicators of NSBI is weaker than that of other joint venture banks.

Gurung (2006) carried out a study on "*Non-interest income and operating efficiency of listed commercial banks in Nepal*". The basic objective of the study was to analyze the trend of net interest margin of commercial banks. In his study, he found and concluded that the negative growth ratio of interest income of NABIL and SCBL represent -4.16% and -3.63% respectively. Positive growth ratio of BOK, NBB and LBL indicate the interest incomes are increasing by 6.89%, 1.19% and 25.02%. However, in aggregate, just 0.44% growth ratio reveals that the interest incomes are increasing with a little extent in the sampled commercial banks.

The positive growth ratio of NABIL, SCBL, BOK and LBL on non- interest income are increasing by 12.74%, 4.43%, 8.09% and 24.77% respectively. Only at NBB the growth ratio of non-interest income is decreasing by -9.10% as a little bit.

He adds before, in aggregate comparatively higher growth ratio of non-interest income than interest income help to conclude that large portion of non-interest income is the key to success for every banks which want to operate smoothly.

FDIC (2006), had carried out a study in *"New* reporting offers insight into bank activities in 2002." In this study, it is stated that non-interest income has become more important for banks as non bank competition for loan customers, especially in sectors such as home mortgage lending and lending to large commercial borrowers, has limited growth in net interest income. At the same time, banks' enhanced ability to market and deliver fee earning transactional services, made possible by advances in telecommunications and data processing, and the development of new financial products, aided by deregulation and innovation, have produced a growing number of sources of non-interest income. This trend has been evident at both large and small banks, altogether larger banks have consistently obtained a significantly greater share of their revenues from non-interest sources. Greater diversification in revenues should promote greater stability and consistency in bank earnings. While some non-interest revenue sources are sensitive to conditions in financial markets, and may be more volatile over time than net interest income, other non-interest revenues, botably those obtained from transaction based services, should be less susceptible to cyclical influences. The report format introduced in the first quarter of 2001 still includes previous components of non-interest income like fiduciary income, deposit service charges and trading revenues, but it now also breaks out income from investment banking services, revenues from venture capital investment, servicing fees, income from asset securitization activities, insurance commissions and fees and proceeds from sale of loans, other real estate and other assets.

Shrestha (2007) had prepared a research paper under a study on *"Non-performing assets management of Nepal Bank Limited".* The basic objective was to examine the reasons of non-performing asset. She recommended that the bank has to identify the demand and challenges of time at its start and should go on using it correctly as competition is the key to success. But, the researcher hadn't mentioned what actually factor/demand of time is the key to success.

She also recommends that NPA cannot be eliminated; it has to be done not at heavy cost of provisioning and increasing the portfolio of credit. Along with recovery fresh inflow of NPA should be brought down at a level much less than the quantum of its exist.

Gaudel (2011) had conducted a study on *"Non-interest income effects on total income of commercial bank in Nepal".* The main objective was to analyze the non-interest income's effect on total income of commercial banks in Nepal. She explained most of the banks rely on non-interest income more whereas less on net interest income. It is because the growing share of non-interest income to the total income. In this context, commercial banks are diversifying in their services with an appropriate customer and business mix focusing on fee based revenues.

She had taken five commercial banks viz. BOK, NCC,HIMALAYAN, KB and NIBL. She concluded that the range of contribution of non-interest income to the total income is minimum of 7.22% in Kumari Bank (KB) to maximum of 53.73% in NCC (Nepal Credit & Commerce Bank Limited. On the other hand, fluctuating trend of net non-interest income with total income indicates that non-interest income of these banks is not satisfactory. Her overall recommend had to collect more non-interest income relative to the amount of non-interest cost incurred.

Shrestha (2012) had prepared a study on *"A study on comparative analysis of financial performance of NABIL, NIBL and SCBL".* The primary objective of the study was to make comparative analysis of the financial performance of these three joint venture banks and to recommend suggestion for the improvement of state of affairs. His secondary objectives for the study are to analyze liquidity position, earning and profitability position etc. He concluded that EPS and DPS is highest in SCBL than other two banks. Similarly, exchange income plus commission and discount income is higher than other sampled banks, interest expense is highest on NIBL, non-interest expense is highest on NABIL.

On his study, over the study period (2005-2009), he recommends with points that the banks have enough cash balance to meet current requirement, profitability ratio has lowest in case of NABIL. So, this bank should reduce operating costs to achieve the operational efficiency. Due to the highest portion of interest expenses that banks should try to reduce the amount of high interest bearing deposits like fixed, saving and others. Instead they should concentrate of non-interest bearing deposit like current deposit, margin deposit etc.

His overall recommend had "management team should put emphasis on the maximizing the wealth of the shareholders. Low MPS and EPS indicated the poor performance of commercial banks in the market. Similarly lower DPR also discourages the shareholders. He adds before, NIBL has poor performance and suggested to the management team of NIBL to improve their performance.

Amagain (2012) carried out a study on *"Health check-up of commercial banks in the framework of CAMELS: A case study of joint venture banks in Nepal".* He sampled the banks viz. HIMALAYAN, NSBI, EBL and analyzed the data of the periods from 2003 to 2008. The elementary objective of the study was to analyze the health check-up of joint venture banks through CAMELS approach with specific objective to analyze capital adequacy, trend of non-performing loan and loan loss provision, to evaluate the expense management with respect to revenue, earning and liquidity position etc.

His major findings had total capital adequacy ratio is maximum of 13.57% (in EBL) in 2004 and minimum of 9.47% (in NSBI), non-performing assets have higher with HIMALAYAN and NSBI and below 5% with EBL, operating efficiency ratio is ranged from 84% to 20.03% over the study period which implies good symbol of management quality in decreasing expenses with respect to income, earning position of EBL is higher than other joint venture banks shows that sound profit ability position of its.

His recommends had strictly follow the NRB directives, decrease non-performing loan level below the international standard (5%), and NSBI should improve the EPS etc.

Rana (2012) had prepared a study on *"Financial performance analysis of NSBI in the framework of CAMEL"* by employing data of the periods of 2005 to2009. His fundamental objective is to analyze the financial performance in the CAMEL framework. He found that core capital adequacy ratio is maximum of 10.89% in 2009 and the minimum of 9.97% in 2007 which indicates all are above the NRB standard. Non-performing loan ratio is in decreasing trend over the period and reflects the good performance of the bank in mobilizing loan and advances. There is positive slope of total expense to income ratio and is debited to poor management quality. EPS is increased in last two years and cash in vault to total deposit ratio is found above industrial average.

He concluded core capital adequacy ratio of NSBI shows the protection and security to creditors and depositors and financial soundness of the company. The bank should strictly follow their own loan policies for more consistency and the bank should take corrective policies for generating more income and controlling expenses etc.

Adhikari (2012) had conducted the study of *"Impact of financial sector reform on the financial performance of Nepal Bank Limited".* The objectives were to analyze the financial performance of the bank: before the introduction of financial sector reform program, during the management of ICCMT of Scotland under financial sector reform program, after handling and to find out the impact of it. Since the periods of study had covered 14 years (B.S. 2054- B.S. 2068)

She concluded that the net worth had negative before management change, improved after handling by ICCMT of Scotland, similarly the conclusion was made that EPS is increased and the liquidity is also maintained after the program.

Her overall recommend is that add again some additional periods of such teams and professionals to maintain good performance.

2.3 Research Gap

At last, these more studies have been conducted in the past on different topics related with its. The scholars are mainly emphasized on profitability of the commercial banks. Similarly, they have brought widen information about non-interest income, financial performance, non-interest expenses, risk factor, technological advancement etc. to add more profit for the banks and added suggestions in their own perception which may not true in this time also. It is also the fact that these previous research are different by sample size, characteristics of the banks etc. Besides these, regular health check-up of commercial bank's status with respect to operating activities may help to improve their sound health, assist for new innovation, for making constant profit level etc. and gradually for socio-economic prosperity and development, it is hoped. Therefore, with emerging aspect about non-interest income, operating efficiency and the commercial bank's status, an eff been contributed.

CHAPTER III

RESEARCH METHODOLOGY

This chapter includes research design, population and sample, nature and sources of data, methods of data collection, data processing & analysis method lastly limitations of the methodology.

3.1 Research Design

In this study, descriptive technique is used to evaluate the different aspect of non-interest income and operating efficiency of sampled commercial banks. Historical secondary data with related financial and statistical tools have been used. Therefore, this study has been designed under descriptive, historical and analytical research design.

3.2 Population and Sample

In the recent history of Nepalese banking and financial sectors there are so many institutions. Approximately 30000 NGOs, 6000 co-operatives, 2 mutual funds, 1 pension fund etc. are involving in financial sector's works. They are not allowed for banking service works by the rule of NRB. (www.nrb.org.np/mfd/mfd_broucher.pdf)

According to the Nepal Rastra Bank Act 2058 B.S. banking and financial are those institutions which are established to work under the same prevailing act. So, they are classified into four categories viz. A class, B class, C class and D class. Recently there are 31 commercial banks (A class), 88 development banks (B class), 79 finance companies (c class) and under D class- 24 micro finance development banks (micro finance companies), 16- cooperatives (providing limited banking services), 36 NGOs (trading micro credit). All of these provide banking and financial services. (www.bfr.nrb.org.np/list banks_n_Non,Banks.php)

The current 31 commercial banks are taken as the population. Out of them, 5 leading banks in recent history of commercial bank's industry are chosen as sample size. They are SCBL, NIBL, NABIL, HIMALAYAN and KIST. So, the sampling

method is used as non-random sampling and the type of such sampling method is used as judgement sampling.

3.3 Nature and Sources of Data

Mainly, secondary data have been collected and received through the official websites of banks. Besides this, all required information have been gathered from different sources: books, thesis, Journal, magazines as the researcher posses to collect.

3.4 Procedure Employed for Data Collection

The following procedures have been followed to carry out the study.

- First, the bibliography cards had prepared on the basis of literature review.
- The annual reports and other information of respective commercial banks have obtained from their URL/official websites and head offices of these banks.
- Similarly, NRB publications have collected from the websites of NRB viz. www.nrb.gov.np
- Other supplementary information have been gathered from Western Regional Library Pokhara, 'The Banker' national monthly newspaper, www.nepalstock.com etc.

3.5 Data Processing and Analysis Method

Secondary data have been filtered from sources as per necessary items, they are used to tabulate and positions are detected by using descriptive and analytical comparison. Required figure type have been chosen for all. Unnecessary data have been deleted.

Some financial and statistical tools have been used to analyze and give result of the data. There was more variety of financial ratios in an effort to measure and monitor a bank's performance/standard. Among them, earning quality ratios which lie in the CAMEL framework, used by NRB to monitor, supervise and direct the bank's performance have been used in the study. Besides these, some other related ratios regarding non-interest income and operating efficiency have been used in the study as given below.

A) Financial tools

i) Earning ratios:-

- *Non-interest income to gross revenue*: It is the expression of the numerical relationship between non interest income and total income except cost incurred. It measure the share of non-interest income on total income(i.e. interest income plus non interest income except cost incurred). Numerically,

$$\textbf{Noninterest income to gross revenue} = \frac{\textbf{Noninterest income}}{\textbf{gross revenue}}$$

- *Return on assets*: An indicator of how profitable a bank is relative to its assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a bank's annual earnings by its total assets, ROA is displayed as a percentage. Sometimes this is referred to as "return on investment".

  The formula for ROA is:

$$= \frac{\textbf{Net Income}}{\textbf{Total Assets}}$$

- *Return on equity*: The amount of net income returned as a percentage of shareholders equity. Return on equity measures a bank's profitability by revealing how much profit a bank generates with the money shareholders have invested. ROE is expressed as a percentage and calculated as:

  Return on Equity = Net income/ Shareholders Equity

  Net income is for the full fiscal year (before dividends paid to common stock holders but after dividends to preferred stock.) Shareholder's equity does not include preferred shares.

- *Net interest income to average assets ratio*: It is the expression of the numerical relationship of total interest income plus the tax benefit on tax exempt-income, less total interest expense divided by average assets.

$$\textbf{NII to average assets} = \frac{\textbf{Interest income} - \textbf{Interest expenses}}{\textbf{Average Assets}}$$

Where, $\textbf{Average assets} = \frac{\textbf{opening total assets} + \textbf{closing total assets}}{\textbf{2}}$

- *Non-interest income to average assets ratio*: This ratio is comprised of annualized income from bank services and sources other than interest-bearing assets, divided by average assets.

$$= \frac{\textbf{Noninterest income}}{\textbf{Average assets}}$$

- *Net interest margin:* Net interest margin is computed by dividing net interest income by total earning assets.Net interest income is the difference between interest income minus interest expenses. Similarly, earning assets are loans, investment securities and short-term investments that generate interest and yield related fee income. Numerically,

$$\textbf{NIM} = \frac{\textbf{Interest income} - \textbf{Interest expenses}}{\textbf{Earning assets}}$$

- *Non interest income per employee*: The ratio presents how well the bank able to collect non interest income as per employee.

$$\textbf{Noninterest income per employee} = \frac{\textbf{Noninterest income}}{\textbf{Total employee}}$$

ii) Efficiency ratios:-

- *Simple efficiency ratio*: It is a measure of a bank's non interest expenses as a percentage of its operating revenue.

$$\textbf{SER} = \frac{\textbf{Non interest expenses}}{\textbf{Operating revenue}}$$

- *Net non-interest margin:* It is the net margin of noninterest related factors by employing one unit of total assets. So, higher the ratio indicates better operating performance.

$$\textbf{NNIM} = \frac{\textbf{Noninterest income} - \textbf{Non interest expenses}}{\textbf{Total Assets}}$$

- *Burden ratio:* It is the expression of numerical relationship between net overhead expenses and average total assets. It measures the amount of non-interest expense covered by fees, service charges, securities gains and other income as a fraction of average total assets. The greater is the ratio, the greater non-interest expense exceeds non-interest income for

banks balance sheet size. A bank is thus better off with a low burden ratio. It is calculated by using the following model:

$$\textbf{Burden ratio} = \frac{\textbf{Noninterest exp.} - \textbf{Noninterst income}}{\textbf{Average assets}}$$

- *Assets utilization/efficiency ratio- AU:* It is a measure of a bank's operating revenue as percentage of its total assets

$$\textbf{AU} = \frac{\textbf{Operating revenue}}{\textbf{Total assets}}$$

- *Funds utilization ratio- FU:* Funds utilization is computed by dividing total assets by total equity capital.

$$\textbf{FU} = \frac{\textbf{Total assets}}{\textbf{Total equity capital}}$$

- *Expense ratio:* Expense ratio is the numerical relationship between total operating expenses to average total assets of a bank. It has a very intuitive interpretation whether specific types of expense contribute to significant difference in performance. The lower or greater is the expense ratio; the more or less efficient bank will be in controlling expenses. The following model is used to work out expense ratio.

$$\textbf{Expense Ratio} = \frac{\textbf{Expenses}}{\textbf{Average assets}} \times \mathbf{100}$$

Where, Expenses= Interest exp.+ noninterest exp.

iii) *Growth ratio:* Growth ratio is used to calculate the slope of a line on a graph. The formula requires two points of data, the starting point and the future point. Here, growth ratio of interest income and noninterest income are calculated by using the following model.

$$\mathbf{D_n = D_0(1+g)^n = D_1(1+g)^{n-1}}$$

Where, $\mathbf{D_n = Growth\ ratio\ of\ income\ in\ n^{th}\ year}$

$\mathbf{D_0 = Growth\ ratio\ of\ income\ in\ initial\ year}$

$\mathbf{g = growth\ rate}$

$\mathbf{n = Total\ number\ of\ years}$

B) *Statistical tools*

- *Average:* In this study, a simple arithmetic average has been employed to find out the average value of net non-interest margin, burden ratio, efficiency ratio etc. of sampled commercial banks. The average is expressed as:

$$\overline{x} = \frac{\sum x}{n}$$

Where, $\bar{x} = \textbf{Mean of the variables}$

$\sum x = \textbf{Sum of the variables}$

$n = \textbf{Number of pairs of observations}$

- *Relationship:* In this study, relation between different variables is recorded by using Karl Pearson's coefficient of correlation Thus, the formula is:

$$r = \frac{n\sum uv - \sum u.\sum v}{\sqrt{n\sum u^2 - (\sum u)^2}\sqrt{n\sum v^2 - (\sum v)^2}}$$

- *Least square trend analysis:* In this study, least square trend analysis method is applied to find the trend values of non-interest income.

$$y = a + bx$$

$$where, b = \frac{N\sum xy - \sum x\sum y}{N\sum x^2 - (\sum x)^2}$$

$$a = \frac{\sum y - b\sum x}{N}$$

3.6 Limitations of the Methodology

The study is carried out within the framework of descriptive research design. So, it is difficult to eliminate the limitations of the descriptive research design in which the study as well as the methodology is bounded. Only those commercial banks are taken as the population, which have completed five years of operation. Therefore, the study may not be able to present the whole scenario.

Judgement sampling method is used to draw sample, which is not free from the criticism. Therefore, it also imposes to draw the line of limitation. Finally, the different tools are used to analyze the collected data, which are based on certain assumptions. Therefore, reliability of the analysis depends upon the circumstances on which the models are based.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

This chapter deals with the presentation and analysis of collected data from different sources. Here different tools and techniques as mentioned in research methodology section have been practically applied to analyze the data. Thus, financial and statistical tools have been employed to analyze the data.

4.1 Data Presentation and Analysis

4.1.1 Non-interest income to gross revenue (Simple earning ratio)

Non-interest income is the income received through taking commission and discount, foreign exchange income, other operating income etc. Similarly, Gross revenue is the sum of interest and non-interest income. Hence, simple earning ratio is the numerical relationship between non-interest income to gross revenue. Higher the earning ratio, the better a bank's performance –ceteris paribus- because it indicates a bank earns more non-interest income. Table 4.1 presents the share of non-interest and interest income on gross revenue.

As shown in table 4.1 contribution of non-interest income to gross revenue is ranged from 29.82% to 5.96% among all of the banks during the five years period. In the case of SCBL, non-interest income is higher than other banks at all years. So, SCBL is the better performing bank regarding such non-interest income over the whole periods.

In the case of NIBL, non-interest income is higher in FY 2064/065 than other FY After this, it is in decreasing trend upto FY 2067/068. In FY2068/069 it is increased by 1.02%. We can say, the total range of non-interest income in NIBL is 10.02% which seems more fluctuating.

Table 4.1
Structure of gross revenue

(Rs. in millions)

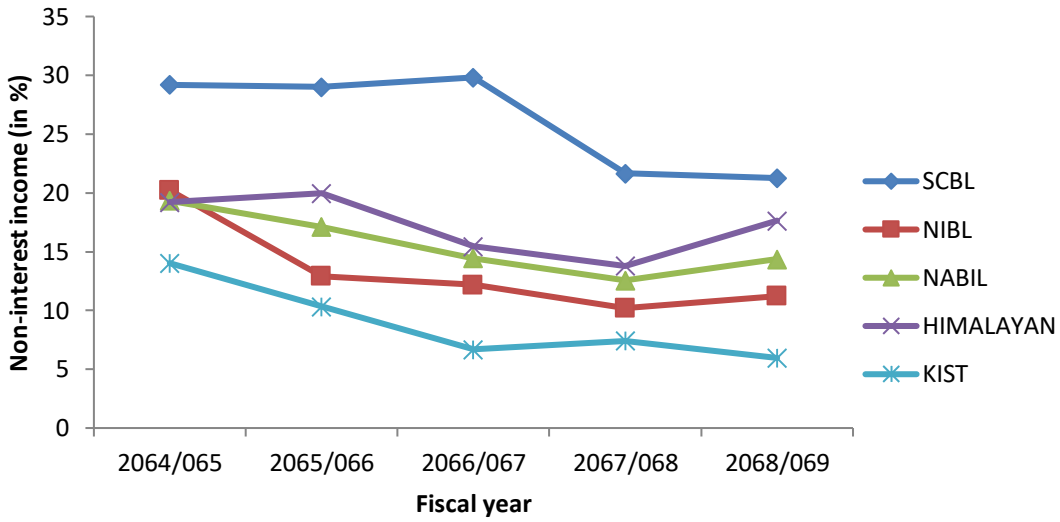
Fiscal Year		2064/065		2065/066		2066/067		2067/068		2068/069	
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCBL	Interest income	1591.20	70.80	1887.22	71.00	2042.11	70.18	2718.70	78.33	2870.97	78.74
	Non-interest income	656.36	29.20	770.79	29.00	867.61	29.82	752.10	21.67	775.39	21.26
	Gross revenue	2247.56	100	2658.01	100	2909.72	100	3470.80	100	3646.76	100
NIBL	Interest income	2194.28	79.78	3267.94	87.07	4653.52	87.81	5803.44	89.80	5982.64	88.78
	Non-interest income	556.13	20.22	485.30	12.93	645.86	12.19	658.89	10.20	755.78	11.22
	Gross revenue	2750.41	100	3753.24	100	5299.38	100	6462.33	100	6738.42	100
NABIL	Interest income	1978.70	80.67	2798.49	82.88	4047.73	85.56	5254.03	87.44	6126.86	85.63
	Non-interest income	474.25	19.33	577.97	17.12	682.93	14.44	754.51	12.56	1028.38	14.37
	Gross revenue	2452.95	100	3376.46	100	4730.66	100	6008.54	100	7155.24	100
HIMALAYAN	Interest income	1963.65	80.78	2342.19	80.03	3148.61	84.55	4326.14	86.22	4724.89	82.38
	Non-interest income	467.29	19.22	584.44	19.97	575.27	15.45	691.27	13.78	1010.77	17.62
	Gross revenue	2430.94	100	2926.63	100	3723.88	100	5017.41	100	5735.66	100
KIST	Interest income	244.00	85.98	594.76	89.67	1517.07	93.32	1994.33	92.57	2175.41	94.04
	Non-interest income	39.78	14.02	68.49	10.33	108.57	6.68	160.01	7.43	137.99	5.96
	Gross revenue	283.78	100	663.25	100	1625.64	100	2154.34	100	2313.40	100
Aggregate	Interest income	7971.82	78.42	10890.60	81.41	15409.03	84.25	20096.64	86.95	21880.77	85.51
	Non-interest income	2193.82	21.58	2486.98	18.59	2880.23	15.75	3016.77	13.05	3708.30	14.49
	Gross revenue	10165.64	100	13377.58	100	18289.26	100	23113.41	100	25589.07	100

*Source:*Annual reports of sampled banks

Similarly, in the case of NABIL, non-interest income is higher in FY 2064/065 (i.e. 19.33%) in contrast to other fiscal years. In other FY it is also fluctuating. In FY 2067/068, it is lower at 12.56% points. Similarly, interest income is lower when non-interest income grows and vice versa. Gross revenue is highest among all the banks at FY 2068/069 in NABIL.

And, in the case of HIMALAYAN, interest income is higher in FY 2067/068 (i.e. 86.22%). It indicates that non-interest income in the same FY is lower than other fiscal years. Non-interest income is ranged from 19.97% to 13.78%. So, the total range of its among all fiscal years is 6.19%. The bank is second better performing bank regarding non-interest income.

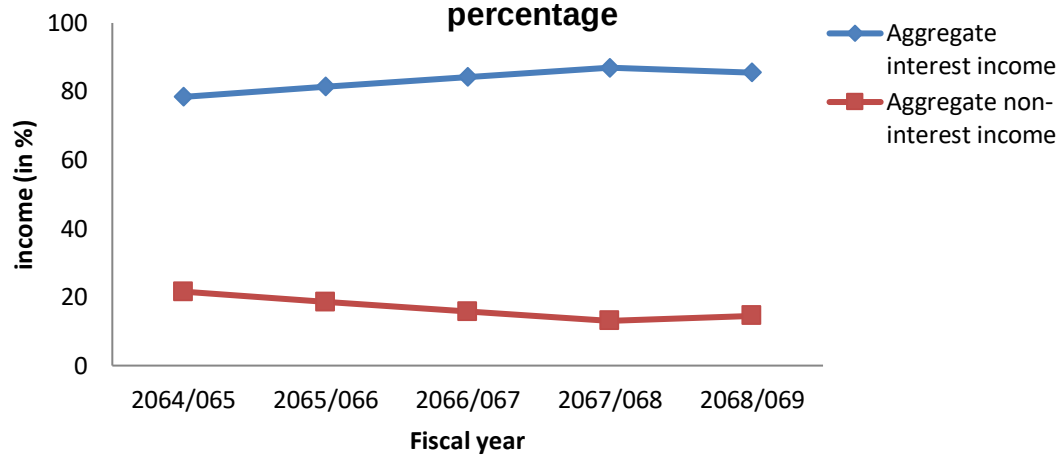
Fig. 4.1
Non-interest income of sampled banks



KIST bank seems lower performing bank for non-interest income factor. Because the highest portion of non-interest income is 14.02% at FY 2064/065 and it is lower at FY 2068/069 (i.e. 5.96%). Non-interest income generation is in decreasing trend and it is also fluctuating among all FY by range of 8.06%.

The aggregate figure of non-interest income to gross revenue shows that non-interest income is approximately one fourth of gross revenue (i.e. 21.58%) when it is high. And, aggregate non-interest income is lower in FY 067/068 (i.e. 13.05%).

Fig. 4.2
Aggregate interest and non-interest income in percentage



Non-interest income from FY 2064/065 to FY 2067/068 is in decreasing trend. However the increased figure of aggregate non-interest income at FY 2068/069 remarks us there is need to more exercise for generating of healthy non-interest income that may lead those banks for better operating performance.

4.1.2 Analysis of sources of non-interest income

Principally, non-interest incomes are the fee incomes from on-balance-sheet and off balance sheet activities. In general, income received other than loan taken activities is non-interest income. So, they are fees and commission received through miscellaneous services provided by the banks.

In Nepalese context, there is not more exercise to earn non-interest income through operating off-balance-sheet items however discount & commission, exchange gain, underwriting charge other operating and non-operating income are in practices as a source of non-interest income. Table 4.2 presents the types and sources of non-interest income and the amount that are in Nepalese banks.

As shown on Table 4.2, there is high contribution of exchange gain income and commission income at all the banks over the periods. These incomes are in highly increasing trend than other types of non-interest income. The commission income is high due to the more type of services may be based on agency services. Deposit service, trust department service, locker service etc. are the service based on the agency that the

bank becomes an agent to their client. Similarly, exchange income is also in high portion due to more exchange transactions.

Table 4.2

Sources of non-interest income

(Rs. in Millions)

Banks	Types	Fiscal year				
		2064/065	2065/066	2066/067	2067/068	2068/069
SCBL	Commission and discount	276.43	288.03	338.30	314.67	267.77
	Foreign exchange income	345.65	427.47	458.56	394.23	468.56
	Other operating income	32.59	33.19	34.48	36.75	38.36
	Non-operating income	1.68	22.10	36.27	6.45	0.71
Total		656.35	770.79	867.61	752.10	775.40
NIBL	Commission and discount	215.29	183.04	242.89	269.43	319.67
	Foreign exchange income	165.84	185.33	224.06	228.08	264.17
	Other operating income	167.95	113.97	168.31	152.99	157.78
	Non-operating income	7.05	2.95	10.61	8.40	14.16
Total		556.13	485.29	645.87	658.90	755.78
NABIL	Commission and discount	253.68	323.86	385.03	471.43	567.47
	Foreign exchange income	169.49	251.92	291.44	276.10	447.07
	Other operating income	-	-	-	-	-
	Non-operating income	24.08	2.19	6.45	6.98	13.84
Total		474.25	577.97	682.92	754.51	1028.38
HIMALAYAN	Commission and discount	187.82	284.30	270.26	350.37	510.84
	Foreign exchange income	207.67	249.98	180.28	195.53	309.90
	Other operating income	62.10	46.34	112.35	129.52	182.03
	Non-operating income	9.70	3.81	12.38	15.86	8.01
Total		467.29	584.43	575.27	691.28	1010.78
KIST	Commission and discount	3.73	4.33	16.77	68.04	42.56
	Foreign exchange income	-	0.04	2.79	7.67	15.34
	Other operating income	24.84	63.62	86.61	80.71	-
	Non-operating income	11.21	0.51	2.41	3.60	80.08
Total		39.78	68.50	108.58	160.02	137.98

Source: Annual reports of sampled banks

Other operating income is fluctuating over the periods among the banks. Such type of income includes securities gain, income from operating off-balance-sheet activities etc. Here off-balance-sheet item include income from contingent liabilities that the bank bears at present with risk and deals in future. By bearing contingent risk the bank charges fee which is a type of income also.

As shown in table 4.2, the portion of non-operating income is nominal. The bank earns non-interest income by sale of investment and assets, subsidies etc. which is categorized as non operating income.

4.1.3 Return on assets and equity

ROA is the numerical relationship between the net income and the assets. ROA percentage describes how much earnings can we derive from each rupee of assets we control. It is a useful number for comparing competing companies in the same industry.

As shown in table 4.3, return on asset is ranged from 2.80% to 0.28% among all of the banks during the five years period. In the case of SCBL, ROA is higher than other banks at all years. So, SCBL is the better performing bank. However, it is decreased in FY 2067/068 than FY 2066/067; the reason is the bank's total asset is also decreased. In FY 2068/069 ROA is increased due to the total assets of bank is also changed and increased.

Table 4.3

ROA of sampled commercial banks

(Ratio in %)

	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	2.46	1.77	2.32	1.76	1.19
2065/066	2.56	1.68	2.55	1.91	0.80
2066/067	2.70	2.19	2.37	1.19	0.76
2067/068	2.55	2.00	2.43	1.91	0.28
2068/069	2.80	1.60	2.80	1.76	0.44
Average	**2.61**	**1.85**	**2.49**	**1.71**	**0.69**

Source: Annual reports of sampled banks

In the case of NIBL, ROA is fluctuating at all fiscal years. It is highest in FY 2066/67 and lowest in FY 2068/069.

NABIL is the second better performing bank for return with respect to its assets. However, the fluctuation on ROA reveals that there is need to seek stable income and assets level.

HIMALAYAN and KIST bank's ROA is also fluctuating during whole periods.

The average values of ROA are 2.61 percent, 1.85 percent, 2.49 percent, 1.71 percent and 0.69 percent of SCBL, NIBL, NABIL, HIMALAYAN and KIST respectively. It is maximum in SCBL and minimum in KIST. Therefore, SCBL have been able to collect more net income by employing its total asset.

Similarly, ROE measures the rate of return on the ownership interest (shareholders' equity) of the common stock owners. It shows how well the bank uses investment funds to generate earning growth.

As shown in table 4.4, ROE of these banks is ranged from 33.93% to 2.52%. The higher maintained ROE have with NABIL at FY 2065/066. Similarly, SCBL is again better performing bank to provide return to its shareholders.

ROE of NIBL is higher in FY 2066/067 and lower in FY 068/069. Similarly, ROE of NABIL is higher in FY 2065/066 which is higher at all years in commercial bank industry.

Table 4.4

ROE of sampled commercial banks

(Ratio in %)

	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	32.85	25.93	29.35	25.30	5.72
2065/066	33.58	30.50	33.93	24.13	4.38
2066/067	32.22	32.40	30.27	14.79	6.90
2067/068	30.43	25.70	29.09	22.35	2.52
2068/069	28.36	20.10	30.25	20.70	4.47
Average	**31.49**	**26.93**	**30.58**	**21.45**	**4.80**

Source: Annual reports of sampled banks

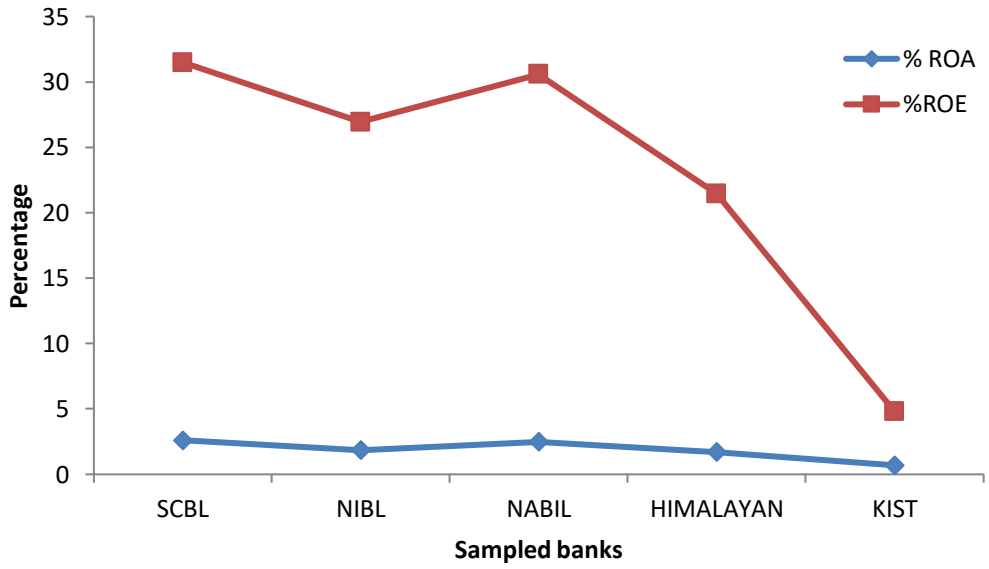
At last, HIMALAYAN bank's ROE has somewhat level below than other three banks' standard but HIMALAYAN bank has higher ROE at all fiscal years in contrast with KIST bank. So, KIST bank has more low level's ROE which may be out of the commercial bank's industry standard. It may

be due to the lower earning per share or return, which seemed on bank's financial statement.

In average, ROE is ranged from 31.49% to 4.80%, which is maximum at SCBL and minimum at KIST respectively. Also, the following figure about average ROA and ROE may helpful to describe the sampled bank's ratios.

Fig. 4.3

Average % ROA and % ROE



4.1.4 Net interest income to average assets ratio

NII is the difference between revenues generated by interest-bearing assets and the cost of servicing (interest burdened) liabilities. For banks, the assets typically include commercial and personal loans, mortgages, construction loans and investment securities. The liabilities consist primarily of customer's deposit. NII is the difference between a) interest payments the bank receives on loans outstanding and b) interest payments the bank makes to customer on their deposits. So,

$$\mathbf{NII} = \mathbf{Interest\ income} - \mathbf{interest\ expense}$$

Similarly, Average assets, as the name suggests, is the average amount of assets held during a period. For practical purposes, it is calculated

by taking the sum of assets at the beginning of a period and assets at the end of the period and then dividing the sum by 2. So,

$$\textbf{Average assets} = \frac{\textbf{Assets in the beginning} + \textbf{Assets in the end}}{\textbf{2}}$$

As shown in table 4.5, NII to average assets ratio is ranged from 4.90% to 2.59%. In the case of SCBL, it is lowest in FY 2064/065 (i.e.3.62%) and highest in FY 2068/069 (i.e.4.36%). But in FY 2066/067 it is decreased by 0.01%, after this period the ratio is in increasing trend.

Table 4.5

NII to average assets

(Ratio in %)

	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	3.62	3.56	3.29	3.20	2.59
2065/066	3.66	3.42	4.06	3.66	3.39
2066/067	3.65	3.81	4.35	3.80	3.65
2067/068	4.08	3.77	4.17	4.16	3.60
2068/069	4.36	3.49	4.90	3.69	2.79
Average	**3.87**	**3.61**	**4.15**	**3.70**	**3.20**

Source: worked out from the data given in appendix

In the case of NIBL, the ratio is fluctuating and it is lowest in FY 2065/066 (i.e.3.42) and highest in FY 2066/067 (i.e. 3.81). After this period the ratio is in decreasing trend.

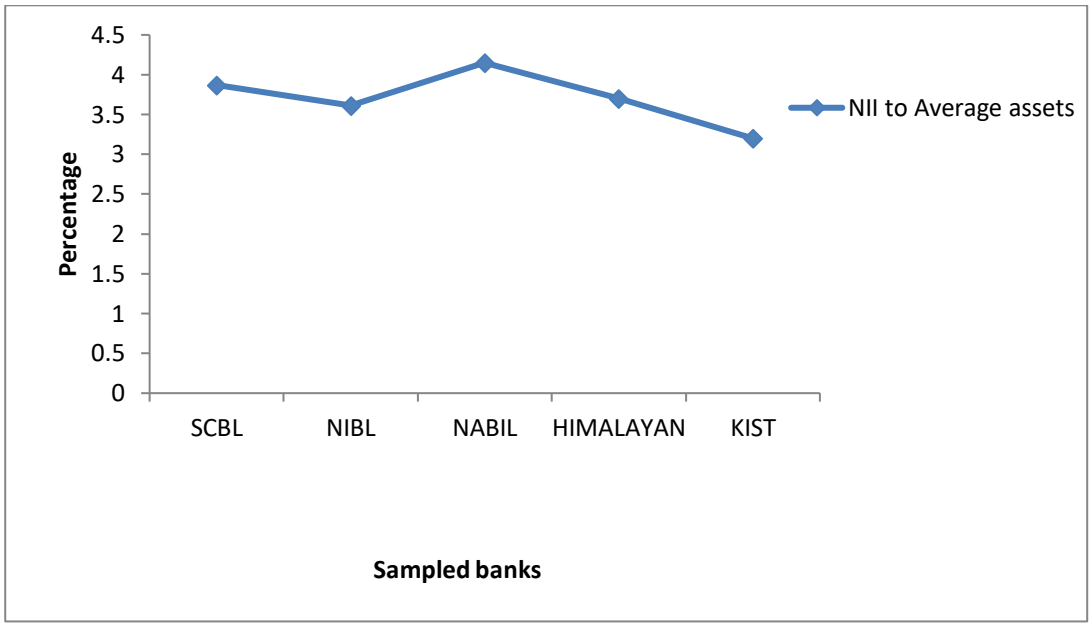
In the case of NABIL, the ratio is increasing upto FY 2066/067. It is decreased in FY 2067/068 by 0.18% and after this, it is increased in 2068/069 (i.e. 4.90) which is the maximum percentage of NII to average assets among all the banks. It indicates NABIL is that one bank which is able to collect more net interest income by employing related average assets in FY 2068/069.

In the case of HIMALAYAN, the ratio is increasing upto FY 2067/068. After this, it is decreased on 3.69%. Similarly, in the case of KIST, the ratio is ranged from 2.59% to 3.65%. It is minimum in FY 2064/065 and maximum in FY 2066/067. After this period it is in the trend of downward moving.

In average, the ratio of net interest income to average assets is ranged from 3.20% to 4.15%, which is maximum at NABIL and minimum at KIST. It is also presented in the figure.

Fig. 4.4

Net interest income to average assets



4.1.5 Non-interest income to average assets ratio

It is the ratio of the numerical relationship between annualized income from services except interest income and the average assets. Non-interest income is largely of a fee nature; service charges on deposits, trust department income, mortgage servicing fees, and certain types of loan and commitment fees. The most vital sources of non-interest incomes are commission and discount, exchange fluctuation income, brokerage and underwriting charges, other operating and non operating incomes. And an average asset is the average of opening and closing period's assets.

As shown in table 4.6, the non-interest income to average assets ratio is ranged from 2.16% to 0.66% among all the banks on different fiscal years. In the case of SCBL, it is fluctuating over the years. However, in average, SCBL is the best performing bank regarding non-interest income to average assets ratio. Because maximum average percentage of the ratio is 2.00% of SCBL.

Table 4.6

Non-interest income to average assets

(Ratio in %)

	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	2.12	1.65	1.28	1.31	1.01
2065/066	2.10	1.05	1.43	1.52	0.91
2066/067	2.16	1.17	1.42	1.37	0.72
2067/068	1.79	1.14	1.37	1.50	0.83
2068/069	1.81	1.22	1.70	1.95	0.66
Average	**2.00**	**1.25**	**1.44**	**1.53**	**0.83**

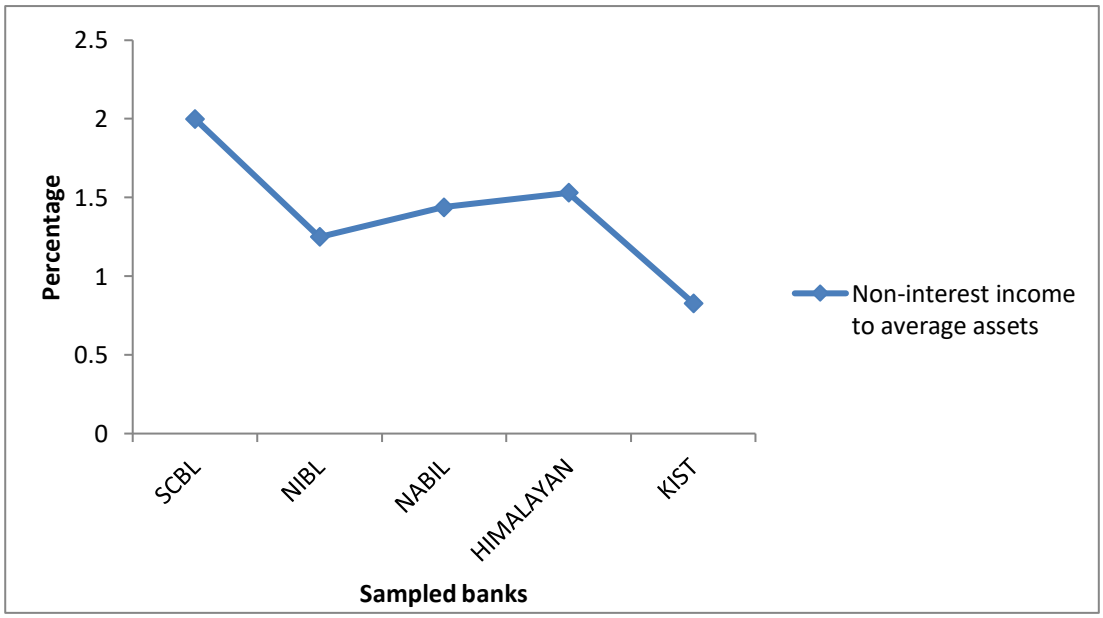
Source: worked out from the data given in appendix

In the case of NIBL, the ratio is changing over the period. The average ratio of the NIBL is 1.25. Similarly, In the case of NABIL, the ratio is sometime upward moving and sometime downward moving. However, the maximum percentage of the ratio is in FY 2068/069 (i.e.1.70). The average of all fiscal years percentage of NABIL is 1.44%.

And, in the case of HIMALAYAN, it is the second better performing bank regarding non-interest income to average assets. So, its average percentage of ratio for all fiscal years is 1.53%

Fig. 4.5

Non-interest income to average assets



At last, KIST is the lowest better performing bank for non-interest income factor. It's ratio over the period is fluctuating also. The average percentage of the ratio over all the fiscal year is 0.83 which is minimum in contrast to all other sampled banks. The above figure 4.5 also shows the average percentage of the ratio.

4.1.6 Net interest margin (NIM)

NIM is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (for example, deposits) relative to the amount of their (interest earning) assets. If a particular bank's non-performing assets are high, his NIM will go down as the interest earning assets are that much reduced by non performing assets. For remember, earning assets are loans, investment securities and short term investments that generate interest and yield related fee income.

Table 4.7

Net interest income to earning assets (NIM)

(Ratio in %)

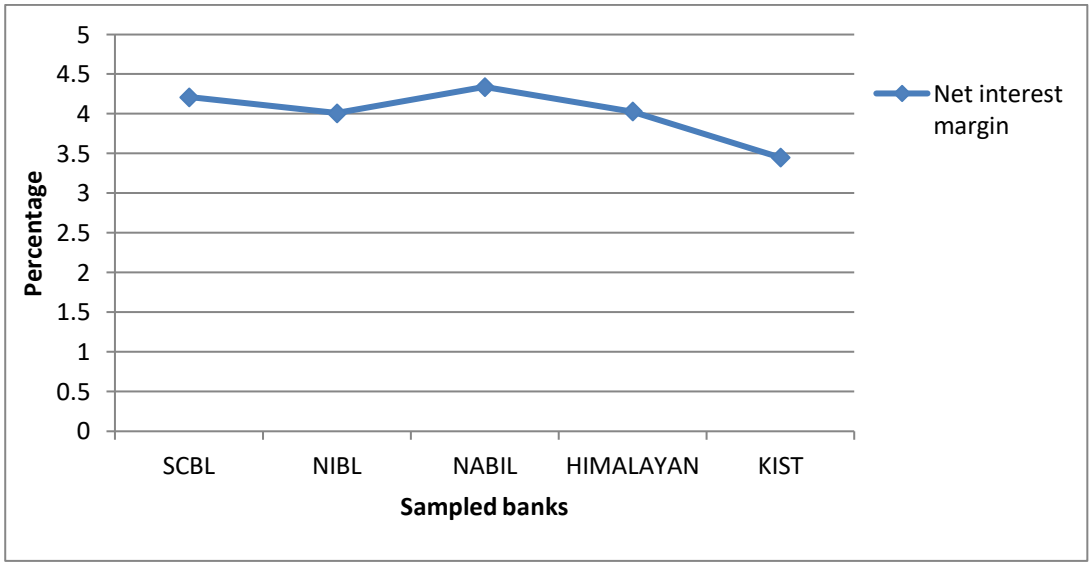
	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	3.75	3.49	3.67	3.35	3.26
2065/066	3.73	3.62	4.22	3.98	2.82
2066/067	3.91	4.29	4.25	4.21	3.49
2067/068	4.29	4.49	4.29	4.50	4.40
2068/069	5.38	4.15	5.26	4.13	3.28
Average	**4.21**	**4.01**	**4.34**	**4.03**	**3.45**

Source: worked out from the data given in appendices

As shown in table 4.7, net interest income to earning assets viz. Net Interest Margin (NIM) is ranged from 5.38% to 3.26% among the banks. In the case of SCBL, it is 3.75% in FY 2064/065 and it is decreased in FY 2065/066 thereafter it is increased. Likewise, the ratio is increasing upto FY 2067/068 and in later year it is decreased in NIBL and HIMALAYAN.

In the case of NABIL, the ratio is increasing from initial year to last fiscal year. Similarly, in the case of KIST, the ratio is fluctuating. In an average the ratio is maximum at NABIL (i.e. 4.34%) which indicate the bank is able to collect more net interest income by employing the earning assets. And, the average ratio is minimum at KIST which indicates poor performance relating to earn net interest income. For study in detail we can see the following figure also.

Fig. 4.6: Net interest income to earning assets (NIM)



4.1.7 Non-interest income per employee

In the company or in the bank shareholders do not involve themselves directly in day to day operation. They appoint the manager and other employees and delegate the necessary authorities. If the manager and other employees involve in day to day operation and try to earn more income at the best interest of their principal they may satisfied by gaining from staff bonus. So, here how much non-interest income that an employee earn on sampled banks is going to be analyze by presenting the exact table and figure of the Nepalese commercial bank during the last five fiscal year's period.

As shown in table 4.8, non-interest income to per employee is ranged from Rs 2.02 million to Rs 0.19 million in FY 2066/067 and FY 2065/066 among all the sampled banks.

Table 4.8

Non-interest income per employee

(figures in Rs. millions)

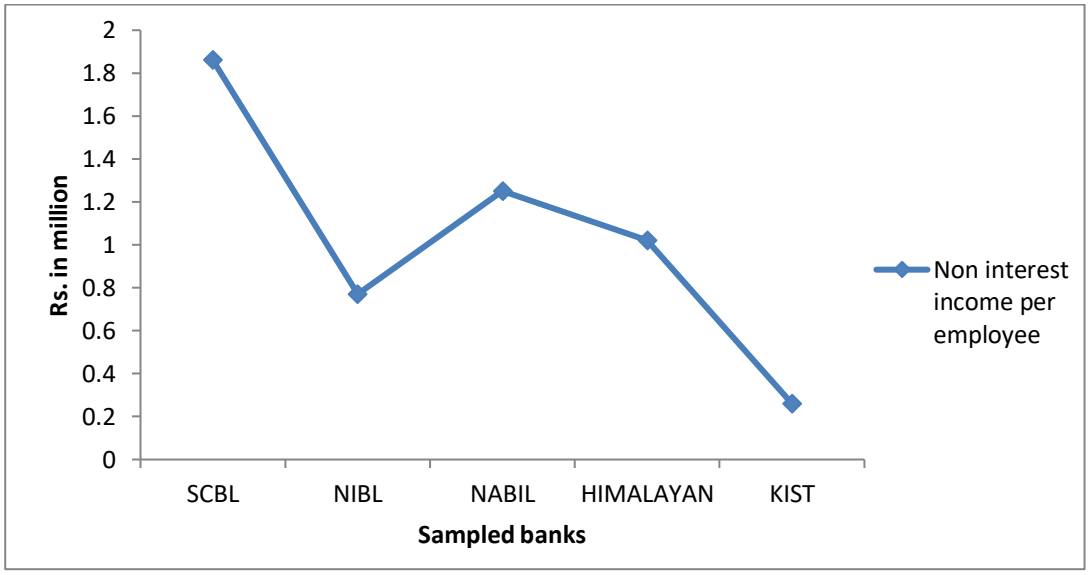
	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	1.74	0.89	1.14	0.79	0.41
2065/066	1.97	0.63	1.14	0.99	0.19
2066/067	2.02	0.74	1.23	1.00	0.20
2067/068	1.75	0.75	1.15	1.07	0.27
2068/069	1.83	0.86	1.58	1.27	0.24
Average	**1.86**	**0.77**	**1.25**	**1.02**	**0.26**

Source: worked out from the data given in appendix

The following figure may helpful to analyze the average data in detail.

Fig. 4.7

Non-interest income per employee



Analysis of efficiency ratios

4.1.8 Simple efficiency ratio

The most popular ratio to evaluate performance is a bank's efficiency ratio. Banks frequently report this measure along with other important financial ratios as a key driver of profitability and indicator of potential growth. Many banks announce their target ratio at the beginning of each year and some bank tie employee bonuses to whether the bank meets its target. Formally, the efficiency ratio equals a bank's non-interest expense as

a fraction of operating revenue where operating revenue is the sum of net interest income and non-interest income. The most efficient banks are presumably those with the lowest efficiency ratios. Table 4.9 shows the simple efficiency ratios of last five fiscal years.

Table 4.9

Simple efficiency ratio

(Ratio in %)

	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	25.69	28.57	14.78	39.85	37.68
2065/066	25.30	28.41	27.24	38.19	43.34
2066/067	26.47	26.09	25.36	41.06	57.85
2067/068	27.27	27.62	28.08	42.52	57.19
2068/069	27.90	27.80	23.37	46.33	74.35
Average	**26.53**	**27.70**	**23.76**	**41.59**	**54.08**

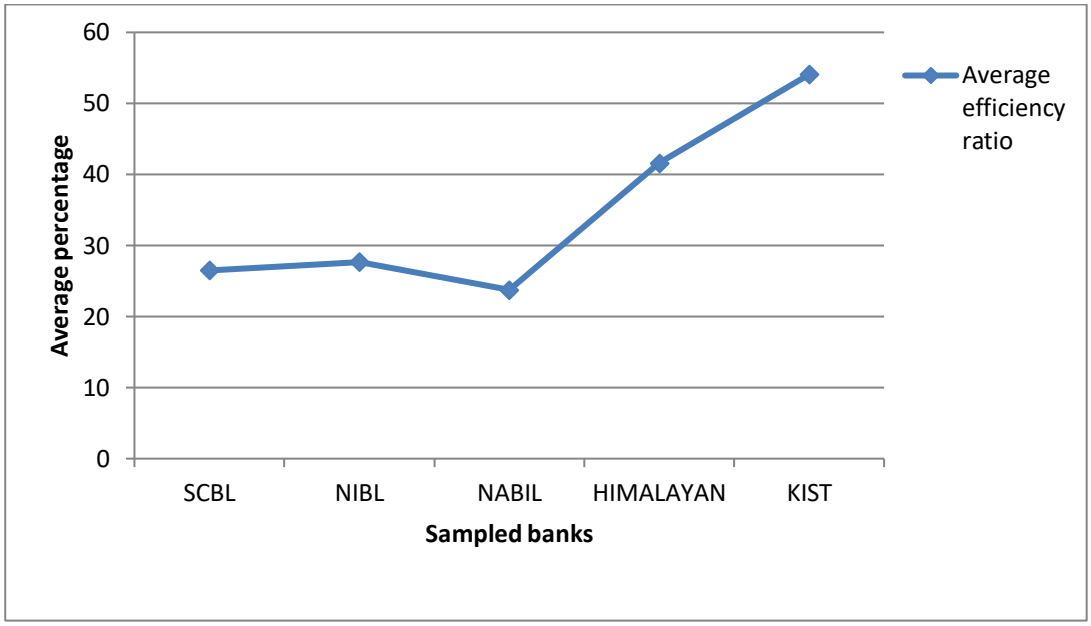
Source: worked out from the data given in appendix

Table 4.9 exhibits the observed efficiency ratio of last five fiscal years. As exhibits in Table 4.9, the efficiency ratio of SCBL is 25.69% in FY 2064/065. It is decreased in FY 2065/066 and thereafter it is increasing. Similarly, In the case of NIBL, the ratio is decreasing in second and third fiscal year than the first fiscal year. And, thereafter it is increasing. Likewise, efficiency ratio of NABIL is maximum of 28.08% in fourth fiscal year and minimum of 14.78% in first fiscal year. The ratio is fluctuating during the study period. So on, the ratio of HIMALAYAN is also fluctuating over the periods. At last, KIST bank's ratio is ranged from 37.68% to 74.35%. There is high volume's percentage of efficiency ratio in KIST than other banks.

In an average, the ratio is lowest at NABIL i.e.23.76 and highest at KIST indicate better and bitter efficient bank during the periods respectively. Figure 4.8 shows the average ratio of the banks.

Fig. 4.8

Simple efficiency ratio



As shown in figure, NABIL has lower average efficiency ratio than other banks which is the result of better operating performance. Similarly we can say, SCBL and NIBL are also the efficient bank to control non-interest expenses. Likewise, KIST and HIMALAYAN are not efficient in their operating activities done during the study periods.

4.1.9 Net non-interest margin (NNIM)

NNIM is the expression of the numerical relationship between net non-interest income and average total assets. So, it is calculated by dividing net non-interest income by average total assets. It measures the amount of net non-interest income earned by employing one unit (Rupee) of average total assets. So, higher the ratio indicates better operating performance.

As shown in table 4.10, NNIM of SCBL is distributed as a minimum of 0.09% in last fiscal year to maximum of 1.85% in fourth fiscal year of study. It is also increasing upto fourth fiscal year.

Similarly, NNIM of NIBL is 0.14% in FY 2064/065 and thereafter it has negative value during the study period which indicates greater non-interest expense exceeds non-interest income for one unit (Rupee) of total assets.

Table 4.10

Net non-interest margin ratio (Ratio in %)

	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	0.60	0.14	0.61	-0.46	-0.24
2065/066	0.60	-0.19	-0.06	-0.44	-0.64
2066/067	0.64	-0.12	-0.03	-0.71	-1.43
2067/068	1.85	-0.21	-0.17	-0.85	-1.67
2068/069	0.09	-0.08	-0.15	-0.61	-1.77
Average	**0.76**	**-0.09**	**0.04**	**-0.61**	**-1.15**

Source: worked out from the data given in appendix

In the case of NABIL, NNIM is 0.61% in first fiscal year thereafter it has negative value which indicate the greater non-interest expense also.

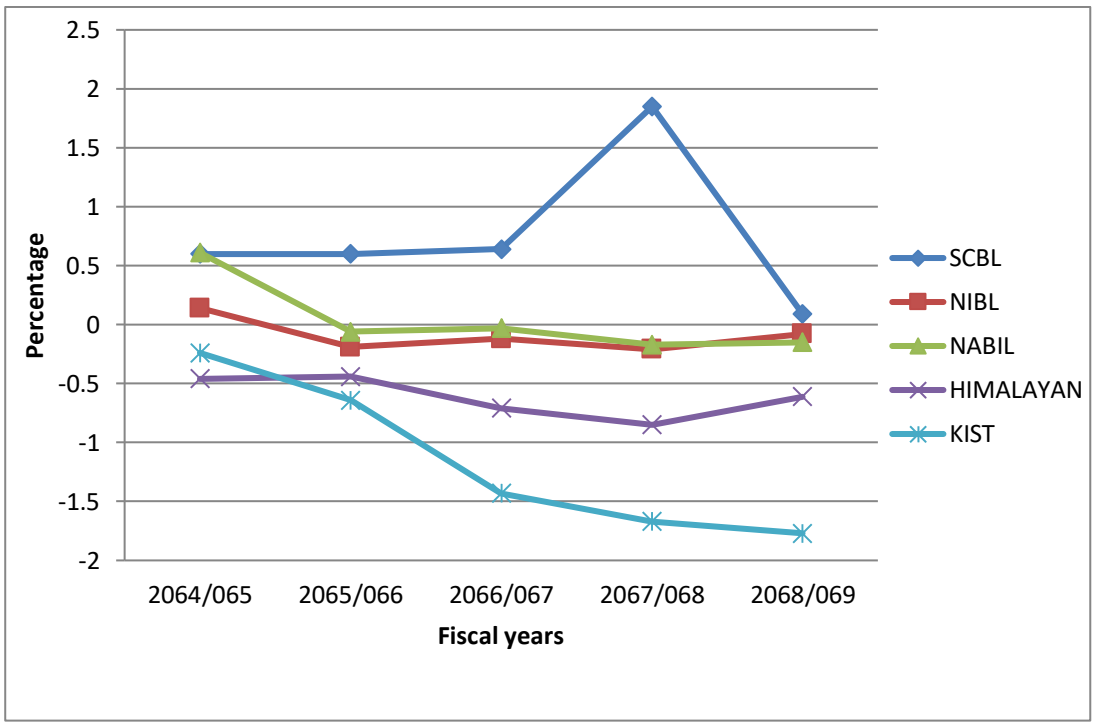
In the case of HIMALAYAN and KIST all values are in negative sign. Thus, these two banks are not performing well because having of the greater non-interest expenses than non-interest income.

By seeing average values of NNIM, we can say SCBL and NABIL have positive values (i.e. 0.76% and 0.04%). So, they are generating more non-interest income comparatively than others.

The following figure also helps to analyze the data tables.

Fig. 4.9

NNIM ratio



4.1.10 Burden ratio

Burden ratio is the expression of numerical relationship between net overhead expenses and average total assets. The greater burden ratio mean the greater non-interest expense exceeds non-interest income for banks balance sheet size. A bank is thus better off with a low burden ratio.

As shown in table 4.11, burden ratio is negative in SCBL. It indicates there have no burden of expenses and losses during the five years period. So, SCBL generating more non-interest income than it have expending.

In the case of NIBL, the ratio is in negative sign (-o.17%) in first fiscal year. After that it is positive and indicating there have greater non-interest expenses than income generation (non-interest).

Table 4.11

Burden ratio

(Ratio in %)

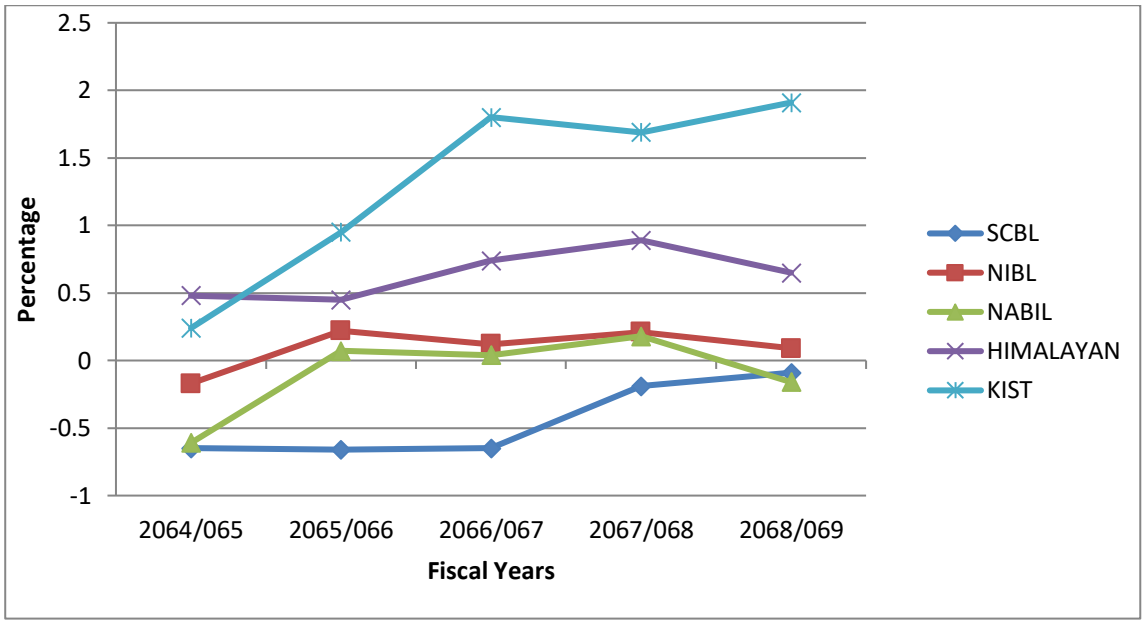
	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	-0.65	-0.17	-0.61	0.48	0.24
2065/066	-0.66	0.22	0.07	0.45	0.95
2066/067	-0.65	0.12	0.04	0.74	1.80
2067/068	-0.19	0.21	0.18	0.89	1.69
2068/069	-0.09	0.09	-0.16	0.65	1.91
Average	**-0.45**	**0.09**	**-0.10**	**0.64**	**1.32**

Source: worked out from the data given in appendix

In the case of NABIL, the ratio is negative in first and last fiscal year of study. Except these, the ratios are positive and indicate there is greater non-interest expense.

Similarly, HIMALAYAN and KIST have no negative values. They are expending more than generating or gaining such non-interest income. The following figure also helps to analyze the data.

Fig. 4.10: Burden ratio



4.1.11 Assets utilization ratio (AU)

It is a measure of a bank's operating revenue as percentage of total assets. Where operating revenue is the sum of the net interest income (interest income minus interest expense) and non-interest income. In the industry, EBIT is operating revenue. However to conceptualize, it is the revenue received before payment of dividend to shareholders, tax to the government and other losses. Similarly, total assets include cash and bank balance, earning assets, fixed assets and other assets etc. Hence, higher the AU indicates better the bank's operating performance. Table 4.12 presents the assets utilization ratio of sampled commercial banks during the study period of last five fiscal years.

Table 4.12: Assets utilization ratio

(Ratio in %)

	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	5.32	4.44	4.50	4.33	3.31
2065/066	5.22	3.89	5.06	4.96	2.90
2066/067	5.71	4.77	5.30	4.92	3.46
2067/068	5.62	4.86	5.24	5.37	2.50
2068/069	6.33	4.43	6.31	5.26	3.21
Average	**5.64**	**4.48**	**5.28**	**4.97**	**3.08**

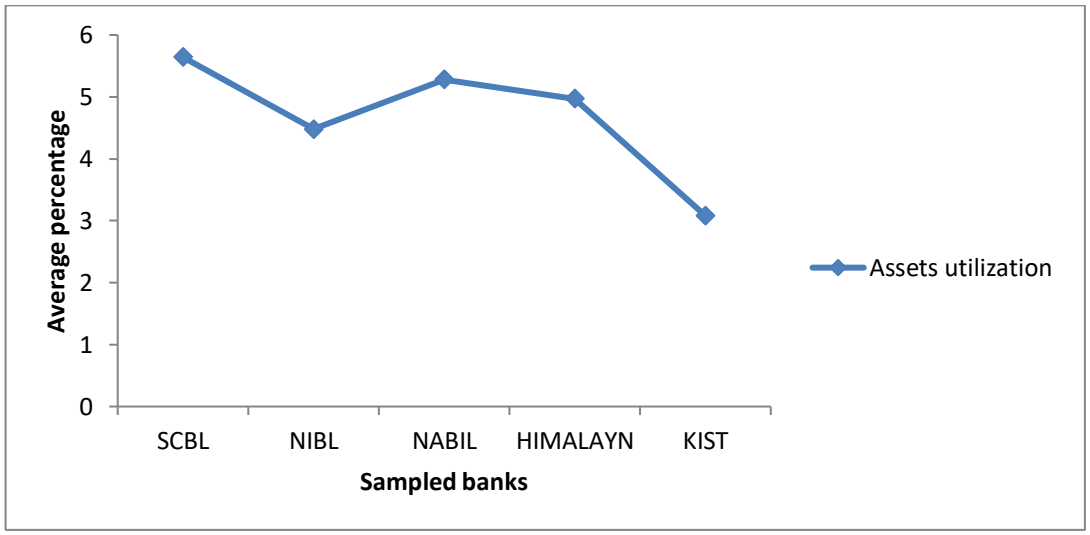
Source: worked out from the data given in appendix

As shown in Table 4.12, the assets utilization ratio is ranged from maximum 6.33% to minimum 2.50% during the five fiscal year's period which is at SCBL and KIST respectively. In SCBL, the ratio is fluctuating over the periods and in FY 2068/069 it is reached at 6.33%.

In the case of NIBL, it is maximum in FY 2067/068 and minimum in FY 2065/066. Likewise, NABIL has the ratio ranged from maximum 6.31% in FY 2068/069 to minimum 4.50 in first fiscal year. So on, the ratio is fluctuating in the case of HIMALAYAN and KIST during the periods of last five fiscal years.

In an average, the ratio is ranged from 5.64% to 3.08% which is maximum at SCBL and minimum at KIST respectively. It indicates SCBL is better performing bank to earn operating revenue relative to its assets and is in sound fiscal footing. Similarly, NABIL with ratio of 5.28% is second better performing bank and remember that the KIST has poor performance. It can be analyzed by seeing following figure also.

Fig. 4.11: Assets utilization



4.1.12 Funds utilization ratio

It is that ratio which says how much of total capital assets is utilized by using shareholders fund. So, it is computed by dividing total assets by total equity capital. Total equity capital includes share capital (paid-up), bonus share (purpose dividend), reserve & surplus and undistributed profit (retained earning). Higher the funds utilization ratio indicates better operating

performance also. So, table.4.13 presents the fund utilization ratio of sampled commercial banks during the study period of last five fiscal years.

Table 4.13

Funds utilization ratio

(Ratio in times)

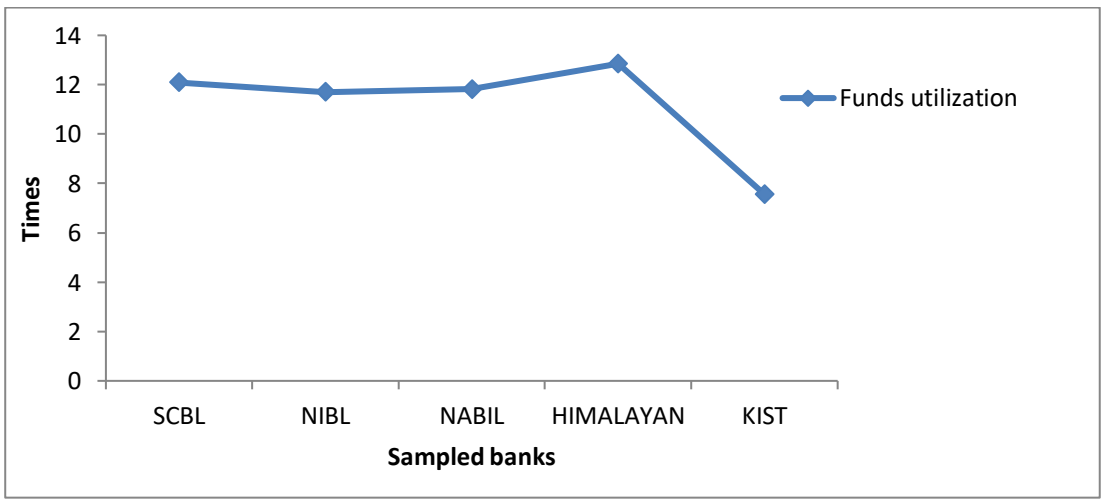
	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	13.37	14.66	12.92	14.67	4.55
2065/066	13.13	12.08	12.65	12.83	5.45
2066/067	11.93	11.05	12.21	12.75	8.65
2067/068	11.91	10.13	11.23	12.05	9.06
2068/069	10.11	10.60	10.10	11.95	10.09
Average	**12.09**	**11.70**	**11.82**	**12.85**	**7.56**

Source: worked out from the data given in appendix

As exhibits in table 4.11, funds utilization ratio of SCBL is maximum of 13.37 times in the initial year of study and minimum of 10.11 times in the final fiscal year of study. It is continuously declining from the initial fiscal year to at the end of fiscal year of study. Likewise, the ratios of NIBL, NABIL and HIMALAYAN are declining in later fiscal years. In the case of KIST, the ratio is increasing in later fiscal years. It means the KIST bank is improving the performance in later fiscal years. It is because, the higher the fund utilization ratio indicate better performance of the bank to utilize the equity capital for investment (or assets). Figure 4.12 also shows the average ratio of the funds utilization.

Fig. 4.12

Funds utilization



4.1.13 Expense ratio

Expense ratio helps to create a very intuitive interpretation whether specific types of expenses contribute significant difference in performance. It established a relationship of bank's operating expenses with total investment that is a total asset. The lower or greater is the expense ratio the more or less efficient bank will be in controlling expenses. All other factor being equal, the lower expenses ratio, the more profitable is the bank. Table 4.14 presents the expense ratios of sampled commercial banks of last five fiscal years.

Table 4.14

Expense ratio

(Ratio in %)

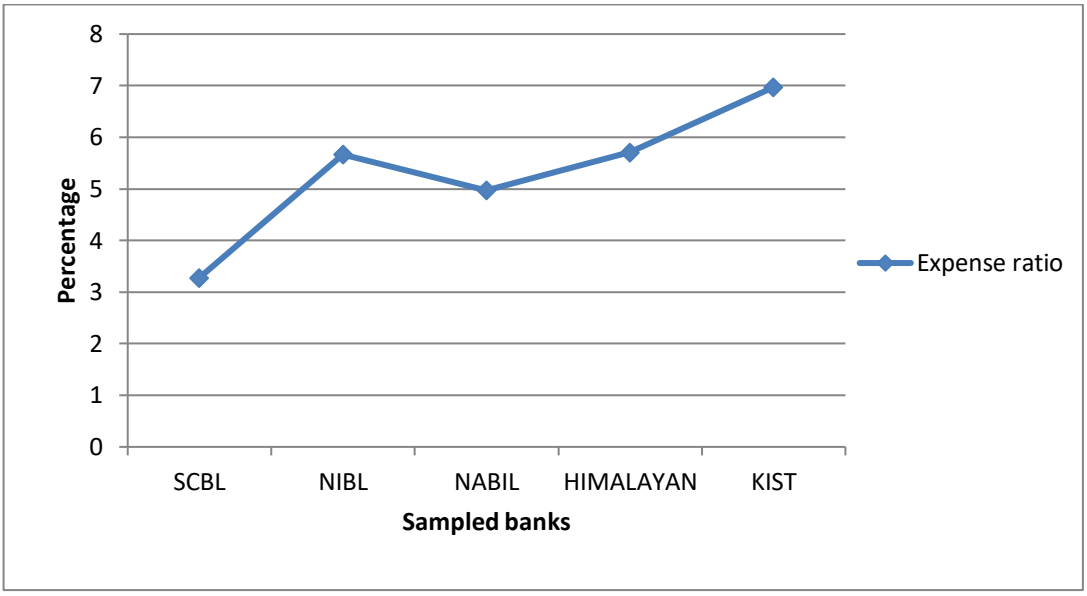
	Sampled banks				
Fiscal Year	**SCBL**	**NIBL**	**NABIL**	**HIMALAYAN**	**KIST**
2064/065	2.78	3.79	2.71	3.96	4.85
2065/066	2.68	4.29	4.01	4.23	4.30
2066/067	2.94	5.70	5.10	5.56	7.11
2067/068	3.82	7.54	6.55	7.30	9.21
2068/069	4.18	7.03	6.47	7.52	9.40
Average	**3.28**	**5.67**	**4.97**	**5.71**	**6.97**

Source: worked out from the data given in appendix

As exhibits in Table 4.14, expense ratio of SCBL is maximum of 4.18% in FY 2068/069 and minimum of 2.68% in 2065/066. Likewise, the ratios of NIBL and NABIL are increasing until FY 2067/068 and thereafter decrease. Similarly, the ratio of HIMALAYAN is in increasing trend during the whole periods.

At last, the expense ratio of KIST is increased in last three years. The total range of the ratios of KIST is distributed as a minimum of 4.30% in FY 2065/066 to maximum of 9.40% in FY 2068/069. In an average, the ratios of the banks are 3.28%, 5.67%, 4.97%, 5.71% and 6.97% of SCBL, NIBL, NABIL, HIMALAYAN and KIST respectively. So, in detail we can see in figure also.

Fig. 4.13
Average expense ratio



4.1.14 Growth ratios

With regard to this part of the study, growth ratios are calculated. It assists to know about the banks whether they are performing well or not. So, higher the growth ratio, the bank has better performance. Growth ratios of interest income and non-interest income of sampled commercial banks are given in table 4.15.

Table 4.15

Growth ratio of interest and non-interest income

Name of the bank	Interest income	Non-interest income
SCBL	15.90	4.25
NIBL	28.50	7.97
NABIL	32.65	21.35
HIMALAYAN	24.55	21.27
KIST	72.80	36.47
Aggregate	28.71	14.02

Source: Annual reports of sampled banks

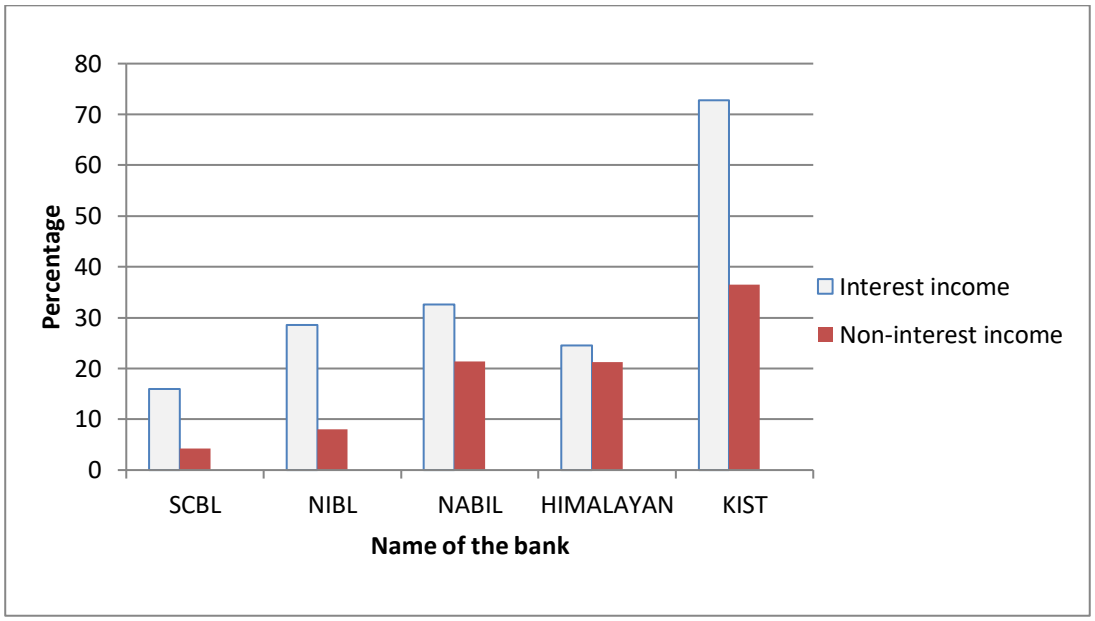
As presented in table 4.15, growth ratio of interest income are 15.90%, 28.50%, 32.65%, 24.55% and 72.80% in SCBL, NIBL, NABIL, HIMALAYAN and KIST respectively. It is highest in KIST and lowest in

SCBL. Likewise, growth ratio of sampled commercial banks is 28.71% in aggregate.

Similarly, growth ratio of non-interest income is lowest in SCBL (i.e. 4.25%) and highest in KIST (i.e. 36.47%) indicate KIST bank is improving his operation related to non-interest income also. Other growth ratios are 7.97%, 21.35% and 21.27% in NIBL, NABIL and HIMALAYAN respectively. The aggregate growth ratio of non-interest income is 14.02% which seems on Nepalese commercial bank during the last five fiscal year's period. The following figure may also help to analyze with a view.

Fig. 4.14

Financial growth ratio of interest and non-interest income



4.1.15 Trend Analysis of non-interest income by using least square method

Trend analysis is a statistical tool, which will highlight the previous trend of the non-interest income and helps in forecasting the future results of selected commercial banks. Trend analysis shows the trend of non-interest income of selected banks for eight years. Non-interest income shows bank's efficiency in performance of efficient utilization of the same indicates its success and profitability.

The trend analysis on non-interest income for coming year is following.

The value of y (non-interest income) when fiscal year is 6th year (2069/070), 7th year (2070/071) and 8th year (2071/072).

Table 4.16

Trend value of non-interest income of SCBL

(Rs. in millions)

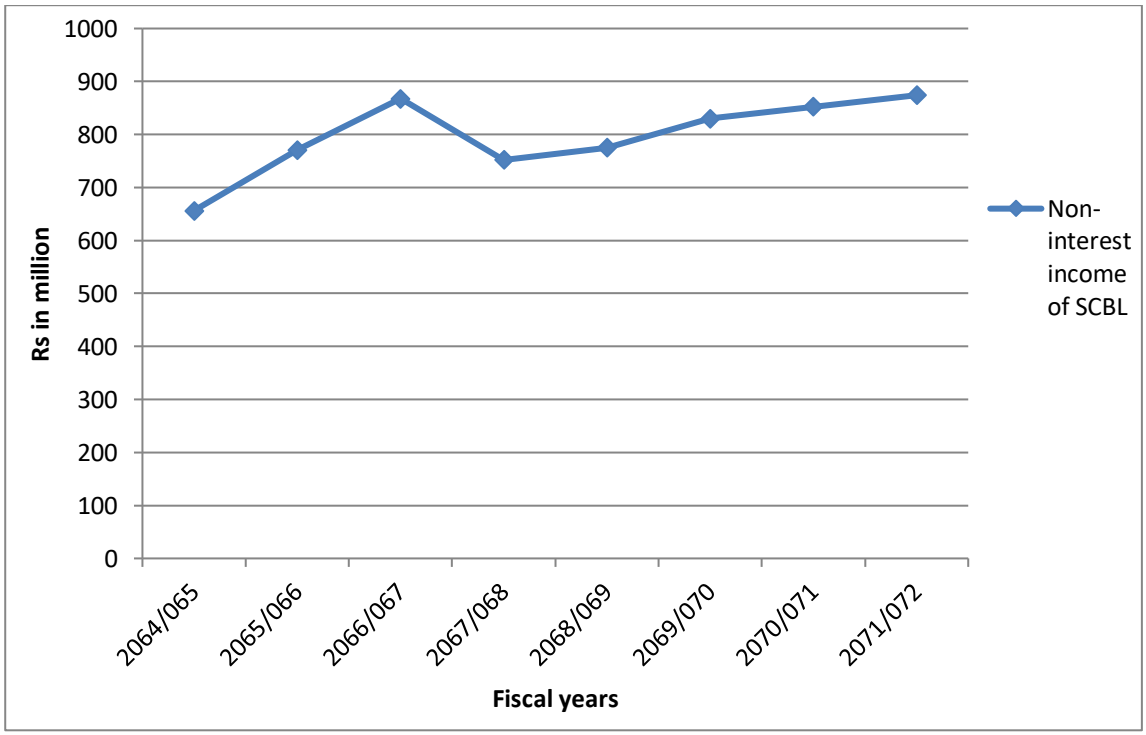
Fiscal year	2064/065	2065/066	2066/067	2067/068	2068/069	2069/070	2070/071	2071/072
Non-interest income	656.36	770.79	867.61	752.10	775.38	830.27	852.21	874.15

Source: see Table 4.1 and appendix

Based on analysis presented table that concludes non-interest income has been increase from FY 2068/069 to FY 2071/072. The expected non-interest income is Rs 874.15 million on FY 2071/072. It refers that success for aggressive operating activities and policies in terms of non-interest income.

Fig 4.15

Non-interest income trend line of SCBL



On above figure, future trend line has increased for next fiscal years 2069/070, 2070/071 and 2071/072, increased non-interest income by Rs.830.27 million, Rs. 852.21 million and Rs. 874.15 million respectively.

Table 4.17

Trend value of non-interest income of NIBL

(Rs. in millions)

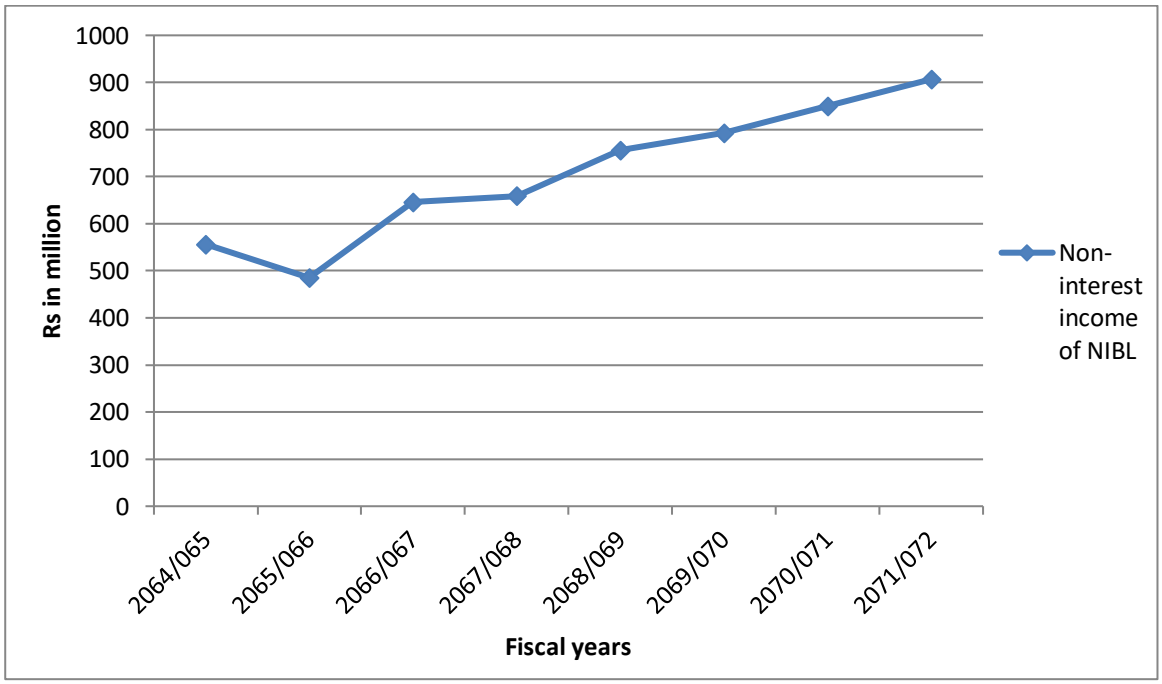
Fiscal year	2064/065	2065/066	2066/067	2067/068	2068/069	2069/070	2070/071	2071/072
Non-interest income	556.13	485.30	645.86	658.89	755.78	792.26	849.55	906.84

Source: see Table 4.1 and appendix

Based on analysis presented table that concludes non-interest income has been increase from FY 2068/069 to FY 2071/072. The expected non-interest income is Rs 906.84 million on FY 2071/072. It refers that success for aggressive operating activities and policies in terms of non-interest income.

Fig 4.16

Non-interest income trend line of NIBL



On above figure, future trend line has increased for next fiscal years 2069/070, 2070/071 and 2071/072, increased non-interest income by Rs.792.26 million, Rs. 849.55 million and Rs. 906.84 million respectively.

Table 4.18

Trend value of non-interest income of NABIL

(Rs. in millions)

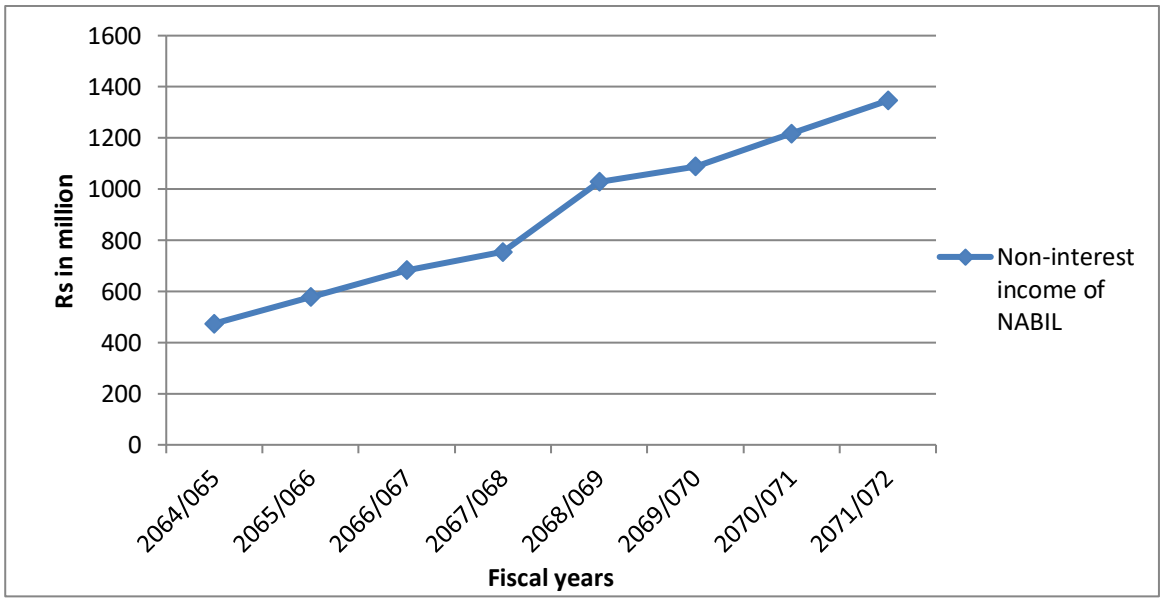
Fiscal year	2064/065	2065/066	2066/067	2067/068	2068/069	2069/070	2070/071	2071/072
Non-interest income	474.25	577.97	682.93	754.51	1028.38	1089.05	1217.53	1346.01

Source: see Table 4.1 and appendix

Based on analysis presented table that concludes non-interest income has been increase from FY 2068/069 to FY 2071/072. The expected non-interest income is Rs 1346.01 million on FY 2071/072. It refers that success for aggressive operating activities and policies in terms of non-interest income.

Fig 4.17

Non-interest income trend line of NABIL



On above figure, future trend line has increased for next fiscal years 2069/070, 2070/071 and 2071/072, increased non-interest income by Rs.1089.05 million, Rs. 1217.53 million and Rs. 1346.01 million respectively.

Table 4.19

Trend value of non-interest income of HIMALAYAN

(Rs. in millions)

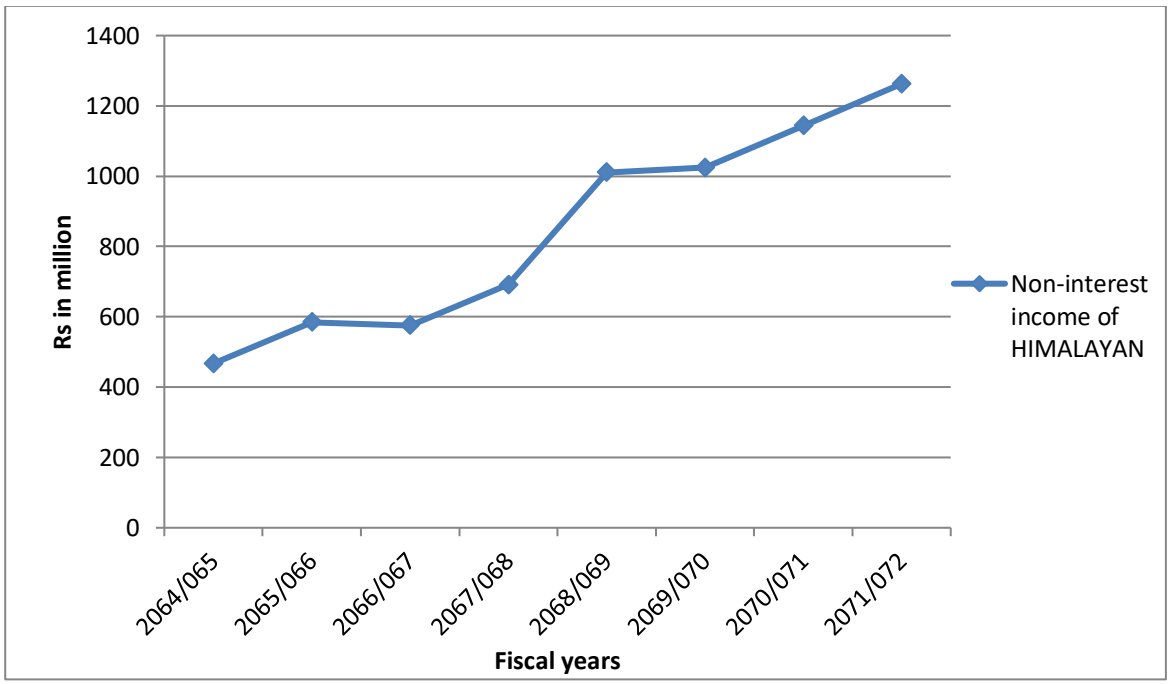
Fiscal year	2064/065	2065/066	2066/067	2067/068	2068/069	2069/070	2070/071	2071/072
Non-interest income	467.09	584.44	575.27	691.27	1010.77	1023.95	1143.33	1262.71

Source: see Table 4.1 and appendix

Based on analysis presented table that concludes non-interest income has been increase from FY 2068/069 to FY 2071/072. The expected non-interest income is Rs 1262.71 million on FY 2071/072. It refers that success for aggressive operating activities and policies in terms of non-interest income.

Fig 4.18

Non-interest income trend line of HIMALAYAN



On above figure, future trend line has increased for next fiscal years 2069/070, 2070/071 and 2071/072, increased non-interest income by Rs.1023.95 million, Rs. 1143.33 million and Rs.1262.71 million respectively.

Table 4.20

Trend value of non-interest income of KIST

(Rs. in millions)

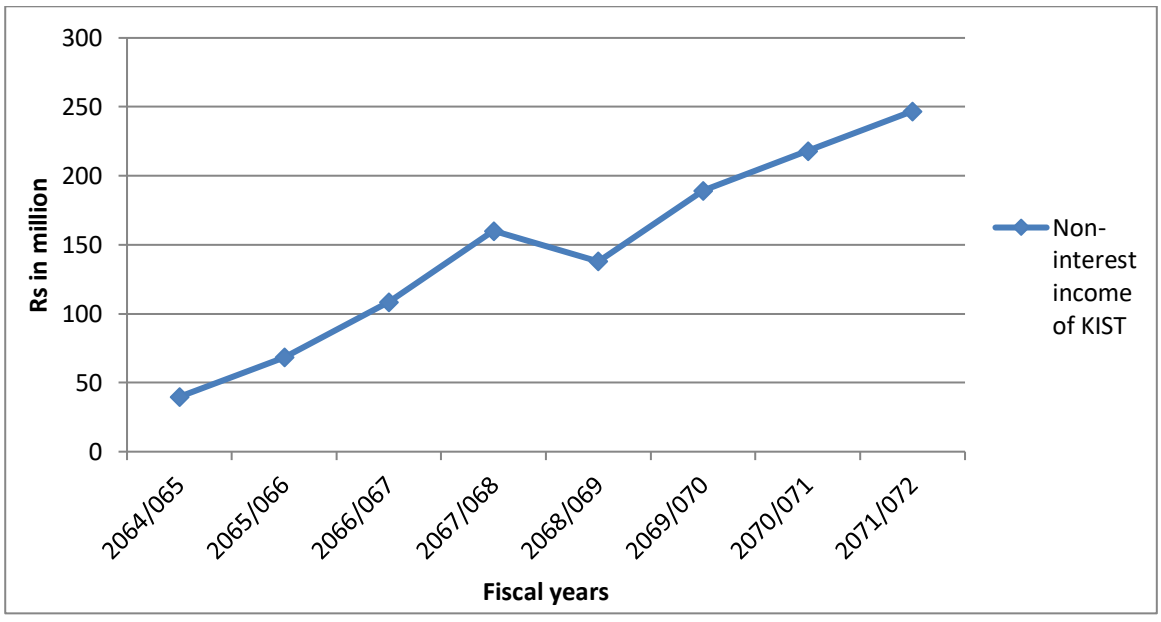
Fiscal year	2064/065	2065/066	2066/067	2067/068	2068/069	2069/070	2070/071	2071/072
Non-interest income	39.78	68.49	108.57	160.01	137.99	189.35	218.14	246.93

Source: see Table 4.1 and appendix

Based on analysis presented table that concludes non-interest income has been increase from FY 2068/069 to FY 2071/072. The expected non-interest income is Rs.246.93 million on FY 2071/072. It refers that success for aggressive operating activities and policies in terms of non-interest income.

Fig 4.19

Non-interest income trend line of KIST



On above figure, future trend line has increased for next fiscal years 2069/070, 2070/071 and 2071/072, increased non-interest income by Rs.189.35 million, Rs. 218.14 million and Rs.246.93 million respectively.

4.1.16 Measuring correlation between different variables.

The correlation between interest income and non-interest income, non-interest income and simple efficiency describe the degree of relationship between these two items. It explains whether there is positive or negative as well as no correlation between these variables.

Table 4.21

Correlation between different variables

Variables	Correlation coeff.(r)	P.E.(r)	6*P.E.(r)	Remarks
Interest & non-interest income	-1	0	0	r<6*P.E.(r)
Non-interest income & simple efficiency ratio	-0.57	0.2036	1.2216	r<6*P.E.(r)

Source: see Table 4.1 and appendix

As shown in Table 4.19, the correlation coefficient between interest income and non-interest income of sampled commercial banks is -1. And the probable error multiplied by six is found zero (0). Since, r is perfectly negative and r<6*P.E.(r), it can be interpreted that there is perfectly negative correlation between interest income and non-interest income and it is insignificant. It means perhaps there is no evidence of correlation.

Similarly, the correlation coefficient between non-interest income and simple efficiency of sampled banks is -0.57 and the probable error multiplied by six is 1.2216. Since, r is negative and r<6*P.E.(r), it can be interpreted that it is insignificant. So perhaps there is no evidence of correlation only between non-interest income and simple efficiency because there are some other items to measure operating efficiency such as NNIM, burden ratio, operating risk ratio, funds utilization and assets utilization. So, only one ratio cannot measure the operating efficiency and may not be correlated with non-interest income. Remember! It is not a fallacies conclusion.

4.2 Major Findings of the Study

4.2.1 Among the sampled commercial banks, contribution of non-interest income to the total income ranges from a minimum 5.96% in KIST and maximum 29.82% in SCBL. Moreover, contribution of non-interest income to the total income of SCBL and HIMALAYAN are found some how better in later fiscal year of study period. Whereas banks like NABIL and NIBL have not so better contribution. Furthermore, it is found nominal contribution of non-interest income to total income in KIST over the study period.

4.2.2 The aggregate contribution of interest income to total income is maximum of 86.95% and minimum of 78.42% over the study period. On the other hand, aggregate contribution of non-interest income to the total income is maximum of 21.58% in initial fiscal year and minimum of 13.05% in fourth fiscal year of the study.

4.2.3 Sources of non-interest income such as commission and discount, foreign exchange income, other operating income and non-operating income are fluctuating among all the fiscal years in all of the banks.

4.2.4 ROA of sampled commercial bank is ranged from maximum of 2.80% to minimum of 0.28% among all the banks over the study periods. It is increasing in NABIL and SCBL except third fiscal year and fourth fiscal year of the study respectively. Also the ratios are in high portion at SCBL. HIMALAYAN and KIST have poor performance to earn return on asset in which KIST has most poor performance.

4.2.5 ROE measures the return on equity. It is ranged from minimum 2.52% at KIST in FY 2067/068 to maximum 33.93% at NABIL in second fiscal year. KIST bank has more lowest ratios and it is ranged from 2.52% to 6.90% among the periods of the study.

4.2.6 Net interest income to average assets ratio is also a type of earning related ratio. It shows the related earning with respect to assets. It is maximum at NABIL in FY 2068/069 and minimum at KIST in FY 2064/065. The ratio is in fluctuating trend at all banks over the years. The average ratio is also fluctuating and ranged from 4.15% to 3.20% in the whole study period.

4.2.7 Similarly, non-interest income to average assets ratio in average is maximum at SCBL with 2 percentage point and minimum at KIST with 0.83 percentage point. It means the SCBL is earning more non-interest income relative to average total assets and the KIST has poor performance.

4.2.8 We can say, in an average, NABIL bank is earning more net interest income by employing earning assets. The ratio lies at 4.34 percentage point. And KIST bank has the lowest percentage i.e. 3.45%. The ratios are in increasing trend in NABIL. In the case of HIMALAYAN and KIST, these are fluctuating.

4.2.9 The ratios of non-interest income per employee are higher in SCBL at all fiscal years of the study and these are in minimum points at KIST. The range of such non interest income per employee is ranged at Rs.2.02 million in SCBL and Rs.0.19 million in KIST over the years of study. In an average, One employee is earning Rs.1.86 million, Rs.0.77 million, Rs.1.25 million, Rs.1.02 million and Rs.0.26 million in SCBL, NIBL, NABIL, HIMALAYAN and KIST respectively.

4.2.10 By seeing simple efficiency ratio, we can say that in contrary,. In an average the ratio is lowest in NABIL and highest in KIST (23.76% and 54.08% respectively) which indicate better and bitter efficient bank in operating their activities during the periods respectively.

4.2.11 NNIM measures the amount of net non-interest income earned by employing one unit (Rupee) of average total assets. In the study

period, the net non-interest income is earned by only three banks which are SCBL, NIBL and NABIL. SCBL is earned net non-interest income over the whole periods and only in FY 2064/065, NIBL earned net non-interest income. Thereafter, the ratio is in negative sign indicating there is more non-interest expense than non-interest income. There is positive ratio in NABIL also at FY 204/065 and after this period non-interest expense is more than non-interest income.

Similarly, HIMALAYAN and KIST have negative ratios which indicate there is more non-interest expenses over whole study period. It is the result of poor performance in managing non-interest income and expenses.

4.2.12 Assets utilization ratio is ranged from 2.50% to 6.33% among the banks over the whole periods. In an average the ratio is maximum (i.e.5.64%) in SCBL and minimum (i.e.3.08%) in KIST.

4.2.13 Funds utilization ratio explains how much total asset is in the bank by utilizing one unit of equity capital. It is ranged from maximum of 14.67 times to minimum of 4.55 times. In average SCBL and HIMALAYN are utilizing more capital to acquire assets than other banks and is ranged from 12.85% to 7.56% in HIMALAYAN and KIST respectively over the periods.

4.2.14 Expense ratio includes expenses from operating interest and non-interest itmes of activities. It is in an average ranged of minimum 3.28% to maximum 6.97% in SCBL and KIST over the whole study period.

4.2.15 Financial growth ratio of non-interest income is lowest in SCBL (i.e. 4.25%) and highest in KIST (i.e. 36.47%). Other growth ratios are 7.97%, 21.35% and 21.27% in NIBL, NABIL and HIMALAYAN respectively. The aggregate growth ratio of non-interest income is 14.02% which seems on Nepalese commercial bank during the last five fiscal year's period.

4.2.16 Using trend analysis method the trend line of SCBL in later year is shown as increasing. The trend values for coming years are Rs.830.27 million, Rs.852.21 million and Rs.874.15 million. Likewise, all bank's trend values of non-interest income are shown as in increasing level.

4.2.17 The correlation coefficient between interest and non-interest income is found as perfectly negative.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents summary, conclusions and recommendations of the study. Firstly, it summarizes the whole study secondly, draws the conclusions and finally, forwards the recommendations.

5.1 Summary

The study was carried out as an academic requirement for Master's of Business Studies on the topic of "Non-interest income and operating efficiency of commercial banks in Nepal." The study was started with the objective to find out the facts about the non-interest income of commercial banks in Nepal. The analysis of financial statement is done to obtain a better insight into non-interest income. Non-interest income has become a most popular aspect in the commercial banking sector today. Most of the bank's rely on non-interest income more whereas less on net interest income. It is because of the growing share of non-interest income to the total revenue. In this context, commercial banks are diversifying in their services with an appropriate customer and business mix focusing on fee based revenues. Thus, an effort was devoted to analyze the non-interest income and operating efficiency of commercial banks in Nepal.

The study was conducted with the general objective to analyze the non-interest income and operating efficiency of the commercial banks in Nepal. In addition, specific objectives of the study are to analyze the contribution of non-interest income to the gross revenue, contribution of each components of non-interest income, trend of net non-interest margin, operating efficiency, assets and funds utilization and lastly trend of non-interest income of the sampled commercial banks in period of fiscal year 2064/065 to fiscal year 2068/069. Relevant literature was reviewed in order to build up the conceptual foundation and to find out the clear destination of the research work. Concept of commercial banks, historical development of

banking industry in Nepal, functions of commercial banks, concept of non-interest income, sources of income of commercial banks, interest expenses and non-interest expenses of commercial banks were reviewed as conceptual review. On the other hand, review of articles and review of dissertations were included in research review section of the study.

The research covers only five year period from FY 2064/065 to FY 2068/069. It is concerned with the study on non-interest income and operating efficiency of commercial banks. Thus, the study was designed within the framework of descriptive and analytical research design and the analysis has been made in the same manner. For the study purpose, 31 commercial banks are taken as population. Out of 31 commercial banks five commercial banks are drawn for the study by applying judgment sampling technique. The required data and information were collected from secondary sources such as annual reports from websites of respective banks, various publications dealing in the subject matter of the study etc. Financial ratios, simple mathematic and statistical tools have been implied to get the meaningful result of the collected data in this research work.

The analysis has been made with the analysis of gross revenue, non-interest income, non-interest expense, trend of ratios, growth ratios and correlation between different variables of the sampled commercial banks during the period of last five fiscal years. The contribution of non-interest income to the gross income is not so remarkable in the banks. Similarly, aggregate contribution of interest income to the gross revenue is slightly increased and there are still strong contributions of interest income to the gross income over the study period. The sampled commercial banks are generating maximum portion of non-interest income from exchange gain plus commission & discount and minimum from non-operating income during the study period.

In an average, SCBL and NABIL are generating more return on assets and equity. Similarly, Non-interest income to average assets is higher in SCBL & lower in KIST. It indicates that the ability of generating fee based revenue is more with SCBLand less with KIST. The net interest margin of KIST is lower in contrast to other sampled banks indicates KIST bank have no more attention to operate non-interest income generating activities also.

So on, non-interest income per employee is higher in SCBL and lower in KIST.

By seeing efficiency ratios, it can be say that, the simple efficiency ratios of SCBL and NABIL are satisfactory. They have lower efficiency ratio which informs that the management of non-interest expenses is not controlled. Similarly, the average values of NNIM and burden ratio are in fluctuating trend. The operating risk ratio is negative with SCBL at all fiscal year and it is positive in other banks except FY 2064/065. It indicate SCBL is able to reduce risk related to net overhead expense and have better operating performance. Higher the ratio of assets and funds utilization indicate better is the operating efficiency also. In such a way, there is better performance with SCBL, NABIL and HIMALAYAN than other two banks.

The expense ratio is continuously increasing over the study period in most banks. It is higher in KIST. Ceteris paribus higher the expense ratio is not a better indicate of the performance. The aggregate value of growth ratio of non-interest income is lowest yet than ratio of interest income. So, banks are not focusing their activities yet to increase non-interest income. The correlation between non-interest income and interest income is perfectly negative. It means they are in negative relation and it can be interpreted as if banks give more attention to generate interest income reduce the non-interest income related activities and affects to non-interest income generation.

5.2 Conclusions

Based on the major findings, following conclusion have been drawn.

5.2.1 The range of contribution of non-interest income to the total income is minimum of 5.96% in KIST and maximum of 29.82% in SCBL shows that SCBL is generating highest percentage of non-interest income whereas lowest by KIST among the sampled commercial banks. Moreover, somehow better contribution in HIMALAYAN helps to conclude that SCBL and HIMALAYAN are generating a bit better non-interest income whereas it is not better in KIST like other two banks also.

5.2.2 In aggregate, there are wide differences between interest and non-interest income. And have still strong contributions of interest income among the sampled banks.

5.2.3 Sources of non-interest income such as commission and discount, foreign exchange income, other operating income and non-operating income are fluctuating among all the fiscal years in all of the banks. This support to draw the conclusion that there is not consistency in the data between different types of non-interest income over the whole study period.

5.2.4 ROA is ranged from maximum 2.80% to minimum 0.28% among all the banks during last five fiscal years. It is higher in SCBL in an average. Similarly, KIST have lower ratio and indicated poor performance related to the % ROA also.

5.2.5 Similarly, ROE is maximum at NABIL in FY 2065/066 and minimum at KIST in FY 2067/068. So, it is ranged from 33.93% to 2.52% among all the banks during the study period. In an average, KIST bank has more low level's ROE which may be out of the commercial bank's industry standard.

5.2.6 Net interest income to average assets ratio is maximum at NABIL in FY 2068/069 and minimum at KIST in FY 2064/065. The average ratio is fluctuating among the banks. It is highest in NABIL and lowest in KIST helps to conclude that NABIL is gaining more from net interest income than other sampled banks.

5.2.7 Non-interest income to average assets ratio is also in high level at SCBL and low in KIST. It means the SCBL is earning more non-interest income relative to average assets and the KIST has poor performance.

5.2.8 NIM of NABIL is higher in average of all years and that is 4.34%. The ratio is lowest in KIST with 3.45 percentage point. Here, NABIL is performing better and generating more net interest income by employing its earning assets.

5.2.9 The ratios of non-interest income per employee is indicated, SCBL have in good condition with higher ratio and KIST bank have poor performance in an average.

5.2.10 The non-interest expense to operating revenue is simply a type of efficiency ratio. It is lowest in NABIL and highest in KIST (i.e. 23.76% and 54.08% respectively) which indicate better and bitter efficient bank in operating their activities during the periods respectively.

5.2.11 NNIM is higher in SCBL and It is an indicator of the good performance. In an average NABIL is the second better performing bank regarding this ratio. All other sampled bank have negative sign indicate that they are expensing more than that they earn through operating non-interest income related activities.

5.2.12 Burden ratio is also negative with SCBL and NABIL in an average. Except these banks, ratios are in positive sign with all other banks at all fiscal year of the study. The positive sign of such ratio indicate there is poor efficiency to reduce net overhead expenses.

5.2.13 In an average, assets utilization ratio of SCBL is highest with 5.64 percent point and it is lowest in KIST (i.e. 3.08%). Where, higher the ratio is an indicator of the high level of operating revenue relative to the bank's asset.

5.2.14 Average ratios of fund utilization have higher in SCBL and HIMALAYAN. It means these two banks are utilizing more capital to acquire assets than other sampled banks.

5.2.15 Expense ratio of SCBL is minimum with 3.28% and it is maximum in KIST. Ceteris paribus minimum expense ratio is the indicator of better operating performance.

5.2.16 The aggregate growth ratio of non-interest income is 14.02% whereas the aggregate growth ratio of interest income is 28.71%. It means the banks are not giving more attention to generate high level of non-interest income.

5.2.17 Trend values of non-interest income are in increasing level. It indicates better future performance if the position is held again in the same manner as it is in prevailing. But it is strongly concluded that the fluctuation on the data in previous year are not considered as a whole. Remember the causes of fluctuation may be secular trend, seasonal variation, cyclical fluctuation and irregular fluctuation. If it is considered the sum of these factors the original data may be forecasted but the study ignores such factors due to the limitations of the study.

5.2.18 The correlation coefficient between interest and non-interest income is perfectly negative. It means increase in one variable (interest income) is associated with decrease in other variable (non-interest income).

5.3 Recommendations

On the basis of findings and conclusions of the study, following recommendations have been presented.

5.3.1 There are still strong contribution of percentage of interest income and weaker of non-interest income to the total income over the study period. However, non-interest income is assumed as a most important source of banks' revenue in these days. So the banks are recommended to contribute meaningful efforts to enhance percentage of non-interest income to the total income.

5.3.2 Sources of non-interest income such as commission and discount, foreign exchange income, other operating income and non-operating income are fluctuating among all the fiscal years in all of the banks. So, the banks are advised to keep consistent growth on the data among the periods. On the other hand, they are advised to extend more seriously their access in other different sources of non-interest income such as different fees through operating on- and off-balance-sheet activities, acquiring new technologies like ATM, debit card, credit card, ABBS etc.

5.3.3 Average values of ROA are ranged from 2.61% to 0.69% which is maximum in SCBL and minimum in KIST. Therefore, KIST bank is advised to collect more net income by employing total assets. Similarly, average value of ROE in KIST is minimum with 4.80 percentage point. It may be due to the lower earning per share or return, which seemed on banks financial statement. So, KIST bank's management team is advised to work betterly on their shareholder's interest.

5.3.4 Non-interest income to average assets is ranged from 3.20% to 4.15%, which is maximum at NABIL and minimum at KIST. So, it is recommended to manage non-interest income effectively in KIST.

5.3.5 Non-interest income per employee is higher in SCBL than other banks. It is somewhat level hopeful to NABIL and HIMALAYAN but lower in NIBL and KIST. Thus, these two banks are advised to maintain higher non-interest income with organizing and managing people (staffs) effectively.

5.3.6 Non-interest expense to operating revenue ratio is higher in HIMALAYAN and KIST. Ceteris paribus it is suggested to reduce non-interest expenses in such banks.

5.3.7 NNIM is positive in SCBL and NABIL in an average, among the periods. Except these banks it is strongly recommended to generate more net non-interest income through employing its total assets.

5.3.8 In an average, SCBL, NABIL and HIMALAYAN have higher ratios of assets and funds utilization. So, they are in sound fiscal footing. But, NIBL and KIST have lower level's ratios. So, they are advised to allocate resources effectively.

5.3.9 Expense ratio is highest in HIMALAYAN and KIST. They are advised to reduce such expenses.

5.3.10 Aggregate growth ratio of interest income (i.e. 28.71%) is almost double of the aggregate growth ratio of non-interest income (i.e. 14.02%). So, it is advised to give more attention towards generating more non-interest income by increasing operating efficiency.

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Appendix 1

List of Commercial Banks				
S.No.	**Names**	**Operation Date (A.D.)**	**Head Office**	**Paid up Capital** *(Rs. '00 Thosands)*
1	**Nepal Bank Ltd.**	**1937/11/15**	**Kathmandu**	**3804**
2	**Rastriya Banijya Bank Ltd.**	**1966/01/23**	**Kathmandu**	**3853**
3	**Agriculture Development Bank Ltd.**	**1968/01/02**	**Kathmandu**	**94375**
4	**Nabil Bank Ltd.**	**1984/07/16**	**Kathmandu**	**20298**
5	**Nepal Investment Bank Ltd.**	**1986/02/27**	**Kathmandu**	**24091**
6	**Standard Chartered Bank Nepal Ltd..**	**1987/01/30**	**Kathmandu**	**16102**
7	**Himalayan Bank Ltd.**	**1993/01/18**	**Kathmandu**	**20000**
8	**Nepal SBI Bank Ltd.**	**1993/07/07**	**Kathmandu**	**18693**
9	**Nepal Bangladesh Bank Ltd.**	**1994/06/05**	**Kathmandu**	**20103**
10	**Everest Bank Ltd.**	**1994/10/18**	**Kathmandu**	**11196**
11	**Bank of Kathmandu Ltd.**	**1995/03/12**	**Kathmandu**	**13595**
12	**Nepal Credit and Commerce Bank Ltd.**	**1996/10/14**	**Siddharthanagar, Rupandehi**	**13997**
13	**Lumbini Bank Ltd.**	**1998/07/17**	**Narayangadh,Chitawan**	**13000**
14	**Nepal Industrial & Commercial Bank Ltd.**	**1998/07/21**	**Biaratnagar,Morang**	**13116**
15	**Machhapuchhre Bank Ltd.**	**2000/10/03**	**Pokhara, Kaski**	**16272**
16	**Kumari Bank Ltd.**	**2001/04/03**	**Kathmandu**	**14850**
17	**Laxmi Bank Ltd.**	**2002/04/03**	**Birgunj, Parsa**	**16140**

18	**Siddhartha Bank Ltd.**	**2002/12/24**	**Kathmandu**	**15610**
19	**Global Bank Ltd.**	**2007/01/02**	**Birgunj, Parsa**	**15000**
20	**Citizens Bank International Ltd.**	**2007/06/21**	**Kathmandu**	**19223**
21	**Prime Commercial Bank Ltd**	**2007/09/24**	**Kathmandu**	**22457**
22	**Sunrise Bank Ltd.**	**2007/10/12**	**Kathmandu**	**18554**
23	**Bank of Asia Nepal Ltd.**	**2007/10/12**	**Kathmandu**	**15175**
24	**DCBL Bank Ltd.**	**2008/05/25**	**Kamaladi, Kathmandu**	**19209**
25	**NMB Bank Ltd.**	**2008/06/05**	**Babarmahal, Kathmandu**	**16517**
26	**Kist Bank Ltd.**	**2009/05/07**	**Anamnagar, Kathmandu**	**20000**
27	**Janata Bank Nepal Ltd.**	**2010/04/05**	**New Baneshwor, Kathmandu**	**14000**
28	**Mega Bank Nepal Ltd.**	**2010/07/23**	**Kantipath, Kathmandu**	**16310**
29	**Commerz & Trust Bank Nepal Ltd.**	**2010/09/20**	**Kamaladi, Kathmandu**	**14000**
30	**Civil Bank Litd.**	**2010/11/26**	**Kamaladi, Kathmandu**	**12000**
31	**Century Commercial Bank Ltd.**	**2011/03/10**	**Putalisadak , Kathmandu**	**10800**

APPENDIX- 2

Financial variables used in the study

(Rs. in Millions)

Fiscal Year	2064/65	2065/66	2066/67	2067/68	2068/69
SCBL					
Non-interest income	656.36	770.79	867.61	752.1	775.39
Interest income	1591.20	1887.22	2042.11	2718.70	2870.97
Non-interest expense	455.83	529.38	608.27	671.20	736.19
Interest expense	471.73	543.79	575.74	1003.10	1007.2
Average assets	30966.24	36701.18	40139.95	42011.92	42743.79
Earning assets	29818.95	35971.43	37473.93	39966.84	34668.64
Total assets	33335.79	40066.57	40213.32	43810.52	41677.05
Operating revenue	1774.15	2092.13	2297.71	2461.26	2638.45
Operating expenses	927.56	1073.17	1184.01	1674.30	1743.39
Total equity	2492.55	3052.47	3369.71	3677.78	4122.17
Net income	818.92	1025.11	1085.87	1119.17	1168.97
No. of employee (No.)	377	392	429	429	424
NIBL					
Non-interest income	556.13	485.30	645.86	658.89	755.78
Interest income	2194.28	3267.94	4653.52	5803.44	5982.64
Non-interest expense	500.30	586.25	713.45	782.60	809.02
Interest expense	992.16	1686.97	2553.85	3620.34	3814.41
Average assets	33739.74	46208.38	55158.11	57831.12	62056.53
Earning assets	34403.33	43641.02	48953.84	48668.62	52280.85
Total assets	39405.96	53010.80	57305.41	58356.83	65756.23
Operating revenue	1751.20	2063.31	2734.93	2833.59	2909.84
Operating expenses	1492.46	2273.22	3267.30	4402.94	4623.43
Total equity	2686.79	4389.25	5187.67	5762.03	6200.60
Net income	696.73	900.62	1265.95	1176.64	1039.28
No. of employee (No.)	622	766	877	877	883
NABIL					
Non-interest income	474.25	577.97	682.93	754.51	1028.38
Interest income	1978.70	2798.49	4047.73	5254.03	6126.86
Non-interest expense	246.96	605.06	701.13	855.47	931.62
Interest expense	758.44	1153.28	1960.11	2955.43	3155.49
Average assets	37132.76	40500.08	48009.54	55146.56	60667.43
Earning assets	33257.19	38969.20	49090.04	53567.82	56481.09
Total assets	37132.76	43867.40	52151.68	58141.44	63193.41
Operating revenue	1670.43	2220.98	2764.09	3046.13	3985.91
Operating expenses	1005.40	1758.34	2661.24	3810.90	4087.11
Total equity	2874.57	3468.35	4272.44	5175.45	6255.91

APPENDIX 2
(Continued)

Net income	746.47	1031.05	1139.10	1337.75	1689.39
No. of employee (No.)	416	505	557	657	650

HIMALAYAN					
Non-interest income	467.29	584.44	575.27	691.27	1010.77
Interest income	1963.65	2342.20	3148.61	4326.14	4724.89
Non-interest expense	636.53	759.30	886.09	1099.8	1348.67
Interest expense	823.75	934.78	1553.53	2414.81	2816.44
Average assets	35586.25	38452.16	41953.47	45998.87	51752.48
Earning assets	34038.32	35401.00	37877.51	42472.21	46264.65
Total assets	36857.62	40046.69	43860.25	48137.50	55367.47
Operating revenue	1597.50	1988.05	2157.96	2586.74	2911.21
Operating expenses	1460.30	1694.08	2439.62	3514.61	4165.11
Total equity	2512.99	3119.88	3439.21	3995.48	4632.01
Net income	635.87	752.84	508.79	893.12	958.64
No. of employee (No.)	591	591	577	647	793

KIST					
Non-interest income	39.78	68.49	108.57	160.01	137.99
Interest income	244.00	594.76	1517.73	1994.33	2175.41
Non-interest expense	49.22	140.32	379.47	484.85	539.4
Interest expense	141.95	338.98	967.32	1302.98	1587.91
Average assets	3943.89	7547.72	15049.38	19178.45	21021.29
Earning assets	3126.14	9073.04	15769.79	15724.17	17890.96
Total assets	3943.89	11151.37	18947.22	19409.69	22632.89
Operating revenue	130.62	323.77	655.91	847.77	725.49
Operating expenses	191.17	479.3	1346.79	1787.83	2127.31
Total equity	867.72	2045.12	2189.26	2143.33	2243.57
Net income	47.27	89.66	144.14	54.08	100.23
No. of employee (No.)	96	366	540	588	584

Appendix 3

Earning assets

(Rs. in Millions)

nks	pes	Fiscal year				
		64/065	65/066	66/067	67/068	68/069
	oney at call & very short..	197.54	055.55	669.46	280.89	126.04
BL	vestments	902.82	236.12	847.51	258.68	966.64
	ans & advances	718.60	679.76	956.95.	427.27	575.97
	Total	318.95	971.43	473.93	966.84	668.64
	oney at call & very short..	-	-	-	150.00	205.36
BL	vestments	374.02	399.81	635.53	423.11	438.49
	ans & advances	529.31	241.21	318.31	095.52	636.99
	Total	403.33	641.02	953.84	668.62	280.85
	oney at call & very short..	952.36	552.89	118.14	452.51	826.44
BIL	vestments	939.77	826.38	703.02	081.21	048.96
	ans & advances	365.05	589.93	268.87	034.09	605.68
	Total	257.18	969.20	090.04	567.81	481.08
	oney at call & very short..	518.53	170.79	308.84	734.00	264.60
MAL-	vestments	340.18	710.69	444.91	769.94	031.58
AN	ans & advances	179.61	519.52	123.75	968.27	968.47
	Total	038.32	401.00	877.50	472.21	264.65
	oney at call & very short..	362.26	184.50	366.28	413.06	129.06
ST	vestments	315.63	085.10	057.67	374.11	116.57
	ans & advances	448.24	303.44	345.84	437.00	645.32
	Total	126.13	073.04	769.79	724.17	890.95

Appendix 4

Shareholders' equity

(Rs. in Millions)

nks	pes	Fiscal year				
		64/065	65/066	66/067	67/068	68/069
BL	are capital (paid-up)	620.78	931.97	398.48	610.17	610.17
	nus share	310.39	465.98	209.77	-	241.53
	serve & surplus	178.08	415.03	731.49	023.20	261.53
	distributed profit	383.28	239.49	29.97	44.41	8.94
Total		492.53	052.47	369.71	677.78	122.17
BL	are capital (paid-up)	203.92	407.07	409.10	011.37	766.16
	serve & surplus	482.87	500.77	176.30	148.39	283.79
	posed dividend	-	481.41	602.27	602.27	150.65
Total		686.79	389.25	187.67	762.03	200.60
BIL	are capital (paid-up)	689.22	448.62	028.77	029.77	435.72
	serve & surplus	747.98	681.62	308.93	536.75	008.28
	posed dividend	437.37	338.11	434.74	608.93	911.91
Total		374.57	468.35	272.44	175.45	255.91
MAL-	are capital (paid-up)	013.51	216.22	600.00	000.00	400.00
	pitalization of profit	202.70	383.78	400.00	400.00	360.00
AN	serve & surplus	199.93	483.35	302.62	562.55	799.11
	tained earnings	96.84	36.53	136.59	32.93	72.90
Total		512.99	119.88	439.21	995.48	632.01
	are capital (paid-up)	300.00	000.00	000.00	000.00	000.00
ST	serve & surplus	25.46	45.12	89.26	143.33	243.57
	posed dividend	42.26	-	100.00	-	-
Total		367.72	045.12	189.26	143.33	243.57

Appendix 5

Calculation of Financial growth ratios of interest and non-interest incomes

1) **Growth ratios of interest incomes** $D_n = D_0(1+g)^n = D_1(1+g)^{n-1}$

SCBL:-

$$2870.97 = 1591.20(1+g)^{5-1}$$

$$g = \left(\frac{2870.97}{1591.20}\right)^{0.25} - 1$$

$$= 15.90\%$$

NIBL:-

$$5982.64 = 2194.28\,(1+g)^{5-1}$$

$$g = \left(\frac{5982.64}{2194.28}\right)^{0.25} - 1$$

$$= 28.50\%$$

NABIL:-

$$6126.86 = 1978.70\,(1+g)^{5-1}$$

$$g = \left(\frac{6126.86}{1978.70}\right)^{0.25} - 1$$

$$= 32.65\%$$

HIMALAYN:-

$$4724.89 = 1963.65\,(1+g)^{5-1}$$

$$g = \left(\frac{4724.89}{1963.65}\right)^{0.25} - 1$$

$$= 24.55\%$$

KIST:-

$$2175.41 = 244(1+g)^{5-1}$$

$$g = \left(\frac{2175.41}{244}\right)^{0.25} - 1$$

$$= 72.80\%$$

Aggregate:-

$$21880.77 = 7971.82(1+g)^{5-1}$$

$$g = \left(\frac{21880.77}{7971.82}\right)^{0.25} - 1$$

$$= 28.71\%$$

Appendix 5 (continued…)

2) **Growth ratios of non-interest incomes** $D_n = D_0(1+g)^n = D_1(1+g)^{n-1}$

SCBL:-

$$775.39 = 656.36\ (1+g)^{5-1}$$

$$g = \left(\frac{775.39}{656.36}\right)^{0.25} - 1$$

$$= 4.25\%$$

NIBL:-

$$755.78 = 556.13\ (1+g)^{5-1}$$

$$g = \left(\frac{755.78}{556.13}\right)^{0.25} - 1$$

$$= 7.97\%$$

NABIL:-

$$1028.38 = 474.25\ (1+g)^{5-1}$$

$$g = \left(\frac{1028.38}{474.25}\right)^{0.25} - 1$$

$$= 21.35\%$$

HIMALAYN:-

$$1010.77 = 467.29\ (1+g)^{5-1}$$

$$g = \left(\frac{1010.77}{467.29}\right)^{0.25} - 1$$

$$= 21.27\%$$

KIST:-

$$137.99 = 39.78(1+g)^{5-1}$$

$$g = \left(\frac{137.99}{39.78}\right)^{0.25} - 1$$

$$= 36.47\%$$

Aggregate:-

$$3708.30 = 2193.82(1+g)^{5-1}$$

$$g = \left(\frac{3708.30}{2193.82}\right)^{0.25} - 1$$

$$= 14.02\%$$

Appendix 6

Calculation of non-interest income trend line of SCBL

Year (X)	Non-interest income (y)	X^2	xy
1	656.36	1	656.36
2	770.79	4	1541.58
3	867.61	9	2602.83
4	752.10	16	3008.40
5	775.38	25	3879.90
15	3822.24	55	11686.07

$\boldsymbol{Where, N = 5\ years, \sum x = 15,\ \ \sum y = 3822.24,\ \ \sum x^2 = 55\ \ and\ \ \sum xy = 11686.07}$

$$\boldsymbol{Here, b = \frac{N\sum xy - \sum x \sum y}{N\sum x^2 - (\sum x)^2} = \frac{5\times 11686.07 - 15\times 3822.24}{5\times 55 - (15)^2} = 21.94}$$

$$\boldsymbol{a = \frac{\sum y - b\sum x}{N} = \frac{3822.24 - 21.94\times 15}{5} = 698.63}$$

Calculation of straight line trend analysis of non-interest income of SCBL

Now, regression equation is $\boldsymbol{y = a + bx}$

Non-interest income of 6th year (2069/070):-

$$\boldsymbol{y = 698.63 + 21.94 \times 6 =}$$

$\boldsymbol{Rs.\ 830.27\ million}$

Non-interest income of 7th year (2070/071):-

$$\boldsymbol{y = 698.63 + 21.94 \times 7 =}$$

$\boldsymbol{Rs.\ 852.21\ million}$

Non-interest income of 8th year (2071/072):-

$$\boldsymbol{y = 698.63 + 21.94 \times 8 =}$$

$\boldsymbol{Rs.\ 874.15\ million}$

Appendix 7

Calculation of non-interest income trend line of NIBL

Year (X)	Non-interest income (y)	X^2	xy
1	556.13	1	556.13
2	485.30	4	970.60
3	645.86	9	1937.58
4	658.89	16	2635.56
5	755.78	25	3778.90
15		55	

$$\boldsymbol{Where, N = 5\ years, \sum x = 15,\ \ \sum y = 3101.96,\ \ \sum x^2 = 55\ \ and\ \ \sum xy = 9878.77}$$

$$\boldsymbol{Here, b = \frac{N\sum xy - \sum x \sum y}{N\sum x^2 - (\sum x)^2} = \frac{5\times 9878.77 - 15\times 3101.96}{5\times 55 - (15)^2} = 57.29}$$

$$\boldsymbol{a = \frac{\sum y - b\sum x}{N} = \frac{3101.96 - 57.29\times 15}{5} = 448.52}$$

Calculation of straight line trend analysis of non-interest income of SCBL

Now, regression equation is $\boldsymbol{y = a + bx}$

Non-interest income of 6th year (2069/070):-

$$\boldsymbol{y = 448.52 + 57.29 \times 6 =}$$

$$\boldsymbol{Rs.\ 792.26\ million}$$

Non-interest income of 7th year (2070/071):-

$$\boldsymbol{y = 448.52 + 57.29 \times 7 =}$$

$$\boldsymbol{Rs.\ 849.55\ million}$$

Non-interest income of 8th year (2071/072):-

$$\boldsymbol{y = 448.52 + 57.29 \times 8 =}$$

$$\boldsymbol{Rs.\ 906.84\ million}$$

Appendix 8

Calculation of non-interest income trend line of NABIL

Year (X)	on-interest income (y)	X^2	xy
1	474.25	1	474.25
2	577.97	4	1155.94
3	682.93	9	2048.79
4	754.51	16	3018.04
5	1028.38	25	5141.90
15	3518.04	55	11838.92

$$\boldsymbol{Where, N = 5\ years, \sum x = 15,\ \ \sum y = 3518.04,\ \ \sum x^2 = 55\ and\ \sum xy = 11838.92}$$

$$\boldsymbol{Here, b = \frac{N\sum xy - \sum x \sum y}{N\sum x^2 - (\sum x)^2} = \frac{5 \times 11838.92 - 15 \times 3518.04}{5 \times 55 - (15)^2} = 128.48}$$

$$\boldsymbol{a = \frac{\sum y - b\sum x}{N} = \frac{3518.04 - 128.48 \times 15}{5} = 318.17}$$

Calculation of straight line trend analysis of non-interest income of SCBL

Now, regression equation is $\boldsymbol{y = a + bx}$

Non-interest income of 6th year (2069/070):-

$$\boldsymbol{y = 318.17 + 128.48 \times 6 =}$$

$$\boldsymbol{Rs.1089.05 million}$$

Non-interest income of 7th year (2070/071):-

$$\boldsymbol{y = 318.17 + 128.48 \times 7 =}$$

$$\boldsymbol{Rs.1217.53\ million}$$

Non-interest income of 8th year (2071/072):-

$$\boldsymbol{y = 318.17 + 128.48 \times 8 =}$$

$$\boldsymbol{Rs.1346.01\ million}$$

Appendix 9

Calculation of non-interest income trend line of HIMALAYAN

Year (X)	on-interest income (y)	X^2	xy
1	467.29	1	467.29
2	584.44	4	1168.88
3	575.27	9	1725.81
4	691.27	16	2765.08
5	1010.77	25	5053.85
15	3329.04	55	11180.91

$$\boldsymbol{Where, N = 5\ years, \sum x = 15,\ \ \sum y = 3329.04,\ \ \sum x^2 = 55\ \ and\ \ \sum xy = 11180.91}$$

$$\boldsymbol{Here, b = \frac{N\sum xy - \sum x \sum y}{N\sum x^2 - (\sum x)^2} = \frac{5 \times 11180.91 - 15 \times 3329.04}{5 \times 55 - (15)^2} = 119.38}$$

$$\boldsymbol{a = \frac{\sum y - b\sum x}{N} = \frac{3329.04 - 119.38 \times 15}{5} = 307.67}$$

Calculation of straight line trend analysis of non-interest income of SCBL

Now, regression equation is $\boldsymbol{y = a + bx}$

Non-interest income of 6th year (2069/070):-

$$\boldsymbol{y = 307.67 + 119.38 \times 6 =}$$

$$\boldsymbol{Rs.\ 1023.95\ million}$$

Non-interest income of 7th year (2070/071):-

$$\boldsymbol{y = 307.67 + 119.38 \times 7 =}$$

$$\boldsymbol{Rs.\ 1143.33\ million}$$

Non-interest income of 8th year (2071/072):-

$$\boldsymbol{y = 307.67 + 119.38 \times 8 =}$$

$$\boldsymbol{Rs.\ 1262.71\ million}$$

Appendix 10

Calculation of non-interest income trend line of KIST

Year (X)	Non-interest income (y)	X^2	xy
1	39.78	1	39.78
2	68.49	4	136.98
3	108.57	9	325.71
4	160.01	16	640.04
5	137.99	25	689.95
15	514.84	55	1832.46

$\boldsymbol{Where, N = 5\ years, \sum x = 15,\ \ \sum y = 514.84,\ \ \sum x^2 = 55\ \ and\ \ \sum xy = 1832.46}$

$$\boldsymbol{Here, b = \frac{N\sum xy - \sum x \sum y}{N\sum x^2 - (\sum x)^2} = \frac{5\times 1832.46 - 15\times 514.84}{5\times 55 - (15)^2} = 28.79}$$

$$\boldsymbol{a = \frac{\sum y - b\sum x}{N} = \frac{514.84 - 28.79\times 15}{5} = 16.59}$$

Calculation of straight line trend analysis of non-interest income of SCBL

Now, regression equation is $\boldsymbol{y = a + bx}$

Non-interest income of 6th year (2069/070):-

$$\boldsymbol{y = 16.59 + 28.79 \times 6 =}$$

$\boldsymbol{Rs.\ 189.35\ million}$

Non-interest income of 7th year (2070/071):-

$$\boldsymbol{y = 16.59 + 28.79 \times 7 =}$$

$\boldsymbol{Rs.\ 218.14\ million}$

Non-interest income of 8th year (2071/072):-

$$\boldsymbol{y = 16.59 + 28.79 \times 8 =}$$

$\boldsymbol{Rs.\ 246.93\ million}$

Appendix 11

Calculation of correlation coefficient of average interest and noninterest income

Bank	terest income(x)	u=x-84.44	u^2	Non-interest income(y)	v=y-15.56	V^2	$\sum uv$
CBL	73.81	-10.63	112.99	26.19	10.63	112.99	112.99
BL	86.65	2.21	4.88	13.35	2.21	4.88	-4.88
ABIL	84.44	0	0	15.56	0	0	0
MALAYAN	82.79	-1.65	2.72	17.21	1.65	2.72	-2.72
ST	91.12	6.68	44.62	8.88	-6.68	44.62	-44.62
	n=5	-3.39	165.23		3.39	165.23	165.23

Here, $\boldsymbol{n = 5, \sum u = -3.39, \sum u^2 = 165.23}$

$\boldsymbol{\sum v = 3.39, \sum v^2 = 165.23\ and}$

$\boldsymbol{\sum uv = -165.23}$

$$\therefore \boldsymbol{correlation\ coefficient}\ (r) = \frac{n\sum uv - \sum u \cdot \sum v}{\sqrt{n\sum u^2 - (\sum u)^2}\sqrt{n\sum v^2 - (\sum v)^2}}$$

$$= \frac{5\times -165.23 - (-3.39)\times 3.39}{\sqrt{5\times 165.23 - (-3.39)^2}\sqrt{5\times 165.23 - (3.39)^2}}$$

$$= \frac{-826.15 + 11.49}{\sqrt{814.66}\sqrt{814.66}}$$

$$= \frac{-814.66}{814.66}$$

$$= -1(perfectly\ negative)$$

$$Again, P.E.(r) = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.6745 \times \frac{1-(-1)^2}{\sqrt{5}}$$

$$= 0$$

$$\therefore r < P.E(r), It\ is\ insignificant$$

$$And, 6 \times P.E.(r) = 0$$

Appendix 12

Calculation of correlation coefficient of noninterest income and simple efficiency

Bank	oninterest income percent(x)	u=x-15.56	u^2	Simple efficiency ratio (y)	v=y-23.76	V^2	$\sum uv$
CBL	26.19	-10.63	112.99	26.53	2.77	7.67	29.44
BL	13.35	-2.21	4.88	27.70	3.94	15.52	-8.71
ABIL	15.56	0	0	23.76	0	0	0
MALAYAN	17.21	1.65	2.72	41.59	17.83	317.91	29.42
ST	8.88	-6.68	44.62	54.08	30.32	919.30	-202.53
		3.39	165.23		54.86	1260.40	-152.38

Here, $\boldsymbol{n = 5, \sum u = 3.39, \sum u^2 = 165.23}$

$\boldsymbol{\sum v = 54.86, \sum v^2 = 1260.40}$ ***and***

$\boldsymbol{\sum uv = -152.38}$

$$\therefore \boldsymbol{correlation\ coefficient}\ (r) = \frac{n\sum uv - \sum u \cdot \sum v}{\sqrt{n\sum u^2 - (\sum u)^2}\sqrt{n\sum v^2 - (\sum v)^2}}$$

$$= \frac{5\times(-152.38) - 3.39\times 54.86}{\sqrt{5\times 165.23 - (3.39)^2}\sqrt{5\times 1260.40 - (54.86)^2}}$$

$$= \frac{-761.90 - 185.98}{\sqrt{826.15 - 11.49}\sqrt{6302.05 - 3009.62}}$$

$$= \frac{-947.88}{\sqrt{814.66}\sqrt{3292.43}}$$

$$= \frac{-947.88}{28.54\times 57.38}$$

$$= \frac{-947.88}{1637.74}$$

$$= -0.57$$

$$Again, P.E.(r) = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.6745 \times \frac{1 - (-0.57)^2}{\sqrt{5}}$$

$$= 0.2036$$

$$\therefore r < P.E(r), It\ is\ insignificant$$

$$And, 6 \times P.E.(r) = 6 \times 0.2036 = 1.2216$$