CHAPTER I

1. INTRODUCTION

1.1 Introduction of the Study

A bank is an instution, which deals in money, receiving it on deposit from customers, honouring customer's drawings against such deposits on demand, collecting cheques for customers and lending or investing surplus deposits until they required for repayment.In the present days,various type of banks are established,for instance, industrial bank, commercial bank, agricultural bank, joint stock bank, co-operative bank and development bank.Modern banks are more advanced than the ancient ones.This is because of the growth in population, changes occured in the industrial field and trade, the competitive age and change in the people's ideology. The financial institutions,on the basis of service they offer has been categorized into three broad groups namely;

- depository institution
- contractual institution and
- Investment institutions.

Among the three broad groups, the depository institutions seem to haveprominently dominated the national financial system measured by the total assets they hold.these institutions include saving and loan association, credit union, finance companies and commercial banks.among these different depository institutions, the commercial banks turn out to be the most dominant ones in the economy of Nepal as they hold about 82% of total deposits and disburse around 72% of total loans and advances out of the total depository institutions.

Commercial banks are those financial institutions that deal in accepting deposits from the general public and institutions and providing loan against some secured securities.they provide working capital needs of trade industry and even to agricultural sectors.

Commercial banks furnish credit to finance consumption and investment spending.credit consists of lending of funds in return for a promise of future payment.basically, the principle business of a commercial bank is to make loan to qualified borrowers or at least to assist them to find credit from other sources.loans are among the highest yielding assets that a bank can add to its portfolio and they often provide the largest portion of traditional banks' operating revenue.therefore, the most challanging areas for the management of commercial bank arise in making new loans and managing those loans already on the books.further, the banks` major risk is also concentrated in the loan portfolio of the banks.

Advances by the commercial banks are made different forms such as loans, cash credits,overdrafts,billspurchase,billsdiscounted,etc.Thus, credits by commercial banks can be classified on different basis.On the basis of security, the loan can be classified intosecured loans and unsecured loans. Similarly,on the basis of time, loan can be classified into short-term, medium-term and long-term loan.

Term loanis money lent to the borrower in lump sum.Generally. subsequent debit in the loan account is not allowed except by way of interest, incidental expenses, insurance premium, expenses incurred for the proctetion of security.These loans are generally granted for long periods to finance fixed assets and are repayable in installments over the period of loan.

Project loan is granted to customers on the basis of the viability of the project.The financial institution asks the borrower to invest certain propertion of project from their equity and the rest will be financed as project loan.The debt equity ratio in the project loan should be maintained at 60:40. The project loan includes the term loan for set-up of the project or overdraft loan for working capital requirement.

Working capital is the difference between current assets and current liabilities.This type of loan is granted to the customer to meet the working capital gap.

Priority/deprived sector loan is granted to agricultural sector,priority sectors and other small industries as per the guidelines provided by Nepal RastraBank.Out of the total credit facility of commercial banks,12% must be extended towards priority sector loan including deprived sector.Loan granted to agricultural sector and service sector up to Rs 2 million and cottage industries sector uptoRs 2.5 million falls in the priority sector.

Home loan,Auto loan etc-The commercial banks provides various other types of loan to meet the specific demand of the borrower.The types of facilities are tailored according to the need and demand of the customers.Among various types of loan, consumer loan which are specifically designed focusing the large group of consumers is one of the most popular facilities that includes Home loan,Vehicle loan, Hire purchase loan,etc.which is focused on the retail consumers and the fixed income earning group of the community.Similarly, other loans include loan against Fixed Deposit Receipt, Cash Credit, Bills Purchasing and Discounting,Bridge Loan, Trust Receipt Loan, Advance on Credit, Packing Credit, Consortium loan,and the like.

Nowadays, banks have also been observed providing the credit in consumption spending through a number of electronic cards such as credit cards, debit cards and smart cards.Out of these three electronic cards, credit card seems to be the most popular form of installment credit available to the customer.Through the encoded piece of plastic, the consumer has instant access to credit for any purchase up to a prespecifiedlimit.In financial language, the credit card has removed the liquidity constraint that restricted the spending power of thousands of customers, democratizing access to credit and spending power.

In the present situation,almost all the commercial banks operating in the country have a written loan policy to individual loan decisions and shape their loan portfolio.A good written loan policy will contain a statement of the institution's goals, spell out who has authority to make loans, describe what procedure is to be followed in soliciting and evaluating each loan request and specify what documents accompany a loan application before it is approved.A written policy might let the public to have services in equitable manner.

A commercial bankmust mobilize its deposits and other funds to profitable, secured, stable and marketable sector, so that it can earn handsom profit as well as it should be secured and can be converted into cash whenever needed.Investment policy provides the bank several inputs through which they can handle their investment operation efficiently ensuring that maximum returns with minimum risk which ultimately leads the bank to the path of success, reducing their propertion of non-performing loan.Thus, investment is one of the most improtant functions of commercial banks.

The proper monitoring of loaned funds will certainly help minimize the non performing assets of commercial banks.One of the main reason for bad loans is the diversification of borrowed funds from one sector to the other unproductive and speculative sector.The regular monitoring of the borrower and the business is one of the major steps in controlling the loans to go bad.This monitoring enables the bank to evaluate the utilization of funds lent as well as the operation of the business.Further, it also prevents the banks from any unexpected loss.

On one hand, the banks should control the diversification of loaned funds but on the other hand, the banks should diversify its investment in various productive sectors of the economy.this is called the loan portfolio of commercial banks.The diversification in the investment is a key to the success of any commercial banks.

Our analysis of portfolio management is the process of selecting a combination of investment alternatives that provides the investor a maximum attainable return for a given level of risk or maximum level of risk for a given level of return.portfolio management can also be taken as the management of risk and return.it aims to determine an approximate mix of investments that attains optimum level of risk and return depending upon the attitude of the investor.

Investment portfolio is the main backbone of the profits of commercial banks.The bank must make wise decision in making investment of its fund. It shouldnot invest in securities that requires high amount of depreciation or fluctuations because a little difference could affect dramatically to the profitability of the bank.Moreover, the banks should not invest in speculative business, whose earning prospects depend on speculation.The bank should accept that type of securities, which are commercial, durable, marketable, and transferable in order to secure the amount of depositers.

The definition of various economists on the portfolio is hughlighted below:
According to Weston & Brigham, “A portfolio simply represents the practice among the investors of having their funds in more than one asset.The combination of investment assets is called a portfolio.”

Similarly, according to Lawrence J. Gitman, ‘portfolio means a collection or a group of assets.’

According to Raymond Brockington, ‘The term portfolio means collection of investment.For an investor, portfolio represents the shareholding of different companies acquired through the stock exchange.For a property investor,his portfolio will be a collection of buildings.To a financial manager within an industrial company,his portfolio will be a collection of real capital projects.It is apparent that the actual nature of the components of a portfolio depends on the population of opportunities from which the selection has been made.’

1.1.1 Overview of the present economy

The overall global economy has shown increasing trend provided favourable world financial market,significant increase in investment in major industrial economies and Asian economies,the other favorable situation will lead to percent growth in the world economy.

1.1.2 Investment Pattern Of Nepalese Commercial Banks

The concept if financial institution in nepal dated back more than sixty years.In 1994 BS,first commercial bank,nepal bank limited was established under the ‘banking act 1993’.the government provides 51% equity of the bank and the pramoters shared the

rest.Nepalrastra bank,the central bank emerged in 2013 BS under ‘Rastra Bank act 2012’. Since then,it has been providing policies and guidance to the financial sectors in one hand and is monitoring and controlling them in the other hand. Realizing the need of adequate banking services for the integrated and speedy development of industrial sector, RastriyaBanijya Bank came into existence in 2022 BS with 100% government equity.
After the establishment of Agricultural Development Bank in 2024 BS,growth of banking institutionremained almost stagnant till 2040 BS. In the context of banking development,the 1980s saw a major structura change in financial sector policies, regulations an institutional developments.Government emphasized the role of the private sector for the investment in the financial sector.

With the adoption by the govt in 80’s opened the door for foreign banks to open joint venture bank in nepal.as a result, various banking and non banking financial institution have come into existence. Nabil Bank ltd, the first foreign joint venture bank of nepal, started operation in july1984AD. During two decades, Nepal witnwssedtremandaus increment in number of financial institutions.

Nepalese banking system has now a wide geographic reach and institutional diversification. Consequently, by the end of mid-july 2011, altogether 272 banks and non-bank financial institutions licenced by NRB are in operation. Out of them 31 are ‘A’ class commercial banks,87’B’ class development banks,79 ‘C’ class finance companies, 21 ‘D’ class micro-credit development banks, 16 saving & co-operative and 38 NGOs. In mid-july 2011, the commercial banks branches reached to 1245 with the population of twenty one thousand per branch.

Financial Systemat a Glance

The nepalese financial system comprises of commercial banks,developmentbanks,financecompanies,co-operatives societies, non-government organizations(permited to perform limited banking activities), insurance companies,nepal stock exchange, citizen investment trust, employee’s provident find and postal saving service.however, information in this thesis is necessary about hte effort that thecommercial banks are contributing to up boost of nepalese economy that are under the direct regulation of NRB.

The total capital fund of the whole financial system was Rs105816.3 million in the mid-july 2010/11 where as this figure stand to be Rs 117979.6 million in mid-july 2011/12.Out of the total capital fund, commercial banks’ share stand at 65.4%(positive) of the total capital fund, followed by development banks 19.2% and financial companies’ share stands at 13%.

A rising trend in deposit of financial system has been observed during the period mid-july 2011 to mid-july 2012.Total deposit have increased by 10.9% and reaches Rs 76116 million from Rs 85477 million.Out of the total deposits, market share of commercial banks, development banks, finance companies and co-operatives are 80.6%, 11.8%, 7.1% and 0.5% respectively.

The liquid fund of the system have increased by 59.9% and reached Rs241900.3 million in mid-july2012 as compared to Rs 151266.2 million in mid-july 2011.Out of the total liquid funds in mid-july 2012 commercial banks have the highest share of 66.9% followed by development banks 19.6%, finance companies 11.1% and co-operatives 2.4%.

Investment of financial system have shown a rising trend.Total investment was recorded at Rs 162870.4 million in the mid-july 2011 which is increased by 28.9% and reaches tRs 209934.4 million in mid-july 2012.Commercial banks have the highest stake 86.3% followed by financial companies 7.1% and development banks 2.6% .Co-operatives societies have a very small investment portfolio.

A rising trend in loans and advances of financial system has been observed during the period mid-july 2011 to mid-july 2012.Total loans and advances of the system is Rs718674.5 in mid-july 2011,which increased by 12.3% and have reached Rs 807579.3 million in mid-july 2012.Out of the total loans and advances, market share of commercial banks, development banks, finance companies and co-operatives are 77.15, 12.5%, 8.35 and 2.2% respectively.

Commercial Banks Activity at a Glance

There are 32 commercial banks in the country as of mid-july 2012.The number of commercial banks branches as of mid july 2012 is 1425 with the population of nineteen thousand per branch.Here are some banks

S.N.	Commercial Banks	Operation Date(A.D.)	Head Office	Branches (No)
1	Nepal Bank Ltd.	1937/11/15	Kathmandu	112
2	RastriyaBanijya Bank	1966/01/23	Kathmandu	142
3	Nabil Bank Ltd	1984/07/16	Kathmandu	49
4	Nepal Investment Bank Ltd	1986/02/27	Kathmandu	41
5	Standard chartered Bank Ltd	1987/01/30	Kathmandu	16
6	Himalayan Bank Ltd	1993/01/18	Kathmandu	39
7	Nepal SBI Bank Ltd	1993/07/07	Kathmandu	59
8	Nepal Bangladesh Bank Ltd	1993/06/05	Kathmandu	19
9	Everest Bank Ltd	1994/10/18	Kathmandu	45
10	Bank of Kathmandu	1995/03/12	Kathmandu	45
11	NCC Bank	1996/10/14	Siddharthanagar	22
12	Lumbini Bank Ltd	1998/07/17	Narayanghat	37
13	NIC Bank Ltd	1998/07/21	Biratnagar	16
14	MachhapuchhreBankLtd	2000/10/03	Pokhara	54
15	Kumari Bank Ltd	2001/04/03	Kathmandu	28
16	Laxmi Bank Ltd	2002/04/03	Birgunj	29
17	Siddhartha bank Ltd	2002/12/24	Kathmandu	41
18	Agriculture Development Bank Ltd.	2006/03/16	Ramshahpath,kathmandu	234
19	Global bank Ltd.	2007/01/02	Birgunj,Parsa	57
20	Citizens Bank International Ltd.	2007/06/21	Kamaladi,kathmandu	33
21	Prime Commercial Bank Ltd	2007/09/24	Newroad,Kathmandu	32
22	Bankof Asia Nepal Ltd.	2007/10/12	Tripureshwor,Kathmandu	49
23	Sunrise Bank Ltd	2007/10/12	GairidharaCrossing,Kathmandu	29
24	Development Credit Bank Ltd.	2008/05/25	Kamaladi,Kathmandu	21

25	NMB Bank Ltd	2008/06/05	Babarmahal,Kathmandu	21
26	Kist Bank Ltd	2009/05/07	AnamNagar,Kathmandu	52
27	Janata Bank Nepal Ltd	2010/04/05	NayaBaneshwor,Kathmandu	23
28	Mega Bank Nepal Ltd	2010/07/23	Kantipath,Kathmandu	23
29	Commerz& Trust Bank Nepal Ltd	2010/09/20	Kamaladi,Kathmandu	14
30	Civil Bank Ltd	2010/11/26	Kamaladi,Kathmandu	13
31	Century Commercial Bank Ltd	2011/03/10	Putalisadak, Kathmandu	8
32	Sanima Bank Ltd	2012/02/15	Nagpokhari, kathmandu	22

The number of commercial bank branches operating in the country increased to 1425 in mid-July 2012 from 1245 in mid-July 2011.Among the total bank branches, 49.7 percent bank branches are concentrated in the central region followed by Western 17.9 percent, Eastern 17.8 percent Mid-Western 8.4 percent and Far-Western 5.9 percent respectively.
The total assets of commercial banks increased by 21.5 percent compare to increment of 11.6 percent in the previous year.By the end of this fiscal year, the total assets of commercial banking sector reaches to Rs 1067,096 million from Rs 878,364 million in the last period.

The share of loans and advances to total assets remained 58.3 percent in Mid-July 2012.Similarly, share of investment and liquid funds to total assets registered 17.0 percent and 15.2 percent respectively.In Mid-July 2012, the loans and advances increased by 17.9 percent compare to 12.4 percent in Mid-July 2011.By the end of Mid-July2012,the total outstanding amount of loan and advances including bills purchase and loan against collected bills of commercial manks reaches to Rs 622,575 million.It was Rs 528,023 million in Mid-July 2011.

The composition of liabilities of commercial banks shows that, the deposit has occupied the dominant share of 81.3 percent followed by other 10.0 percent capital fund 7.2 percent and Borrowings 1.5 percent in the Mid-July2012.Total deposit of commercial bank increased by26.2 percent in mid-July compare to 9.0 percent growth in the Mid-July 2011.As of Mid-July 2012,it reaches to Rs867,978million from Rs687,588 million in the Mid-July2011.Among the component of deposit, current deposit increased by 18.1

percent compared to 2 percent of decrement in last year.Similarly,saving and fixed deposit increased by 31.8 percent.

1.1.3 Profile of the Banks Under Study

Under this section,an attempt has been made to furnish the general introduction of the bank under study for easy reference of the samples to the research.

a.Standard Chartered Bank Nepal Ltd.

Standard chartered bank limited, formerly known as nepalgrindlaysbank,was established in 1987 A.D. as a second foreign joint venture bank under the company act. It is a joint venture operation registered in nepal with 50%of shares held by standard chartered bank, 33% by nepal bank ltd. And 17% by nepalesepublic.standard chartered bank completed 150 years of operation in 2003,which was considered aunique opportunity to refresh the brand name of the bank.

The focus of standard chartered group is on projects that assist needy children, particularly in the area of education and environment.The bank is in a positive service customers through a large domestic network.In addition to which the global network of Standard Chartered Bank, there is an opportunity to provide truly international banking in Nepal.SCBNL focuses mainly on corporate and customer banking, catering to a wide range of customers from individuals, to mid-market local corporate to multinationals and large public sector companies as well as embassies, aid agencies, airlines, hotels, and government corporations.

b.NABIL Bank Ltd.

Nabil bank ltd. is the first joint venture commercial bank in nepal,which was established in 1984 under the company act 1964. Dubai bank ltd.(DBL) was the initial joint venture partner with 50% equity investment. The Nepal Bangladesh Bank ltd., Bangladesh(NBLB) holds 50%of the entire stocks of nabil bank ltd.Other financial institutions hold 20% of the shares and remaining 30% is issued to the general public.

NBLB is managing the bank in accordance with the technical service agreement signed between NBLB and the bank on june 1995.At present, the bank is operating with 41 branches in the country.The authorized and paid up capital of the bank is Rs2100 million and Rs 2029.76 million respectively.

c.Citizens Bank International Ltd

Citizens bank international ltd commenced its commercial operation on 20th April,2007. The head office of the bank is located at SharadaSadan, Kamaladi, Kathmandu and have branch network of 33 branches including head office spread over all the fourteen zones of the country.The bank is promoted by eminent personalities and industrial houses and reputed individuals.It is managed by a team of experianced bankers and professionals.

Vision of the bank is to be the leading bank known for its service excellence in the region.The authorized and paid up capital of the bank is Rs2000 million and Rs 560 million respectively.

d.Laxmi Bank Ltd

Laxmi bank ltd was incorporated in april 2002 as the 16th commercial bank in nepal.In 2004 laxmi bank merged with HISEF finance limited, a first generation financial company which was the first and ever merger in the Nepali corporate history.Laxmi bank is re-registered in 2006 under the "banks and financial institution act" of Nepal.

The shareholding pattern of laxmi bank ltd is nepalese promoters-55.42%, citizen investment trust-9.02% and general public-35.56%.

e.Nepal Industrial and Commercial Bank Ltd

Nepal Industrial and Commercial(NIC) bank ltd was incorporated in 21 july 1989 from biratnagar.The bank was promoted by some of the prominent business houses in the country.The current shareholding pattern of the bank constitutes of promoters holding 51% of the shares while 49% held by the general public.

It was the first commercial bank in nepal to have received iso 9001:2000 certification for its quality management system standard in the year 2006.

f.Nepal Investment Bank

Nepal investment bank ltd(NIBL) was initially operating as nepalindosuez bank before the share were sold out by the indosuez to handover the complete shareholding to the nepalesepromoters.The bank is operating with a capital fund of Rs4000million till july 2012.The paid up capital of the bank in the same period was Rs3012.94million.The bank has proved its significance over the past with satisfactory performance by constantly generating profits as well as maintaining the brand name treasured by the bank since the past.

1.2 Statement of Problem

Various financial institutions have been established to assist the process of economic development of our country.the major problem in almost all underdeveloped countries including nepal is that capital formation and proper utilization of the resources of existing in the economic system.in the existing scenario, the commercial banks have responsibility to avoid above problems and thereby contribute to the national economy.

The present status of commercial banks seems to invest their funds in the less riskysectors of the economy, thereby neglecting other sectors of the economy like small business and agriculture.this is mainly due to the lack of sound investment policy of commercial banks and proper portfolio management.the main problem that lies behind the poor loan portfolio is that the activities of commercial banks are dependent upon the instructions and guidelines of nepalrastrabank.the commercial banks donot have their independent investment policy, which may help enhance the profitability of the bank as well as work in the general interest of the economy of the nation.

Nepal is known for its scarcity in capital.It is also believed that Nepal has low rate of income and thereby low rate of saving as consequence of which there is a low rate of investment.The low rate of investment has constrained the growth rate of GDP of the country.

In the current fiscal year, GDP at current prices is estimated to grow by 13.8 percent reaching Rs. 1.558 trillion. As compared to its preceding fiscal year, disposable income in FY 2010/11 rose by 13.4 percent, while GDP grew by 14.7 percent totallingRs. 1.685trillion and 1.369 trillion respectively.Based on gross national disposable income, ratios of consumption vs. national saving come out to 71.1 percent vs. 28.9 percent respectively. Such ratio in FY 2010/11 was 74.2 and 25.8 percents respectively. In the previous fiscal year, growth rates of all among GDP, Gross National Income, Gross National Disposable Income, Gross Domestic Saving and Gross National Saving had decreased, while in the current fiscal year, except for GDP and Gross National Income, all others are estimated to record growth. Saving in this year is estimated to increase as the share of consumption expenditure to GDP has been lower than in the previous fiscal year.

Precisely,there exist the following problems with the commercial banks that can be numerically categorized under the following heads:

a. Poorly diversified loan investments

Diversification in terms of relative rate of return and risk on the banks' loan portfolio is slightly poor.The present trend of the commercial banks is moving towards investment in real estate, especially in the form of home loans,without considering the relevent issues such as the consequences of real estate industry in the future and impact on the loan portfolio of commercial banks.

b. Low priority to the disadvantages sectors

In the context of Nepal, agriculture and small business, that contribute a large portion to the gross GDP is mostly neglected by commercial banking industry.These sectors are not receiving required financial support as they are expected. The main reason behind neglecting this sector is the low profit potential and the lack of adequate security to the commercial banks.

c. Lack of proper coordination

The lack of proper coordination and exchange of information by the government and the joint venture commercial banks has posed to be one of the disadvantage to the commercial banks.This lack of proper coordination between the government owned banks and the commercial banks has benefited the unfaithful customers by pledging the same collateral security in two different banks for the loan and running away with the loaned funds.

d. Safety of funds

The banks are the financial intermedieries whose basic function is the accepting of the deposits of the general public and lend the same funds to the needy persons or firms in the form of loan to earn interest.Thus, the investments and lending pattern of the commercial banks certainly affect the general interest of the lender. But,the various regulations imposed by the central bank from time to time have created a place to boubt for the safety of funds.

e. Excessive money creation

Commercial banks are the main source of creation of money in the market.This is because the public readily accept claims against deposits, particularly cheques, and computer entries in payment for good and services.In addition, the central banks' regulation also requires individual banks to hold only a fraction of the amount of deposits received from the public as cash reserves, thus freeing up a majority of incoming funds for making loans and other investments.The banks can therefore, invest their money or deposit created by banks is also instantly available for spending.Therefore, unless careful monitoring is done by the central bank, the supply and demand of money cannot be in control.

1.3 Objective of the Study

Commercial banks and other financial institutions play a major role in the economic development of the country.The insufficiency in banking and financial fascilities leads to slow economic development.The major function of commercial banks is to earn profit through accepting deposits from the public at lower rate of interest and lending the same to the borrowers at a higher rate, thereby earning through the interest rate spread.

The same fund collected from the general public is used for providing variuosfascilities in different forms to the needy persons and firms.Thus, the role of banking sector is highly appreciated,considering the contribution in upliftment of the society.The commercial banks have pivotal role in collection of dispersed savings and transforming them into meaningful capital investment.

But, the tendency of long term lending and proper investment is not found in the commercial banks of Nepal.The main reason behind this lays the fact that the commercial banks have become more profit-oriented than the development of infrastructure.The banks mainly invest on short-term requirements rather than financing the long term projects,which are comparatively more risky.The banks are found to be much interested in financing in less risky and high liquid sectors of economy.

Investment decision is one of the major functions of financial management.under the prevailing competitive environment in financial sector,the commercial banks face so many difficulties to mobilize their deposit funds on profit making investments.with regard to this, the main objective of the study is to analyze, examine and interpret portfolio technique followed by commercial banks on their investment in various sectors.the main objectivesof the study are highlighted as follows:

a. To anslyze the composition of loan portfolio.
b. To measure the relative rate of return and risk on loan investment portfolio.
c. To assess the level of non performing assets of commercial banks and their provisions.
d. To analyze the trend of outstanding interest on advances.
e. To detect major findings and proper suggestions.

1.4 Test of Hypothesis Questions

Hypothesis is the statement about the relationship between two or more variables, which needs to be investigated for its truth.Hence, some general hypothesis that are related to this study are :

a. Portfolio return on investment is higher than the individual return on investment.
b. Portfolio risk is lower than individual risk on investment i.e. portfolio management minimizes the investment risk and maximize return.
c. Risk can be reduced by investing in more than one security. However, the extent of benefits of portfolio diversification depends on the correlation between return of securities.
d. The return on portfolio depends upon the amount of funds invested in each individual asset.

1.5 Assumption of the Study

The proposed study is based on various assumptions.For example: the study assumes that the sample bank represents all the thirty one commercial banks operating inthe country.Similarly it has also been believed that information provided by the commercial banks is true and correct.Further, the study is based on the assumption that all the relevent sources of information respond affirmatively.In addition,it has also been assumed that performance on loan portfolio of a particular bank will generally be represented in its market share price.

1.6Limitation of the Study

The study is carried in partial fulfillment of the basic requirement for the MBS degree. Thus, this study is not far from reality of its own kind and possesses some of the following limitations:

a. The study concentrates only on those factors, which are related with investment portfolio analysis, the ratio of their NPA’s and available in the form required for analyzing different issues.

b. The study only analysis simple statistical techniques followed by financial models.
c. The study has been done with limited time and resource. This study, therefore, does not examine the factors affecting risk and return on investment in different sectors as well as limited factors are selected to examine portfolio behavior.
d. Due to the lack of easy availability of different data, only six commercial banks are the source of the study.
d. The study is mainly based on secondary data available for the last five fiscal years.
e. Only certain general ratios of commercial banks have been analyzed due to the lack of adequate information.
f. Only certain general ratios of commercial banks have been analyzed due to lack of adequate information.
g. The study lacks in time and other resources as well.

CHAPTER II

2. REVIEW OF LITERATURE

This chapter providesthe foundation for developing a comprehensive theoritical framework and knowledge of the status relevent to the field of research in order to explore true facts for the purpose of reporting.This chapter reviews the literatures related to the portfolio management from various textbooks, journals and related studies.Apart from this, different masters' degree thesis including independent studies carried out by renowned experts and others are also included.

2.1 Review of Relevent Books

The major and the most significant functions of commercial banks is creation of creditand dealing with the credit instruments. Moreover, the existence of banks depends upon the circulation of credit because of the reason that the major portion of income comes from the interest from loans and advances. The banks should, therefore, make through analysis ans sound decision-making in order to mobilize the funds collected.

Investment is the employment of funds with the aim of achieving additional income or growth in value. It involves the commitment of resources that have been saved or put away from current consumption, in the hope that some benefits will accrue in future.

According to sharpe and Alexander, "Investment, in its broad sense, means the sacrifice of current present value for (possibly uncertain) future values."[1]

According to Gitman and Joehnk, " Investment is any vehicle into which funds can be placed with the expectation that it will preserve or increase in value and generate positive returns."[2]

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1 Sharpe F William, Alexander J Gordan and Jeffery V. Baily, "Investment", Prentice Hall of India, New Delhi,2000.P.1.

2 L. J. Gitman and Joehnk, "Fundamental of Investing" 4th Edition NY 1990.

According to Frank and Railey, “An investment is the current commitmentof funds for a period of time in order to derive future flow of funds that will compensate the investor for the time funds are committed, for the expected rate of inflation and also for the uncertainty of the future payments.”[3]

Similarly, Dr. Preeti singh has defined investment as, “Investment is the employment of funds with the aim of achieving additional income or growth in value.”[4]

2.2 Portfolio Analysis (Introduction)

A portfolio can be considered as a combination of individual assets or securities.[5]The main concern of the investor holding diversified portfolio is the return and risk of portfolio rather than individual assets or securities.The portfolio theory provides a normative approach to the investors’ decision to investment in assets or securities under risk.

A portfolio is a collection of investment securities. The portfolios of assets usually offer advantage of reducing risk through diversification. A stock or security held, as part of a portfolio is less risky than the same stock held in isolation.The objective of portfolio analysis is to develop a portfolio that has the maximum return at whatever level of risk the investor deems appropriate. Portfolio theory deals with the selection of optimal portfolios i. e. Portfolio that provide the highest possible return for any specified degree of risk or the lowest possible risk for any specified rate of return.[6]

The purpose of portfoliomanagement is to analyze different individual assets and delineate effecient portfolio.Hence, the portfolio managers’ task is to select the investment weights that will result in dominant investment and analyze the risk and return data describing each investment candidates and determine what assets to buy, what not to buy and what to sell short.

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3 Frank k. Reilly and Keith C. Brown , “Investment” 8th Edition, The Dryness Press, CBS Publishing Japan Ltd.P.6.

4.Preeti Singh, “Investment Management”,Himalayan Publishing House,Bombay.

5. I M Pandey, “Financial management”Vikash Publishing House Pvt.Ltd.,7thedition 1997.

6 J. Fred Weston and Thomas E. Copeland,”managerial finance”the dryden press.

Portfolio theory was originally proposed by **Harry M. Markowitz** in 1952.[7]This theory is based on the selection of optimal portfolio by riskadverse investor. The theory also provided the investor knowledge about how the risk is measured in a portfolio context and the relationship between expected return and risk.

2.3 Portfolio Analysis and Diversification

Investment risk can be reduced by including more than one alternative category of assets in the portfolio and by including more than one asset from each category of investment. Thus, diversification is essential to the creation of an efficient investment because it can reduce the variability of returns aroundthe expected return.This diversification may significantly reduce the risk without a corresponding reduction in the expected rate of return on the portfolio.[8]

Chenny and Moses (1992) defined that risk can bereduced by the portfolio effect. However, the reduction in the volatility occurs when the returns of the two securities do not move together. The relationship of the returns of the two securities can be defined by the correlation coefficient. High negetive correlation coefficient only results in significant decrease in the total risk.

The following are the different diversification techniques in order to reduce the portfolio risk:

2.3.1 Simple Diversification

Simple diversification is the random selection of securities to be added to a portfolio. Simple diversification reduces a portfolio's total diversifiable risk to zero and only the un-diversified risk remains.

Clarkes (n.d.) defined simple diversification as " not putting all eggs in one basket" or "spreading the risks".

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7 Cheneyand Moses, "Fundamentals of Investment".

8 Jack Clark Francies, "Investment analysis and Management"

2.3.2 Superfluous Diversification

The superfluous diversification refers to the investors investing himself in many different investments on his portfolio.The investor finds it difficult to manage the assets on his portfolio because the management of a large number of assets require a knowledge of liquidity of each investment return, tax liability and thus becomesimpossible without specialized knowledge.

In this context, Clarkes (n.d.) adds that superfluous diversification usually results in the following portfolio management problems:

- Impossibility of good portfolio management.
- Purchase of lackluster perfomers
- High search costs.
- High transaction costs

He also described that although more money is spent to manage a superfluously diversified portfolio, there wiil be no concurrent improvement in the portfolio performance. Thus, superfluous diversification may lower the net return to the portfolio's owners after the portfolio's management expenses are deducted.

2.3.3 Diversification across industries

Another diversification can be experianced from the combination of the stocks from different industries. The basic principal of diversifying assets across the industries is the losses incurred in one stock can be compensated through the gain realized from the profitable stocks. But since all the industries are highly correlated with one another, diversification across industries are not much better than simply selecting securities randomly. The non-diversification variability can not be diversified away much simply by selecting securities from different industries.

2.3.4 Simply Diversification Across Quality Rating Industries

The standard deviation of portfolio of different homogenous quality rating attained different levels of risk. The highest quality portfolio of randomly diversified stocks was able to achieve lower level of risk than the simply diversified portfolio of lower quality stocks. This result reflects a fact that default risk (as measured by the quality ratings) is a part of total risk.The findings also suggest that portfolio managers could reduce portfolio risk to levels lower than those attainable with simple diversification by not diversifying across lower-quality assets.

2.3.5 Markowitz Diversification

The first modern portfolio analysis model was introduced by Dr. Harry M. Markowitz, which emanated from a series of propositions concerning rational investor behavior.In the late 1952, he published a landmark paper that is generally viewed as the origin of the modern portfolio theory approach to investing which begins by assuming that an investor has a given sum of money to invest at the present time. Further, he stated that a portfolio is a collection of securities and their division is equivalent to selecting an optimal portfolio from a set of possible portfolios which is reffered to as the "Portfolio Selection Problem"[9] This approach considers the single period rate of return which is simply the total return an investor would receive during the investment period or holding period.

Markowitz Diversification may also be defined as combining assets that are less than perfectly positively risk correlated in order to reduce portfolio risk without sacrificing portfolio returns. It can sometimes reduce risk below the non-diversification level.

The lower the correlation between assets the more that Markowitz diversification will be able to reduce portfolio risk. Markowitz diversification can lower risk below un-diversification level if the securities analyst find securities whose rates of return have low correlations. Therefore, using Markowitz diversification requires a data bank of financial statistics for many securities, a computer and some economic analysts.

A portfolio is said to be efficient when it is expected to yield the highest return for the level of risk accepted, or, alternatively, the smallest portfolio risk for a specified

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9. william F.Sharpe,Jorden J. Alesander and Jeffery V. Bailey “Investments “ Fifth edition (Prentice Hall of India), 2000.P.167.

level of expected return. To build and efficient portfolio, an expected level of return is chosen and the assets are exchanged or substituted until the portfolio combination with the smallest variance at the targeted return level is found.

As this process is repeated for some other expected returns, sets of efficient portfolios are generated.

The portfolio selection model developed by Markowitz[10] is based on the following assumptions regarding investors' bahavior, which can be highlighted as follows:

- Investors consider each investment alternative as being represented by a probability distribution of expected returns over some holding periods.
- Investors maximize one period-expected utility and possess utility curve, which demonstrated diminishing marginal utility of wealth.
- Risk is estimated on the basis of the variability of expected return.
- Investors base decisions solely on expected return and variance of returns only.

Markowitzs' rule of maximization of expected return implies that the non-diversified single asset portfolio with the highest expected return ie the most desirable portfolio buying which an investor can maximize the expected return.

The portfolio's expected return can be defined in equation as follows:

$$R_P = W_1K_1 + W_2K_2 + \ldots\ldots\ldots\ldots + W_nK_n$$

$$\text{Or, } E(R_p) = \sum W_1 \times E(R_1)$$

Where,

R_p stands for portfolio's expected return

W_1 stands for the weight of stock 1

W_2 stands for the weight of stock 2

K_1 stands for the expected return for stock 1

K_2 stands for the expected return for stock 2

The goal of portfolio managemtne must always be to minimize the portfolio risk for

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10. V.K. Bhalla, “Investment Management” 8th Edition (New Delhi: S. Chand & Co. Ltd., 2001).

any level of expected returns; this can thus be done by solving the following equation:

Equation for portfolio variance: two-asset case:

$$б_p^2 = W_i^2 б_i^2 + W_j^2 б_j^2 + 2W_iW_jCV_{ij}$$

2.3.6 The Single Index Model

William F. Sharpe published a model simplifying the mathematical calculations required by the Markowitz model. However, its applications left behind several limitations. Sharp assumed that, the return of a security could be regarded as being linearly related to a single index like the market index.The mechanical complexity of the Markowitz’s portfolio model kept both practitioners and academician away from adopting the concept for practical use. As a result, what is referred to as the Capital Assets Pricing Model (CAPM) , was developed.[11]

The CAPM is based on the following assumptions[12],which are highlighted as follows:

1. Investors evaluate portfolios by looking at the expected returns and standard deviation of the portfolio over a one period horizon.
2. Investors are never satisfied, so when given a choice between two otherwise identical portfolios, they will choose the one with the higher expected returns.
3. Investors are risk averser, so when given a choice between two otherwise identical portfolios, they will choose the one with the lower standard deviation.
4. Individual assets are infinitely divisible, meaning that an investor can buy a fraction of share if he or she desires.
5. There is a risk free rate at which an investor may either land or borrow money.
6. Taxes and transaction costs are relevent.

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11. William F. Sharpe, "Capital Assets Prices : A Theory of Market equilibrium under conditions of risk.",Journal of finance, September 1964.
12. William F. Sharpe, Gordon J. Alexander and Jeffery V. Bailey,"Investments ", Fifth edition(New Delhi: Prentice Hall Of India)2000

To these existing assumptions, the following ones are added:

7. All investors have the same one period horizon.
8. The riskfree rate is same for all investors.
9. Information is freely and instantly available to all investors.

Investors have homogenous expectations, meaning that they have the same perception in regard to the expected returns, standard deviations and covariance of returns.

The equation for the CAPM or the portfolio return is as follows:

$$E(R_P) = R_f + \frac{\{E(R_m)R_f\}}{b_m} \times b_p$$

Where,

b_m =1 and $b_p = \sum W_j \times b_j$

Similarly,

R_f = risk free return and $E(R_m)$ = market return.

2.4 Directives Issued by Nepal Rastra Bank

NRB has issued Directives under Nepal Rastra Bank Act 2058 Dafa79 ,has given guidelines for the classification of loan and advances including bills purchased and discounted.As per the guidelines all Loans and Advances are to be classified into four categories ie Pass, Sub-standard, Doubtful and Loss.

Last three categories shall be defined as Non-Performing Asset(Loans) and as per the above directives the provision shall be made on quarterly basis from the 2058-59 financial year.The rate of provisioning will remain as ie for Pass(1%), Substandard(25%), Doubtful(50%) and loss(100%).There is an additional provision of

20% for the loans given only against the Personal Guarantee.Similarly, in case of the rescheduled/restructured the minimum provision shall be 12.5%.

Loans and Advances shall be classified into the following four categories:

1. **PASS**

   All loans and Advances the principal of which are not past due of past due for a period upto 3(three) months shall be included in this catogory.These are classified and defined as Performing Loans.

2. **SUBSTANDARD**

   The sub-standard loan is the first type of non-performing loans category.All loans and advances the principal of which are past due for a period of more than 3 months and upto 6 months shall be included in this category.

3. **DOUBTFUL**

   All loans and advances the principal of which are past due for a period of more than 6months and up to 1 year shall be included in this category.

4. **LOSS**

   All loans and advances the principal of which are past due for a period of more than 1(one)year as well as advances which have least possibility of recovery or considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category.

2.5 Review of Research Works And Articles

In the international context, there are various and varieties of articles and magazines published in the portfolio analysis.However,there are no such significant articles or related matters published in Nepal.There are very few independent study carried out in the portfolio analysis of commercial banks.

The available literature in the "portfolio analysis" has been reviewed in this section of research.

The Edward J Kane and Stephen A Buser's Study

The study of the edward j kane and stephen a buser in title, "portfolio diversification at commercial banks"[13] deals with how a firm performs useful function by holding a portfolio of efficiently priced securities.

According to them,it is rational for a firm to engage in prior round of asset diversification on behalf of its shareholders even when all assets are priced efficiently and available for direct purchase by shareholders.the systematic pattern observed by large commercial banks in the United States is the interpretation of the evidence that bank shareholders from a relatively uniform diversification clientele.for a firm, marginal benefit from diversification takes reductions in the cost of equity funds offered by its specific clientele of stockholders.To maximize the value of the firm, these benefits must be weighted against the explicit and implicit marginal cost of diversification.

The Mark Britten Jones' Study

According to Mark Britten Jones in his study, "The sampling errors in Estimation of mean variance Efficient Portfolio weights"[14] the mean variance analysis is important for both practitioners and researchers in finance.

The test that he has presented can be implemented in a sample and intuitive manner that formally identical to the standard; inference procedures used for OLS regression coefficients.

According to Mark Britten Jones study, the composition of an international efficient portfolio is of interest, not only from practical viewpoint of investors seeking to optimize their risk return tradeoff, but also from theoretical viewpoint.

13.The Edward J Kane and Stephen A Buser, "Portfolio diversification at commercial banks",journal of finance VOL XXXIV No.1, 1979

14.Jones Mark Britten, "The sampling errors in estimation of mean variances efficient portfolio weights"Journal of finance Vol 54, No.2, 1999.

Michael Koehn and Anthony M. Santomero study

In their study entitled, "Regulation of Bank Capital and Portfolio Risk"[15], they examined the portfolio allocation that flows from the portfolio decision of the firm and the effects on bank portfolio risk of a regulatory increase in the minimum capital assets ratio than is acceptable to the supervisory agency.The allocation across assets becomes the choice variable deriving the optimal mean rate of return per unit of capital and the variance of that return.Therefore, the analysis will be developed interms of risk and return per unit of capital with no loss in generality. According to them, an explicit relationship between risks of the bank portfolio, the amount of bank capital held and the chance of bankruptcy must, therefore, be obtained to evaluate the result of bank capital regulation.

Shiva Raj Shrestha study

Mr sharma, a senior officer of nepal rastra bank has presented a short glimpse on the "portfolio management in commercial banks, theory and practice."according to him,the portfolio management becomes very important for both the individuals as well as institutional investors.the investors would like to select a best mix of investment assets subject to higher returns, good liquidity with adequate safety, capital gains, tax concessions, etc.

He has recommended also that banks in order to secceed in Portfolio management should have skilled manpower, research and analysis team, and proper management information system.He has suggested that the banks having international network can also offer access to global financial markets.

15.Michael Koehn and Anthony M. Santomero, “Regulation of Bank Capital and Portfolio Risk” Journal of Finance Vol XXXV,No.5, 1980.

16.Shrestha, Shiva Raj, “Portfolio Management in Commercial Banks, Theory and Practice”,Nepal Bank Newsletter, 2055.

Govinda Bahadur Thapa Study

Dr. Govinda Bahadur Thapa in his research paper "financial system of Nepal", has expressed his view that the commercial banks including foreign joint venture banks seem to be doing pretty well in mobilizing deposits.Likewise, loans and advances of these banks are also increasing. But compare to the higher credit needs particularly by the newly emerging industries, the banks still seem to lack adequate funds.The banks are increasing their lending to non-traditional sectors along with the traditional sectors.

NBL and RBB are operating under nominal profit, have negative networth, with profit turning negative from time it owing to non recovery of interest. The margin between interest income and interest expense is decreasing.In traditional off balance sheet operations, these banks have not been able to increase their income from commissions and discounts.In addition, these banks have to bear a heavy burden of personal and administrative overheads, which effected seriously to the bank.

The views generated in his study also suggested that the joint venture commercial banks also pay equal attention toward the off balance sheet items, i.e. the non fund business of the banks which earns adequate amount of commission income that performs a major part of the earnings of the commercial banks.

He concludes by saying that due to the vary nature of public sector the domestic bank couldnot compete with the private sector banks.The only remedy for such banks is to hand over the ownership as well as the management of these banks to private hands.

The following part of the study is comprised of the review of thesis in the similar topic by different scholars.

17.Thapa Govinda Bahadur, “Financial System of Nepal” , Development Division, Patan Multiple Campus, 1994.

Satya Ram Kisi’s Study

In his study entitled,”portfolio analysis of commercial banks in Nepal” he has made an effort to examine the concept of investment and loan and advances of commercial banks. In the study, he has analysed financial performance and portfolio of commercial banks with ratio analysis, investment portfolio analysis and loans and advances portfolio, risk and return analysis and trend analysis.

He has taken four banks as sampled banks.He has presented the finding separetly.He has conclude about Nabil bank is The private sector shared the highest share in the loans and advances portfolio of the bank.The mean percentage of loans and advances to the private sector is 92.07%. Foreign bills purchases and discounted stood at the second important position in loans and advances portfolio of Nabil taking 7.36 mean percentage.The government enterprises stood at the last position in loans and advances portfolio of the bank taking 0.57 mean percentage.Nabil stood at the second position in total loans and advances coverage of the four commercial banks taking 14.87 mean percentage.

Similarly,finding on risk and return analysis shows the beta coefficient of Nabil is 1.7224 which is higher than 1. It indicates that the banks has some risky assets.Trend analysis shows that loans and investment of Nabil has been increasing.

Mukunda prasad Lamichhane Study

Mr. Lamichhane in his study, "Investment policy of joint venture banks in Nepal" has analysed between investment policy and different variables like deposits commission and discount, net profit, interest on loan and investment.

He concluded that there is a significant relationship between deposit and loan and advances as well as outsideasets and net profit.Most of the joint venture banks have focused their banking services especially to big clients such as purchase share and debentures of other financial and non-financial companies.

18.Satya Ram Kisi, "Portfolio analysis of commercial banks in Nepal",Masters Degree Thesis,Nepal Commerce Campus,1999.

Nirdosh Sijapati Study

In his study titled, " Analysis of loan-investment portfolio of commercial banks" ,he has analysed the tendency of loan and advances and investment patterns of commercial banks in Nepal.The analysis on the basis of classification,sector wise advances,etc has been a major analysis of the study.

The conclusion that he has derived from the study is that both the investment and loans and advances of commercial banks are in rising trend.During the period of mid-july 2003 to mid-January, commercial banks have been observed of realizing an average growth of 18.3% in which the stake of sampled banks have been observed around 38%. Likewise,the study has revealed that these sampled bank have posses around 9.03% of Non-Performing loans in which the highest of 14.2% is held by NBBL and the least of 4.45% is held by SCBNL.Similarly, they have provided around 25% of their performing loans and 75% of Non-Performing loans which includes 10.3% for Sub-Standard Loans, 29.9% for doubtful loans and 34.8% for loss loans. Moreover,he has also mentioned in his thesis that the sampled banks are risk adverse nature as they have invested large amount of funds in government securities and least in shares and debentures.

Kalpana Khaniya study

Ms Khaniya on her research paper,"Investment portfolio Analysis of Joint Venture Banks" explains that return on commercial banks is affected by their loan and advances portfolio. Stabilized returns can only be achieved by diversifying the loan disbursement sectors.

Similarly, she also mentions that the required rate of return of the commercial banks is less than the expected rate of return.She also concludes that while comparing the

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19.Sijapati Nirdosh, "Analysis of Loan-investment portfolio of Commercial Banks",Masters degree thesis,Nepal Commerce Campus,2004.
20.Khaniya,Kalpana, "Investment Portfolio Analysis of Joint Venture Banks",Masters Degree Thesis Shankar Dev college, 2003.

invesment portfolio of weight set up by the commercial banks on the light of directives given by central banks, the banks have not followed the directives properly.

The main findings of the study were:

SCBNL has the highest return on shareholders fund and total assets.It has also been successful in mobilizing its deposits as investments.Nabil and EBL have invested high amounts of deposits as loans and advances in comparison to SCBNL.

Among the JVB's, looking at the investment portfolio, EBL has investment highest amount of funds in government securities, NBB has invested highest amount of funds on shares and debentures and Nabil Bank has invested highest amount of funds in NRB in comparison to other JVB's.

SCBNL has the highest EPS and EBL the lowest EPS among the JV's.

Ram Prasad Kafle

Mr. Ram Prasad Kafle in his study entitled “Non-performing loans of Nepalese commercial banks” expalins the problems of the non-performing loans and its effect in the ROA and ROE of the Nepalese commercial banks and to find out whether the Nepalese commercial banks are following the NRB directives regarding loan loss provision for non performing loan or not.

Through the research he has found that the no banks have been following NRB’s directives regarding the loan loss provision.He also concluded that the return on assets (ROA) and return on equity(ROE) of the bank deposited upon the NOL’s should be controlled for this bank, should provide necessary training regarding loan management to the manpower’s. In order to remove the NPL’s banks should take enough collateral so that banks can recover its loan amount.For the loan loss provision as per the NRB directives and to reduce the NPL, the bank management should be effective and the NRB’s monitoring and regulation is necessary.

21.Ram Prasad Kafle(2005)An unpublished Master Degree Thesis Submitted to Shankar Dev Campus,T.U.

2.6 Research Gap

Financial scenario and effectiveness of the bank has been changed in due period of time because of increase on number of financial institution in Nepalese economy.And it is observed that it is essential to study effectiveness of loan management of commercial banks taking sample of six banks; Standard Chartered Bank Nepal Ltd., Nabil ,Nepal Investment Bank,Nepal Industrial and Commercial Bank,Laxmi Bank and Citizens International Bank to support in fulfilling research gap.The review of above relevant literature has contributed to enhance the fundamental understanding and knowledge,which has made this study meaningful and purposive.There has been lots of article published in the field of investment policy,loans and advances of commercial bank.This study gives a new dimension to the research topic in the sence that it has adhered most of the fresh guidelines and directives issued by NRB to commercial bank.

CHAPTER-III

3. RESEARCH APPROACH AND METHODOLOGY

Research Methodology can also be defined as the process of arriving at a solution of the problem through planned and systematic dealing with the collection, analysis, and interpretation of facts and figures.Research is a systematic method of finding the right solution for the problem whereas research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives in view.[22]

It describes the method and process applied in the entire subject of the study. It is a systematic way to define the research problem.[23] It is the plan, structure and strategy of investigation conceived to answer the research questions or test the research hypothesis.[24] It includes different dependent and independent variables, types of research design, research questions and hypothesis sample, data collection activities, techniques of analysis, etc.

3.1 Research Design

This research attempts to analyze the impact of historical information on the analysis of loans and advances of commercial banks. It can thus, be assumed that the data and information consists of past phenomenon of the performance of the bank because of which this research can also be called the historical research design.

The proposed study is mainly based on two types of research design viz; descriptive and analytical. Descriptive research design describes the general pattern of the Nepalese Investors, business environment, problems regarding portfolio management, etc. Similarly, the analytical research design makes a through analysis of collected facts and information and also makes a critical evaluation.

22.Kothari C.R., "Research Methodology method and techniques",New Delhi, Willey Easterly Ltd. 1989.
23.Ibid.
24.H.K. Wolfe and P.R. Pant, "Social Science Research and Thesis Writing".

"A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedures."[25]

Thus, it can be generalized that a good research design is the plan, structure and strategy of investigations conceived to obtain answers to research quations and to control variances.

3.2 Population and Sample

There are 32 commercial banks operating in the country including domestic as well as joint venture banks which accept about 81 percent of total deposits and 77 percent of loans and advances out of the total financial institutions performing banking operations.Of the 32 commercial banks, omly 6 commercial banks have been taken into consideration for the purpose of our study due to the lack of valid and reliable data.The sampled banks were selected

on the basis of judgemental non-random sampling method i.e. select the sample of the population on the basis of available information.[26]

The selected sample banks for the analysis are as follows:

1. Standard Chartered Bank Nepal Ltd
2. Nabil Bank Ltd
3. Nepal Investment Bank Ltd
4. Nepal Industrial and Commercial Bank Ltd
5. Laxmi Bank Ltd
6. Citizens International Bank Nepal Ltd

Population size : 32

Sample size : 6

25.Kothari, C.R. "Quantitative Techniques", Vikash Publishing House Pvt. Ltd., New Delhi, 1992.
26.H.K. Wolfe and P.R. Pant, "Social Science Research and Thesis Writing".

3.3 Sources of Data/Information

This research study is mainly based on secondary data that are available in the published form.The required information for the data has been collected from the required organizations, Nepal Rastra Bank, SEBO, libraries and other various publications.The required information at macro level is collected from relevent institutions, Ministry of Finance, NEPSE, etc. The annual reports of respective commercial banks are the other sources of data presented.

The major sources of data and information can be described as follows:

- Annual report of Standard Chartered Bank Nepal Ltd
- Annual report of Nabil Bank Ltd
- Annual report of Nepal Investment Bank Ltd
- Annual report of Nepal Industrial and Commercial Bank Ltd
- Annual report of Laxmi Bank Ltd
- Annual report of Citizens International Bank Nepal Ltd
- NRB directives to commercial banks
- NRB form No. 3 and 4, from NRB
- Economic Survey, Ministry of Finance
- Annual report, SEBO
- Trading report, NEPSE
- Statistics Nirdeshika
- Banking and Financial Statistics
- Consortium Financial Directives
- Economic Review Paper
- Commercial Banks' supervision
- Previous research studies, Dissertations and articles on the subject
- Various websites on related matters

3.4 Data Collection Procedure and Techniques

The data required for the research is mainly obtained from the secondary sources. Despite the secondary sources of data, high effort and lot of time had to spent on the collection of the same. The data available from the websites of concerned organization was not adequate for the purpose of research.Thus, the various organizations had to be visited to collect adequate data. The main problem that was faced during the data collection process was the amount and the nature of NPAThe bank's officials were extremely cautious on providing the data of non performing assets of their banks.

The data obtained were in their original form and was vague from the point of study. Further, they needed to be varified and simplified for the purpose of analysis.Further the varification of the data was made and were processed, compiled, and tabulated to present the data in a better manner.

3.5 Tools for Analysis and Presentation

Various financial and statistical tools are used in order to analyze the data and present the data in a more reliable and more authentic way. Ratio analysis, correlation coefficient, trend analysis, risk and return, standard deviation, t-test etc are used to present the research study.

3.5.1 Financial Tools

The relationship between two accounting figures expressed in mathematical form is called the ratio. Ratio analysis is a measuring rod to compare the financial performance and status of one firm to that of the other.[27] Ratio can also be defined at numerical or quantitative relationship between two items or variables. In financial analysis, ratio is used as an index of yardstick for evaluating the financial position and performance of the units.

However, the present study is rotated around the loanportfolio analysis of commercial banks and only those ratios which are relevent to the analysis has been taken into consideration.The following are the main ratios that can be considered for the topic under study:

27.Gitman, L.J. "Principle of Management Finance"

- **Financial Ratios**
- Credit diversification(deprive and priority sector loans)
- Loan classification and provisioning.
- Sector-wise loans and advances.
- Securities-wise loans and advances.
- Profitability.

3.5.2 Statistical Tools

The statistical tools are one of the major tools in evaluation and analysis of various available data. In this study the following statistical tools are used:

a. Bar Diagram:

Bar diagram are one of the easiest and the most commonly used methods of presenting the numerical data.They present the data by means of bars, or rectangles of equal width.The length of the bars represents the given figures and the width may be of any size.

b. Mean ($\bar{x}$)= $\frac{\sum x}{n}$

Where,

$\sum x$ = the sum of observations

n = no of observation

c. Standard deviation(σ)= $\sqrt{\frac{\sum(x-x)^2}{n}}$

d. Karl Pearson's Correlation Coefficient

$$r_{xy} = \frac{n\sum xy - \sum x.\sum y}{\sqrt{[n\sum_x 2 - (\sum x)^2]}\sqrt{[n\sum_y 2 - (\sum y)^2]}}$$

Where,

$r_{xy=}$ correlation coefficient between variables x and y.

n= number of observations

e. Probable Error of r (P. E. r) = 0.6745 $\frac{1-r^2}{\sqrt{n}}$

f. Regression analysis

$$Y = a + b X$$

Or, a = Y- bX

Where,

b = slope of the regression line

Y = dependent variable

X = indepedent variable

CHAPTER-IV

4. ANALYSIS AND PRESENTATION OF DATA

The previous chapters of the study aims toward introduction, research methodology and the various techniques and methods used in the analysis of loan portfolio of commercial banks.This chapter sheds light on the presentation, interpretation and analysis of the study through definite course of research methodology.

The main topic under study is the analysis of loan and investment portfolio of commercial banks, thus, an attempt has been made to analyze these aspects in detail.The composition of loan investment portfolio, sector-wise loan portfolio, security-wise portfolio, loan classification on the basis of aging, loan provisioning requirements, ratio of NPA of commercial banks, measurement of risk and return on loan-investment portfolio, trend analysis, amount of interest accrued, total provision and net loan are the major courses under study.

Similarly, the above collected data has been analyzed and presented through various financial and statistical tools as discussed in the previous chapters.Further, the data have been presented in a tabular form for easy reference to the data.

This chapter mainly focused on the analysis of data obtained through various sources.

4.1 Analysis of Composition of Loans and Investments

Loan can be considered as providing credit of funds in return for a certain amount or percentage of interest.It is simply a lending of money with a promise for a future payment.This lending of commercial banks have been found to be diversified into various functioning sectors of the economy like Agriculture, Transportation, Construction, Trading, Hydropower and many such sectors of the economy.In short, it can be said that commercial banks have been meeting the credit requirements of almost all the public; be it construction of a house or owning a car or starting a new business.The availability of funds has been made such easier and convenient by the operations of the commercial banks.

This portfolio maintained by the commercial banks has proved to be an economic booster to the growth of the nation. Similarly, the commercial banks also utilize certain portion of their collected funds in order to strengthen the capital base of the bank and also to increase the profitability of the banks.

The following analysis has been carried out to identify the loan portfolio of commercial banks, the investment pattern of these banks and the ratio of Non-Performing Loans to the total loans of the selected sampled commercial banks.

4.1.1 Loans and Advances Portfolio

The loans and advances occupy the major portion of the assets side of the balance sheet. The lending of banks in almost all the sectors of economy is being considered for the purpose of analysis, which also includes the bills purchased and discounted.

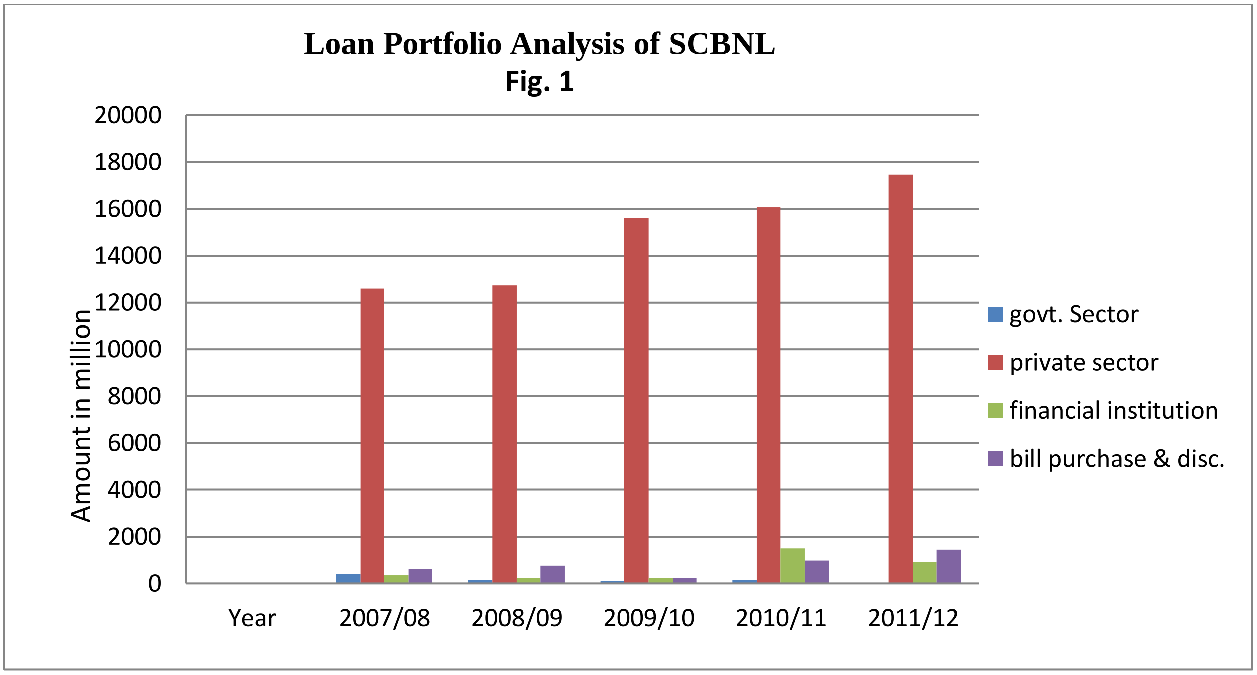
The composition of loans and advances of commercial banks can be classified into three major parts.They are namely; Government Sector, Private Sector and Bills Purchased and Discounted.

Table No. 4.1

Loans and Advances Portfolio of Standard Chartered Bank Nepal Ltd.

(Rs in million)

f/y	Govt. Sector		Private sector		Financial Institution		Bill purchase & disc.		Total
	amount	%	amount	%	amount	%	amount	%	
2007/08	398.7	0.0286	12599	0.9	357.3	0.026	609.4	0.0436	13964.4
2008/09	144.1	0.0104	12722.4	0.92	252.1	0.0182	762.1	0.0549	13880.7
2009/10	94.1	0.0058	15593.5	0.96	244.6	0.015	244.5	0.0151	16176.7
2010/11	145.9	0.0078	16064.7	0.86	1487.7	0.08	964.2	0.0517	18662.5
2011/12	0	0	17451.1	0.88	924.9	0.047	1452.5	0.0733	19828.5



The table is clear in its vision of the amount of loans and advances granted to the private sector of the economy.The amount of loan and advances in the private sector has shown increasing trend and has risen to 96.39% of the total loans and advances in FY 2009/010.Similarly the same has been fluctuating around 86 and 88 percent in the following years of observation.The standard chartered bank has shown lukewarm response towards the purchase of bills and lendings to the govenrmentsector.The same trend can be seen in lending of loan and advances to financial institutions.

Table No. 4.2

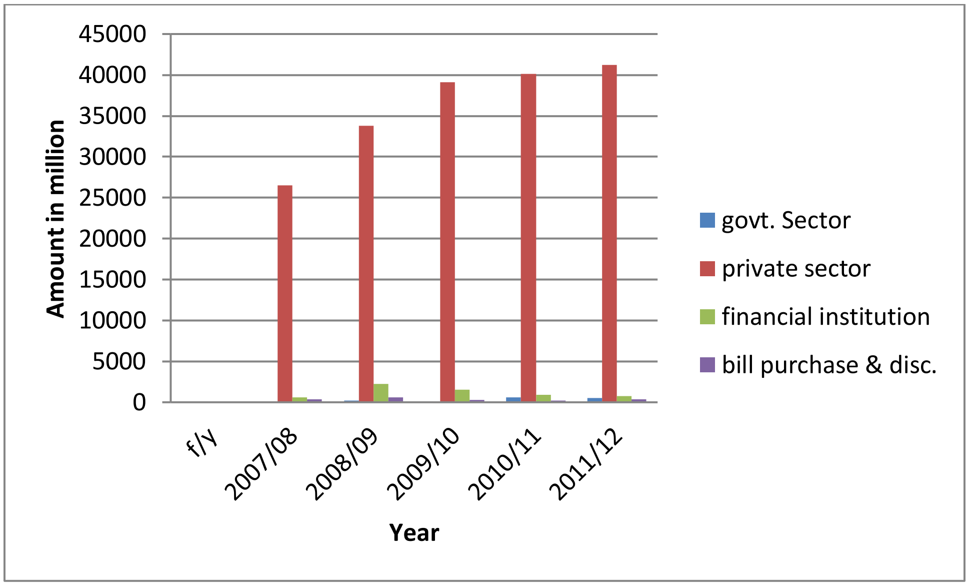
Loans and Advances Portfolio of Nepal Investment Bank Ltd.

(Rs in million)

f/y	govt. Sector		private sector		financial institution		bill purchase & disc.		total
	amount	%	amount	%	amount	%	amount	%	
2007/08	50.2	0.182351	26533.4	96.3824	561.9	2.041098	383.8	1.394151	27529.3
2008/09	203.4	0.552309	33806.8	91.79845	2240.2	6.083004	576.8	1.566234	36827.2
2009/10	24.9	0.060807	39101.6	95.48877	1563.2	3.817441	259.2	0.632984	40948.9
2010/11	601.5	1.435982	40115.1	95.76821	948.6	2.264627	222.5	0.531182	41887.7
2011/12	531.8	1.239277	41238	96.09877	740.6	1.725854	401.7	0.9361	42912.1

Loan Portfolio Analysis of Nepal Investment Bank Ltd.

Fig. 2



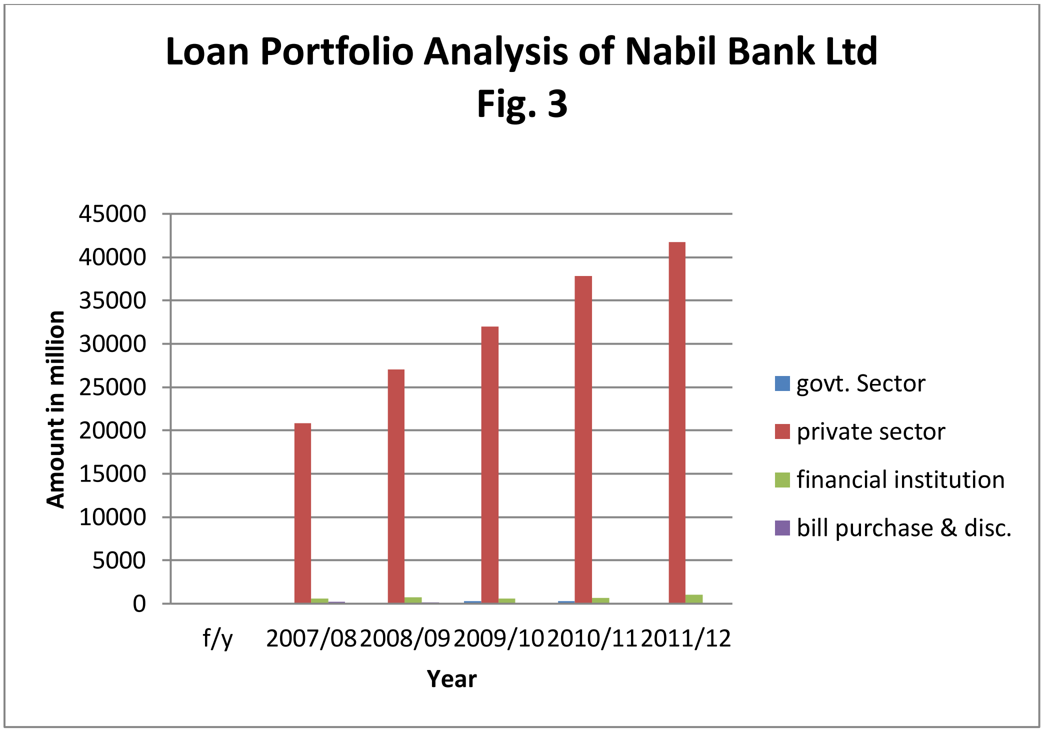
The amount of funds lent to the private sector of the economy has been in the increasing trend.The loan and advances lending to government sector is very low comparing to private sector.Nepal Investment bank is also not much aggresive towards bills purchased and discounted.Similarly loan and advances lending to financial institutions has also been discouraging.The bank is found to be aggresive lending towards the private sector, which can be seen by the amount of growth in loans and advances of the bank.The bank has increased its loans and advances by more than 100 percent in the year ended mid july 2010.The bank has steadily maintained its growth rate over the years.

Table No. 4.3

Loans and Advances Portfolio of Nabil Bank Ltd.

(Rs in million)

F/y	Govt. Sector		Private sector		Financial institution		Bill purchase & disc.		Total
	Amount	%	Amount	%	Amount	%	Amount	%	
2007/08	60.8	0.279286	20857.5	95.80933	596.4	2.739575	255.1	1.171807	21769.8
2008/09	0.4	0.001429	27036.9	96.5707	779.2	2.783155	180.5	0.644712	27997
2009/10	280	0.849907	31995.5	97.11851	627.5	1.904701	41.8	0.126879	32944.8
2010/11	280	0.720966	37801.2	97.33346	684.4	1.762246	71.2	0.183331	38836.8
2011/12	0	0	41713.5	97.50314	1018.2	2.37999	50	0.116872	42781.7



The trend of nabil bank towards lending has been mainly towards the private sector of the economy.the amount of loan and advances to the private sector of the bank has remained more concentrated and has maintained its steadiness over the years more than 95% being lent out to the same.the study over a period of five years has shown declining trend in the loan in the form of bills purchased and discounted.Similarly, the loan and advances to the financial institution has also been discouraging.

Table No. 4.4

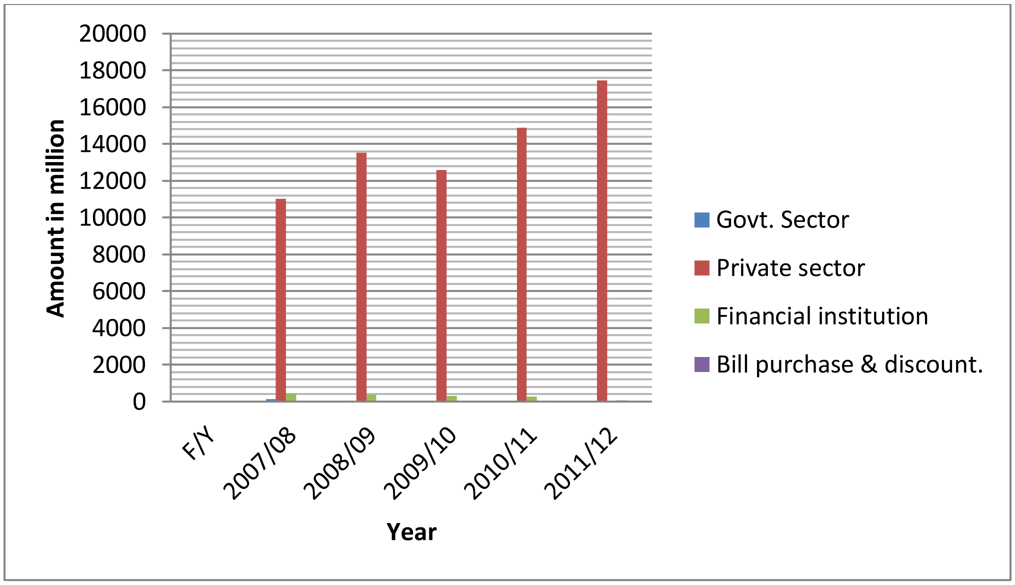
Loans and Advances Portfolio of Nepal Industrial and Commercial Bank Ltd.

(Rs in million)

F/Y	Govt. Sector		Private sector		Financial		Bill purchase &		Total
	Amount	%	Amount	%	Amount	%	Amount	%	
2007/08	142.5	1.2277	11009.8	94.8507	436.4	3.7596	18.8	0.1620	11607.50
2008/09	0.3	0.0022	13527	97.2040	362.3	2.6035	26.5	0.1904	13916.10
2009/10	0	0.0000	12602.8	97.4747	303.3	2.3458	23.2	0.1794	12929.30
2010/11	0	0.0000	14873.4	98.0739	275.9	1.8193	16.2	0.1068	15165.50
2011/12	0	0.0000	17460.2	99.6405	0	0.0000	63	0.3595	17523.20

LoanPortfolioofNICBankLtd

Fig. 4



In view of general trend of almost all the sample cammercial banks, NIC bank is also found to be running in the same path of lending to the private sector.This can also be considered the main reason for the growth of import business as well as the manufacturing business of private companies, which can be considered as a positive sign towards the development of the entire economy.NIC bank is found to be advancing to the private sector in increasing trend but lending to government sector and financial institution is in decreasing trend in last five years.

Table No. 4.5

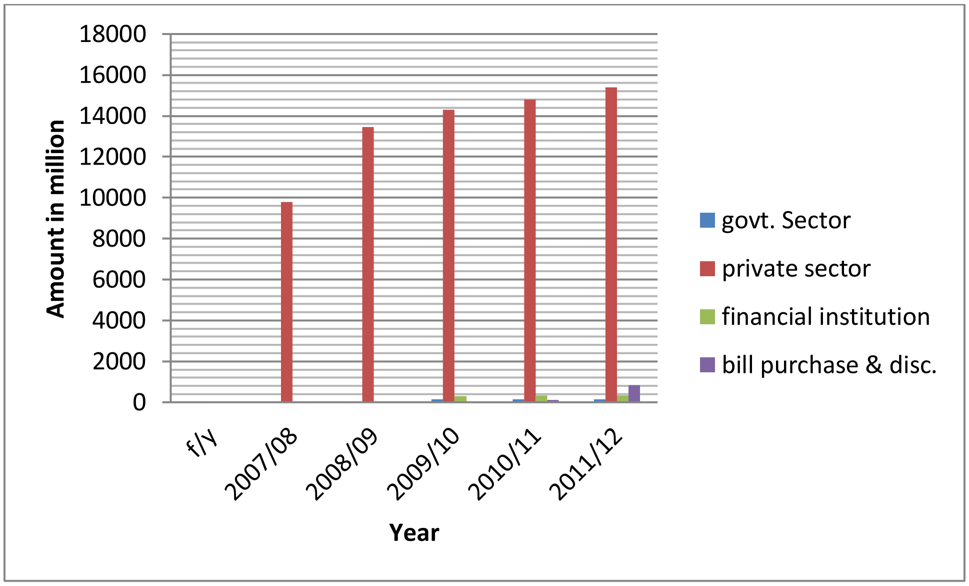
Loans and Advances Portfolio of Laxmi Bank Ltd.

(Rs in million)

FY	Govt. Sector		Private sector		Financial institution		Bills Pur. And Disc.		Total
	Amount	%	Amount	%	Amount	%	Amount	%	
2007/08	0	0	9784	99.8928	0	0	10.5	0.107203	9794.5
2008/09	0	0	13446.1	99.8715	0	0	17.3	0.1284965	13463.4
2009/10	131.6	0.893	14283.8	96.9287	316.4	2.147064	4.6	0.0312152	14736.4
2010/11	134.6	0.8746	14789	96.0986	339	2.202815	126.8	0.8239438	15389.4
2011/12	134.6	0.8061	15383.6	92.1334	329.6	1.973995	849.3	5.086512	16697.1

Loan Portfolio Analysis of Laxmi Bank Ltd.

Fig. 5



As the table shows ,before FY2009/010 the bank has been lending only in private sector and a small portion in bill purchase and discounts.Laxmi bank is trying to make loan portfolio in FY2009/010 by lending to government sector,private sector and financial institutions.The bank has been lending very small portion of total loan to government sector and financial institution,and a large amount of loan and advances goes in account of private sector.the loan in the form of bills also in a small amount comparing to private sector.

Table No. 4.6

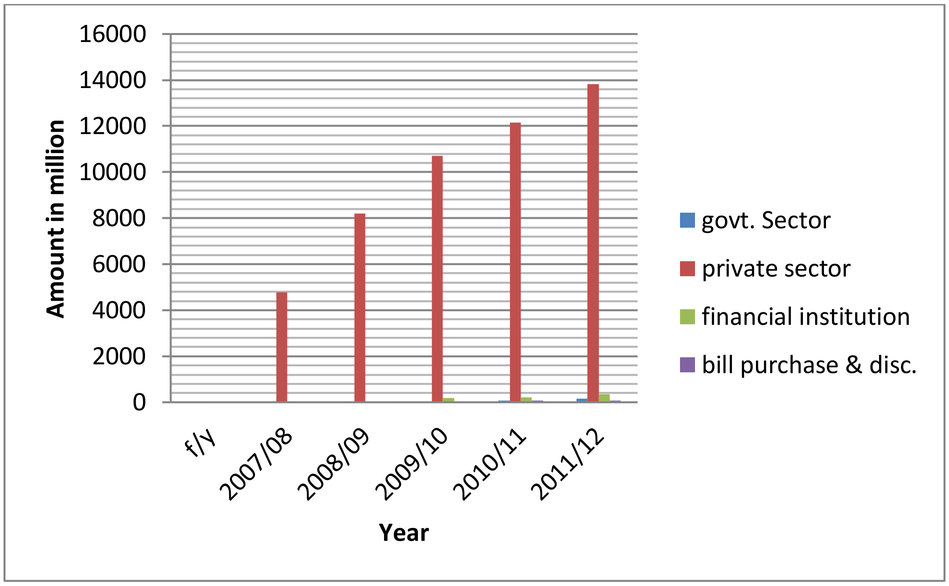
Loans and Advances Portfolio of Citizen Bank Ltd.

(Rs in million)

FY	Govt. Sector		Private sector		Financial institution		Bill purchase & disc.		Total
	Amount	%	Amount	%	Amount	%	Amount	%	
2007/08	0	0	4788.3	99.7916	0	0	10	0.20841	4798.3
2008/09	0	0	8195.8	99.8246	0	0	14.4	0.17539	8210.2
2009/10	0	0	10711.5	98.0458	194.7	1.78215	18.8	0.17208	10925
2010/11	82.3	0.65804	12145.3	97.1096	209.8	1.67749	69.4	0.5549	12506.8
2011/12	153.1	1.06389	13811.1	95.9731	361.3	2.51067	65.1	0.45238	14390.6

Loan Portfolio Analysis of Citizens Bank International Ltd.

Fig. 6



The table and bar chart clearly shows that the bank has grant loan in private sector very aggresively in first three years then it has changed its lending trend by disbursing the loans and advances in government sector and financial institutions also.the bank is trying to make a portfolio by lending in different sectors.The loans in the form of bills of citizen bank have not much been entertained.

Table No. 4.7

Average Loan and Advances Portfolio of Commercial banks(Aggregate)

(Rs in million)

FY	Govt. Sector		Private sector		financial institutions		Total
	Amount	%	Amount	%	Amount	%	
2007/08	2772.9	0.91541015	288246.8	95.158154	11893.7	3.92643574	302913.4
2008/09	2608	0.65504103	387543.3	97.337715	7991.7	2.007243629	398143
2009/10	2787.6	0.5967795	453049	96.99037	11270.6	2.41285084	467107.2
2010/11	6151.5	1.17652527	503339.4	96.267824	13362.3	2.55565042	522853.2
2011/12	6906.7	1.12795118	577113.2	94.249861	28302.7	4.622187716	612322.6

The above table shows the portfolio of loans and advances including Bills Purchased and Discounted of the commercial banks as a whole.The above table is clearly suggests that the commercial banks are far from lending to the government sectors. The proportionate share of the lending to the Government sector has remained more or less at only 1% of the total loans and advances of commercial banks over the 5 years of study.

The major portion of the lending of commercial banks has been towards the development and upliftment of the private sector of the economy.The main sector demanding loans from commercial banks is the small retailers to the large-scale investors in the private sector. The private sector lending enhances the standard of living of people on the one hand while on the other; it also helps the nation to develop a group of entrepreneurs who can run the nation in the economic field.It can be interpreted as the major portion ie more than 90% in the all the years, the lending is being targeted to the private sector.

The banks have started to lend loans and advances to financial institution also from few years ago.The financial institution can be seen in a large numbers in the economy.Lending in financial institution can be observed in moderate position ie less than 5% in all the years.Lending to financial institution can be seen in increasing trend.
Similarly, it can also be observed that the amount of bills purchased and discounted is also extremely low which is signifies that the domestic as well as foreign bills arenot purchased unless the bank is assured that the bills will be realized.This has indeed helped the bank in the reduction of the bounced bills.The risk return trade off in this case is slightly difficult to analyze depending upon the nature and variability of the bill. However, the entire commercial banks have disregarded the purchase and discount of bills.

The above table of the loans and of commercial banks also suggests one major point that has to be taken into consideration. The total amount of loans and advances of commercial banks has been increasing every year, which suggests that the businesses are on the rise in the country.This increase in the loans and advances of commercial banks is a positive response towards the economic development of the nation.The amount of loans has remained Rs 306608.3 million in the FY2007/08, whereas the same has risen to Rs 621929.6 million in the FY 2011/12.

4.1.2Investment portfolio

Investment can be defined as the process of exchanging income for an asset that is expected to produce earnings at a later time.An investor refrains from consumption in the present in hopes of a greater return in the future. Investment may be influenced by rates of interest, with the rate of investment rising as interest rates fall. The main source of investment is the savings by households and the businesses.The savings provide funding opportunities. Moreover, as investment increases an economy's capacity to produce, it is a factor contributing to economic growth.

The commercial banks' one of the major activities is the investment in the low risk and high yielding securities. The commercial banks have shown more attraction towards the Government Securities, Debentures of commercial banks and NRB bonds.

Table No. 4.8

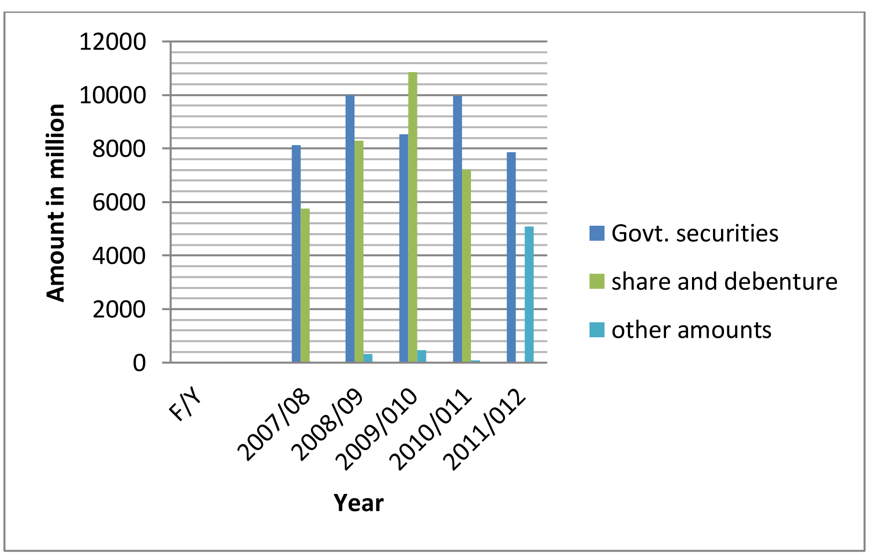
Average Investment Portfolio of Standard Chartered Bank Nepal Ltd.

(Rs in million)

F/Y	govt. Securities		share and debenture		other amounts		Total
	amount	%	amount	%	amount	%	
2007/08	8137.6	58.5679	5756.7	41.4321	0	0	13894.3
2008/09	9998.8	53.66466	8300.1	44.54755	333.1	1.787784	18632
2009/010	8531.5	43.00368	10844.9	54.66455	462.6	2.331771	19839
2010/011	9957.3	57.72247	7207.9	41.7842	85.1	0.493325	17250.3
2011/012	7862.7	60.69661	0	0	5091.4	39.30339	12954.1

Investment Portfolio of Standard Chartered Bank Ltd

Fig. 7



Standard Chartered Bank has been flexible in terms of investment policy of the bank. The diversification of fundsinterms of investment is found to be varsatile.The proportionate share of investment in Government securities of the banks has been 58.56% in the FY 2007/08 and reduce to 53.66% in the FY 2008/09. The investment in Government securities has reduced to 43% in the FY 2009/10. The same has again risen to gain its momentum in the range of 57.72% in the FY 2010/11 and 60.69% in the FY 2011/12. In the other hand the investment in shares and debentures has risen by 44.54% in the FY 2009/10. But after FY 2010 the investment in share and debenture has decreased by 41.78% in FY 2010/11 and then there were no investment made in FY 2011/12 in share and debenture. The investment in others is in increasing trend.

Table No. 4.9

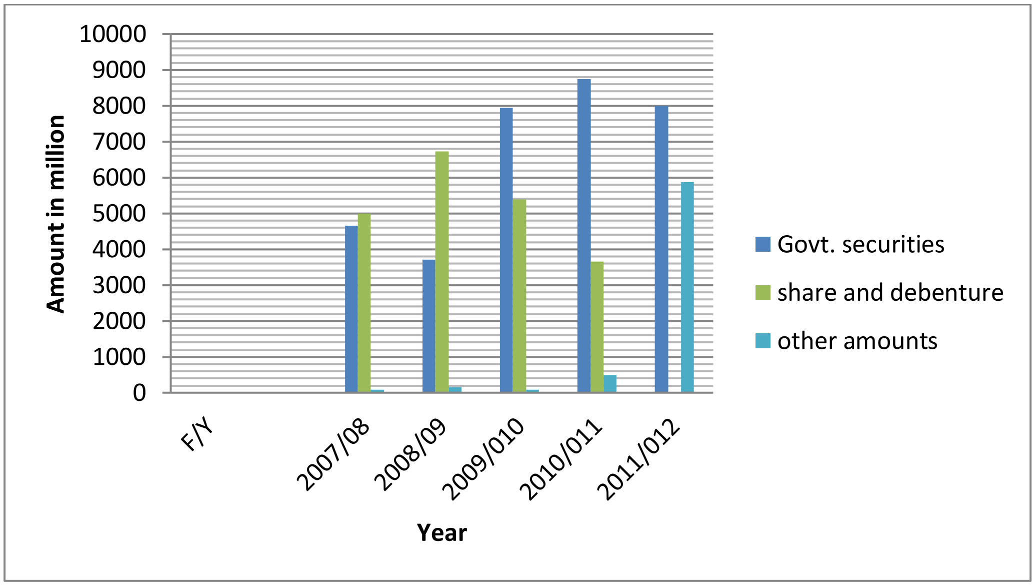
Average Investment Portfolio of Nabil Bank Ltd

(Rs in million)

F/Y	govt. Securities		share and debenture		other amounts		total
	amount	%	amount	%	amount	%	
2007/08	4646.9	47.78844	4995.2	51.37033	81.8	0.841226	9723.9
2008/09	3706.2	34.95591	6734.6	63.51898	161.7	1.525112	10602.5
2009/010	7941.3	59.15263	5391.1	59.15263	92.7	0.690498	13425.1
2010/011	8742.3	67.74456	3663.4	67.74456	499.1	3.867553	12904.8
2011/012	7991.2	57.67862	1.8	57.67862	5861.7	42.30839	13854.7

Investment Portfolio of Nabil Bank Ltd.

Fig. 8



The investment portfolio of Nabil bank is more flexible than that of Standard Chartered bank in comparison to the diversification of investments.Nabil bank has tried to invest half portion in risk free securities and half in shares and debentures.The bank has invested 47.78% in the FY 2007/08, 34.95% in the FY 2008/09, 59.15% in the FY 2009/10, 67.74% in the FY 2010/11 and 57.67% in the FY 2011/12 in Government securities. Similarly the bank has invested 51.37% in the FY 2007/08, 63.51% in the FY 2008/09, 59.15% in the FY 2009/10, 67.74% in the FY 2010/11 and 57.67% in the FY 2011/12 in shares and debentures.

Table No. 4.10

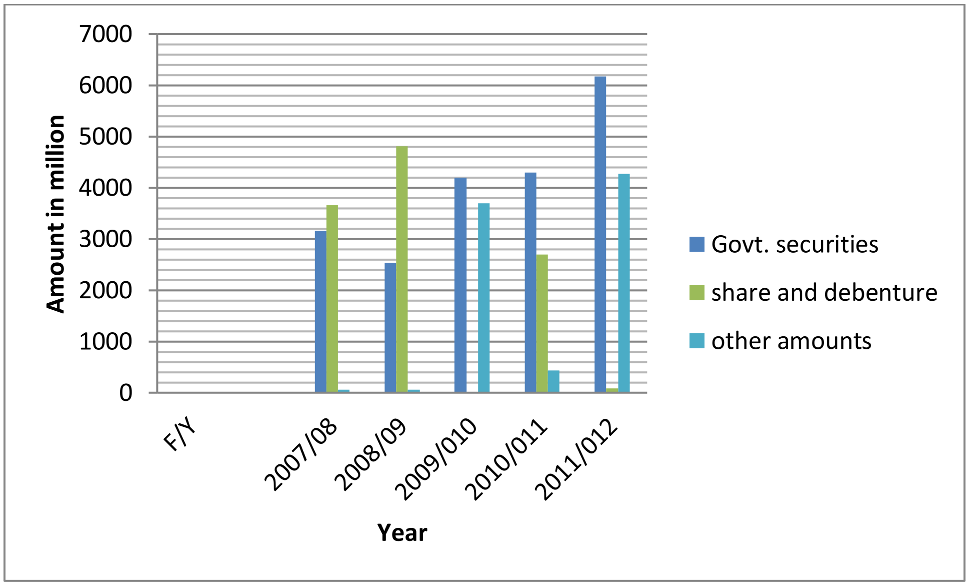
Average Investment Portfolio of Nepal Investment Bank Ltd.

(Rs in million)

F/Y	govt. Securities		share and debenture		other amounts		total
	amount	%	amount	%	amount	%	
2007/08	3155	45.86156	3664.5	53.26773	59.9	0.870715	6879.4
2008/09	2531	34.18977	4807.5	64.94164	64.3	0.86859	7402.8
2009/010	4201.9	53.21286	0	0	3694.5	46.78714	7896.4
2010/011	4294.6	56.59048	2696	36.30928	434.5	5.851773	7425.1
2011/012	6169.5	58.59531	87.9	0.834837	4271.6	40.56985	10529

Investment Portfolio of Nepal Investment Bank Ltd.

Fig. 9



Investment bank has invested in Government securities by 45.865 in the FY 2007/08 and it reduced by 34.18% in the FY 2008/09 then it increased continiously by 58.59% in the FY 2011/12.But the investment on share and debenture is fluctuating over the years. It increases by 64.94% in the FY 2008/09 and becomes nil position in the FY 2009/10. Then it again increase by 36.31% in the FY 2010/11. In the FY 2011/12 , it has decreased to 0.83%. The other investment of bank has been increasing trend.

Table No. 4.11

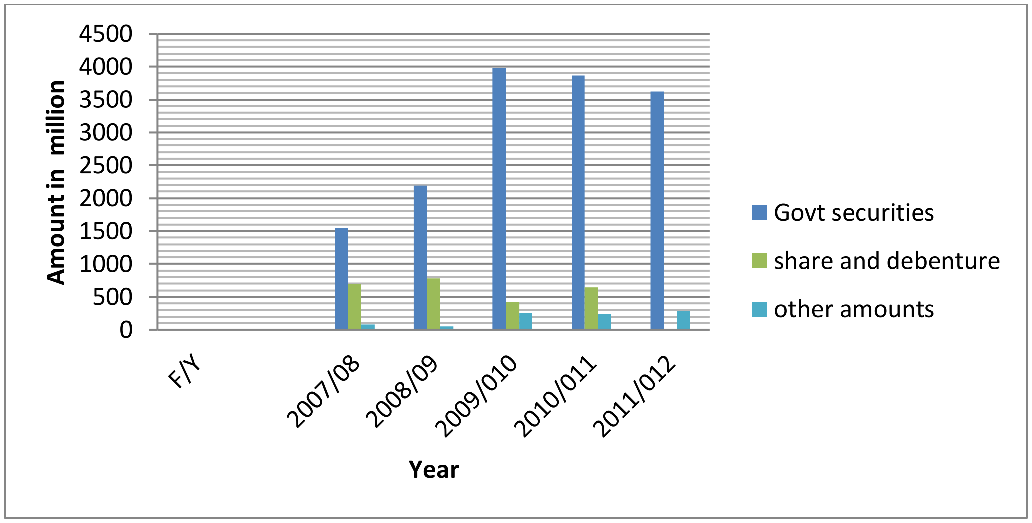
Average Investment Portfolio of Nepal Industrial and Commercial Bank Ltd.

(Rs in million)

F/Y	govt. Securities		share and debenture		other amounts		total
	amount	%	amount	%	amount	%	
2007/08	1545.4	66.85702	689.6	29.83344	76.5	3.309539	2311.5
2008/09	2195.6	72.54585	784.4	25.91773	46.5	1.536428	3026.5
2009/010	3979	85.46696	418.9	8.997766	257.7	5.535269	4655.6
2010/011	3865.1	81.58695	641.3	13.53696	231	4.876092	4737.4
2011/012	3622.2	92.65123	0	0	287.3	7.348766	3909.5

Investment Portfolio of NIC Bank Ltd.

Fig. 10



NIC bank has been quite conservative in term of investment policy of the bank.NIC bank has specially focused on the riskfree securities i.e. Government securities.This type of securities bears no risk at all. The bank has been more conservative in the sence that the amount of investment in the shares and debentures of other commercial banks and financial institutions is on the lower side.The same has remained 29.83% in the FY 2007/08, 25.91% in the FY 2008/09, 8.99% in the FY 2009/10, 13.53% in the FY2010/11 and in nil position in the FY 2011/12. Similarly a small amount of total investment has made on other investment in form of short term securities. Moreover, at all times of the study of five years, the investment in Government securities has been increasing trend from 66.85% in the FY 2007/08 to 92.65% in the FY 2011/12.

Table No. 4.12

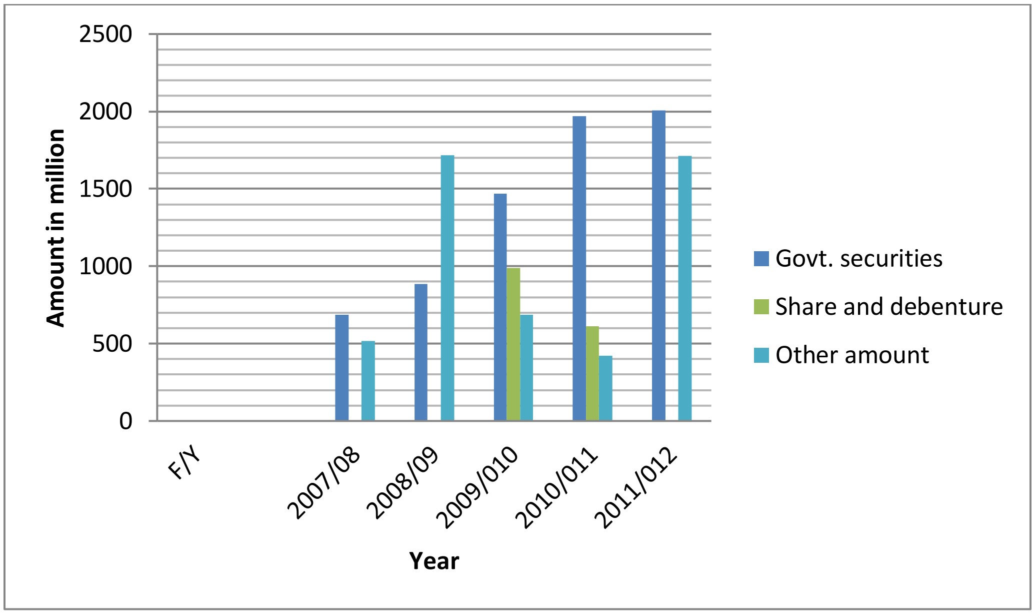
Average Investment Portfolio of Laxmi Bank Ltd.

(Rs in million)

F/Y	govt. Securities		share and debenture		other amounts		Total
	amount	%	amount	%	amount	%	
2007/08	684.7	57.00133	0	0	516.5	42.99867	1201.2
2008/09	883.9	34.00531	0	0	1715.4	65.99469	2599.3
2009/010	1470.4	46.72238	989.3	31.43529	687.4	21.84233	3147.1
2010/011	1969.7	65.62167	612.3	20.39912	419.6	13.97921	3001.6
2011/012	2005.5	53.93594	0	0	1712.8	46.06406	3718.3

Investment Portfolio of Laxmi Bank Ltd.

Fig. 11



Laxmi bank has invested almost half of total investment in government securities.It has not invested in shares and debenture in the FY 2007/08 and 2008/09. Then it has invested 31.43% in the FY 2009/10 and 20.39% in the FY 2010/11 in share and debenture.In the FY 20011/12, there has no investment made by Laxmi bank on share and debenture.And the bank has invested in other investment almost 43% in the FY 2007/08 then it increased to 56.99% and then decreased to 21.84% in the following years, then again increased by 46.06% in the FY 2011/12.

Table No. 4.13

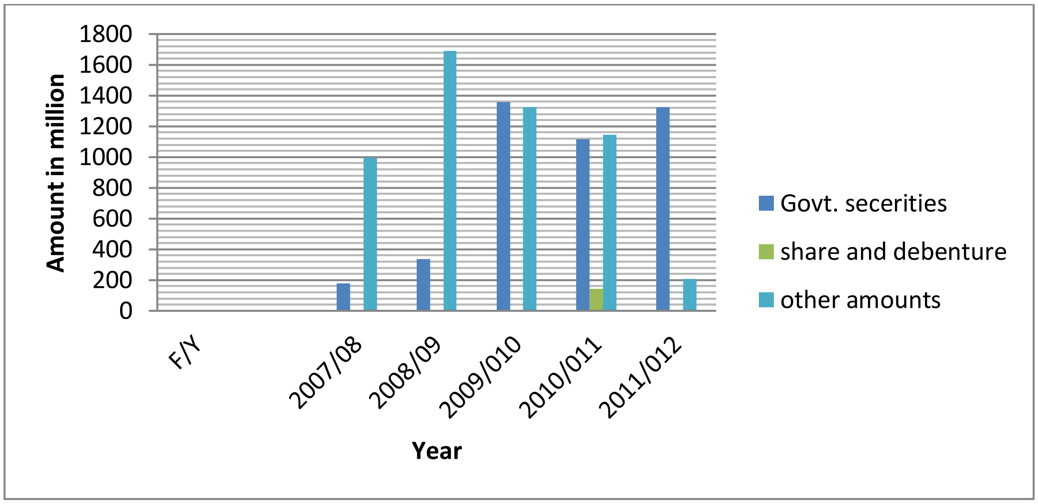
Average Investment Portfolio of Citizens International Bank Nepal Ltd.

(Rs in million)

F/Y	Govt. Securities		Share and Debenture		Other Amounts		Total
	amount	%	amount	%	amount	%	
2007/08	177.6	15.12777	0	0	996.4	84.87223	1174
2008/09	336.5	16.59843	0	0	1690.8	83.40157	2027.3
2009/010	1355.7	50.58205	0	0	1324.5	49.41795	2680.2
2010/011	1113.9	46.38351	142.7	5.94212	1144.9	47.67437	2401.5
2011/012	1323.2	86.47236	0	0	207	13.52764	1530.2

Investment Portfolio of Citizens Bank International Ltd.

Fig. 12



Citizens bank has different investment trend. It has invested in Government securities 15.12% and no investment made in share and debenture and 84.875 invested in other investment in the FY 2007/08. In this way it has invested more than fifty percent of total investment in other investments for the FY 2008/09. Then it changed the structure by increasing investment in riskfree securities and decreased investment in other investment in short term securities.The citizens bank has invested only 5.94% in share and debentures in the FY 2010/11.

Table No. 4.14

Commercial Banks' Average Investment Portfolio

(Rs in million)

FY	Govt. Sector		Share & Debenture		Others		Total
	Amount	%	Amount	%	Amount	%	
2007/08	71495.5	65.61941	18240.7	16.74153	19218.6	17.63906	108954.8
2008/09	69261.4	52.92912	33293.2	25.44245	28302.3	21.62844	130856.9
2009/10	81343.8	60.68572	35917	26.79551	16780.3	12.51877	134041.1
2010/11	102655.9	68.6398	35002.2	23.40386	11899.3	7.956343	149557.4
2011/12	131017.9	72.27665	1.8	0.000993	50253.1	27.72236	181272.8

The above table provides us with the clear picture of the investment pattern of the entire commercial banks.The major portion of the investments of commercial banks is towards the government securities which in itself is a very low risk investment sector.However, some portion of investments has also been made towards the shares and debentures of other financial institutions and manufacturing companies.The entire commercial banking industry has shown aggresiveness towards the investment in government securities.The ratio of the same has remained on the higher side.Thepropertion of investment in government securities in the FY 2007/08 was 65.61%, which was reduced to 52.93% in the FY2008/09.The samen in the FY 2011/12 in however, maintained at 72.27% of the total investments of commercial banks.

Similarly, the amount of investment in shares and debentures has remained at a moderate position.In the FY2007/08 it was 16.74%,has been increased to25.44% in the FY 2008/09.The percentage of investments in shares and debentures has been maintained at 27.33% in FY 2009/10 and 23.4% in FY2010/11.

In the same way, the banks have invested moderately in others as short term investments.The amount of investment in others has observed 17.63% in the FY 2007/08 and27.72% in the FY 2011/12.

The banks cannot invest their major portion of funds in the risk free givernment securities, but must consider the directives issued for investment in shares and debentures requires that commercial banks should limit their investment within 10% of the paid up capital.

4.1.3 Sector wise Composition of Loans and Advances

The portfolio of commercial banks comprises of a variety of composition of loans and advances granted in different sectors of the economy.The advances in various sectors of the economy have an impact on the overall economic development of the country.

In the present economic scenario, the commercial banks and financial institutions are not being able to grant loans to the Hydropower companies in Nepal, mainly due to the high amounts of funds involved as well as the lack of adequate knowledge in the same.Eyeing to this fact, the financial instituitions are beginning to show interest in investment in Hydropower projects for which orientation, seminars and expos are being organized to provide knowledge and mode of operation of the Hydropower projects.The participation of financial institutions and other related companies in the Hydropower Mart organized in the capital recently shows the need for granting advances in these projects, whose benefit is to the entire economic development of the nation.

In the context of sector-wise loans and advances, the major sectors of the lending of the commercial banks include Agriculture, transportation, construction, production, Wholesaler and retailers, etc.The analysis of the proportion of the sector wise loans granted in the different categories can be highlighted as follows:

Table No. 4.15
Sector-Wise Classification of Loans and Advances

(Rs in million)

Sectors\Banks	SCBL	Nabil	NIBL	NICB	Laxmi	Citizens
Agriculture & forest related	429.4	426.7	643.1	338.0	320.1	53.9
Fishery Related	0.0	0.0	0.0	0.0	0.0	0.0
Mining Related	0.0	29.7	21.4	0.0	0.0	5.3
Manufacturing(Producing)	4240.7	13032.7	14629.2	6060.8	4278.8	3168.3
Construction	4220.4	4856.3	1412.9	2390.2	2905.8	539.2
Electricity,Gas and water	24.8	149.7	362.1	142.1	187.5	905.2
Metal products	436.8	504.4	229.0	33.6	30.1	20.8
Transport,communication	49.6	3449.6	1218.7	294.0	807.9	94.2
Wholesaler and retailer	3415.7	10355.8	6600.4	3137.5	3299.8	2285.0
Finance,insurance& real estate	924.9	3280.9	5334.7	2222.5	3018.3	2865.3
Hotel and restaurants	52.6	1133.6	1951.2	124.3	52.5	167.9
Other services	104.0	2270.8	2887.4	311.5	595.6	826.4
Consumption loans	3258.5	178.2	1472.7	1132.1	640.8	1029.4
Local Government	138.8	0.0	0.0	0.0	134.6	0.0
Others	2532.4	3199.3	6149.3	1336.4	425.3	2454.5
Total	19828.5	42867.8	42912.1	17523.2	16697.1	14415.4

The above table shows the amount of loans outstanding in the various sector of the economy.The figures represents those as at close of the FY 2011/12. The sampled commercial banks' loans and advances outstanding have been categorized under the sectorwiseheads.The above analysis has been conducted for the fiscal year ended 2011/12 only.However, full effort is being made to get the best out of the data for the last one year.

The sector-wise loans and advances of commercial banks actually signify the portfolio of any financial sector of the economy.This analysis is made by all the institutions involved in the financial sector in order to analyze the loan mix of their particular branch or organization as a whole.

The sampled commercial banks' loans and advances are categorized into 15 broad categories.The major sectors of the economy are being considered for categorization of loans and advances of commercial banks.As far as the sectors of the economy are considered, the above table highlights almost all the sector of the economy and can be considered as the basis for analysis of study.

The commercial banks have shown great interest to develop the manufacturing sectors of the economy.Out of the total loans outstandingof Rs19828.5 Lac of Standard Chartered Bank, the lending of the bank is mainly focused on the manufacturing sector of the economy, which is approximately 21% of the total loans and advances amounting to Rs4240.7 Lac. The lending in food production companies and other miscellaneous production like paper, leather, plastic, etc occupies the main share of the loans and advances of commercial banks.Similarly, the bank has also made loans to the units producing drinking materials,electricity and gas, metal products, transport and communication which is Rs 24.8 Lac, Rs 436.8, Rs 49.6 Lac respectively.The metal production industries are also one of the major sources of income for the bank considering the amount of investments required for operation of metal industries as well as the amount of fund lent out to the same by different commercial banks.Similarly, other sampled commercial banks have also been found to be highly aggresive in lending in the manufacturing sector of the economy.

The prevailing security situation and the insurgency existing in the country has made the lenders think of better options and possibilities to earn safe profits.This has led to a dramatic rise in the lending to the wholesalers and retailers in the country.The small loans made to these sectors of the economy are expected to earn better yield as well as they bear less chances of default.Moreover, since the amount of loan disbursed to the wholesalers and retailers are less than or slightly higher in the range of Rs 100 Lac, which has thus proved to be a safe landing of funds for the commercial banks.The total lending of commercial banks to the wholesalers and retailers is Rs3415.7Lac of the total loan amount of Rs19828.5Lac.The lending in this sector has been around 17% of the total loan outstanding.

The various unfavourable situations that has been seen over the last few years has given rise to a demand for construction of houses and business complexes.The lack of areas for prospective investment in the country has also been the major cause for dramatic increase in the housing construction business.Moreover, with the rise in Maoist activities in the regions out side the valley, the construction in the valley was extremely high.The Standard Chartered Bank could also grab this opportunity of lending in the construction of houses.Out of the total loan, around 21% of the funds are being lent to construction sector of the economy amounting to Rs4220.4Lac.The banks' business from the same was found to be profitable and that too for a longer period of time.

Similarly, the commercial banks have lent its funds in other different sectors of the economy like Finance, Insurance, Real Estate,which is Rs924.9 Lac out of the total loan outstanding.The bank has also helped in promoting the deprived sector of the economy like investment in agriculture to promote the standard of living of poor people.The investment in mining is another neglected sector of the economy.The percentage of the same is less than 1% by all the commercial banks.

The commercial banking activities are also found to be focused on the wholesale and retail traders in the country.The investment in the same is found to be a large amount out of the total loan outstanding.Standard Chartered Bank has lent around 17% to the wholesalers and retailers of the of the total loan outstanding of Rs 19828.5Lac.Similarly, the lending to the wholesalers and retailers account for 24.16% by Nabil Bank, 15.38% by Investment Bank, 17.9% by NIC Bank, 19.76% by Laxmi Bank and 15.85% by Citizens Bank of the total loan portfolio of sampled commercial banks.

The commercial banks have also not neglected the finance and insurance sectors as well as various service oriented industries.The sampled commercial banks have lent less than 20% to the finance, insurance and real estate companies.These sectors themselves collect funds from the public and lend them in various sectors.Thus, these companies donot require a large amount of funds.However, eyeing to the need and demand from these serveceindustries , the commercial banks are seen investing in these companies as well.

Similarly, service industries are also one of the important sectors of the economy.The development of service sector can be said to be one step forward towards the economic development of the country.Thus, greater efforts are required to be made for development of service sector in the country.The commercial banks have also shown positive response towards these sectors considering the amount of funds lent in this sector.Standard Chartered Bank has lent about 0.52% of the total loan to the service industries.Similarly, the loan portfolio of other sampled commercial banks also includes advances in service sector industries.Nabil Bank has lent around 5.3% of total loan, Investment Bank has lent 6.73%, NIC Bank has lent 1.78%, Laxmi Bank has lent 3.57% and Citizens Bank has lent 5.37% of the total loan outstanding to the service sector industries.The lending in service industries has assisted in the economic growth of the country.

The commercial banks have also been lending in the consumable loans like purchase of computers, television, refrigerator, etc. in the form of micro credit lending in the urban areas.Nabil Bank has advanced a sum of Rs178.2Lac of the total loan outstanding of Rs42867.8 Lac. Similarly NIC Bank and Citizens Bank are in the row with lending of Rs1132.1 Lac and Rs1029.4 Lac respectively.The banks have realized that these are the days of consumer satisfaction and that consumer is the king. Hence, these products are introduced by the bank to meet the demand of the consumers.

4.1.4 Security-wise composition of Loan and Advances

Table No. 4.16

Security-wise Classification of Loans and Advances

(Rs in million)

	SCBL	Nabil	NIBL	NICB	Laxmi	Citizens
(A) Secured	19828.5	42711.0	42906.7	17523.1	16697.0	14415.3
1.Collateral of movable/immovable assset	15369.4	38291.1	37894.2	16065.8	16432.1	8218.9
2.Guarantee of local licensed Institutions	-	-	-	366.5	-	-
3.Guarantee of Govt. of Nepal	138.8	-	-	139.1	134.6	-
4.Guarantee of internationally rated banks	411.1	-	-	-	-	-
5.Export Documents	-	92.4	-	2.4	-	53.1
6.Fixed Deposit Receipts	294.7	423.4	128.4	214.7	77.3	89.7
a.Own FDR	111.0	393.9	128.4	210.4	77.3	89.6
b.FDR of other licensed institution	183.7	29.4	-	4.3	-	0.1
7.Government Bonds	679.2	76.5	3.3	483.6	1.8	-
8.Counter guarantees	-	-	-	-	-	-
9.Personal guarantee	-	8.1	9.6	-	51.0	-
10.Other securities	2935.1	3819.4	4870.9	250.8	-	6053.5
(B)Unsecured	-	156.7	-	-	-	-
Total	19828.5	42867.7	42906.7	17523.1	16697.0	14415.3

A bank is a financial institution, the major function of which is to earn profits by providing services in the form of loans and advances.The bank accept deposit from the public providing them a certain percentage of interest and lend the same funds to the other group of people who are in need of funds, thereby charging a certain percentage of interest on the same.The difference in the interest on deposits and the interest on loans is the profit earned by the banks or any other financial institution.The banks have to fulfill all the operating as well as contingent expenses from this portion of profit earned and maintain a net positive profit.

The rate of interest on deposit as well as loans is determined by the amount of liquid funds in the economy as well as the amount of the risk involved in the same.Further the loan is granted only on the satisfactory compliance of the credit requirement of the bank. One of the major and significant requirements for eligibility of loan is the collateral security for the loan. The security offered by the borrower for the loan should be sufficient to cover the exposure for the proposed limit required. The same collateral security is classified in order to determine the loans advanced against the nature of collateral security.

The above table representing security-wise classification of loans and advances provides us with the general ideas regarding loans advanced against different securities. From the above table, Standard Chartered Bank is seen to lending against Government bond, which is one of the least risky investments as well as advances.The amount of loans against HMG bonds is Rs679.2 million, which is 3.43% of the total loans outstanding of SCBL.Similarly, other sampled commercial banks have also shown lending against securities of HMG bonds.Nabil bank has advanced only 0.18% of the total loans, Nepal Industrial and Commercial Bank 2.76%, Nepal Investment Bank and Laxmi Bank 0.01%.The amount of loans of sampled commercial bank is less due to other banks being more motivated towards lending of other commercial activities.

Similarly, the investment against fixed deposits is also considering the strategy of the bank.Standard Chartered Bank occupies the topmost position in lending against Fixed Deposit Receipts.The percentage of loan against fixed deposit receipt is 1.49% of the total loans and advances.Similarly, NIC Bank follow the row with lending against FDR is 1.32%.Other sampled bank like Nabil Bank,NIBL, Bank and Citizens Bank have lending against FDR in the range of 0.3% to 1% of the total loans and advances.It can be considered that lending against Fixed Deposit Receipt is one of the less risky lending considering the fact that only 90% of the FD is lent, which leaves a cash margin of 10% at all times.

Collateral Security is the foremost important and mandatory as well in order to grant any loan to the borrower. Nepal Rastra Bank has also imposed strict guidelines regarding collateral security for any loan. Hence the major portion of loan flow of any commercial banks and financial institutions are backed up by primary as well as secondary collateral security.

The securities can be basically considered to be of two categories: Primary and secondary security. Primary security constitutes of those securities against which loan is granted.For example incase of overdraft loan facility, the loan is advanced against hypothecation of stocks and receivables of the unit.If the unit is wholesaler of rice, then the inventory of rice is considered as the primary security for this case. But, due to the impractical situation of any bank to regularly monitor the stock position of the unit, an additional security in the form of land and building is mortgaged in favour of the bank that is known to be secondry security.It can thus be illustrated that the first charge on which the bank can make, if the loan becomes bad, is the primary security.

In another example of Housing Loan Facility, the primary security is the land and building itself, the security of first charge to the bank.

Hence , the mortgage of collateral security is the most important and the most widely used security for lending loans and advances. It is therefore, evident that major portion of the loans and advances of commercial banks is grante against the collateral security of land and building as well as primary securities of inventory and book debts of the unit or company.

In the similar manner, the commercial banks are alsonot an exception. Even they have the obligation to follow the guidelines issued by Nepal Rastra Bank as well as secure themselves against the risk of non-performing loans.The strategy of particular bank is another factor for the value and amount of collateral security mortgage in the name of the bank. The more strict monitoring abilityof the bank, the lesser the amount of collateral security required.

The sampled commercial banks also posses more than 50% of the total loans and advances against the mortgage of collateral security.Standard Chartered Bank has Rs 15369.4 million of loans and advances against securities in favour of the bank out of the total loans and advances of Rs 19828.5 million. Out of which, 77.51% of loans is granted against mortgage of land and building as collateral security.The remaining 22.49% of the loans is against current assets only, which can be considered quite risky if there is any lag in proper monitoring of the same.Similarly, the total loans and advances outstanding of Nabil Bank is Rs42867.7 million, of which the loans and advances against securities is Rs 38291.1 million which is 89% of the total loans.Likewise, out of the total loans outstanding of Rs 42906.7 million of Nepal Investment Bnak , the loan against securities is of Rs 37894.2 million which is 88.32% of the total loans of NIBL.Similarly, the loan portfolio NIC Bank constitutes 91% of the total loan against securities.The story of other sampled banks like Laxmi bank and Citizens bank also falls in the same category.The investment of Laxmi Bank against securities is 98.4% of the total loans and advances.Similarly,Citizens Bank has the loan against collateral securities is Rs 8218.9million, which constitutes around 57.02% out of total loans of Rs 14415.3 million. The above table thus suggests that the major indication of the process of lending of the commercial banks.It can also be analyzed that whatever the nature of the business, the amount and the value of collateral securities is one of the major factors. The recent issues of growing non-performing loans in the traditional commercial banks like Nepal Bank Ltd. and RastriyaBanijya Bank has made alert the other commercial banks towards strick compliance to the mortgage of collateral securities.

The other important part of commercial banks in lending of loans and advances is against guarantee.In the present scenario, the trend of the same has significantly decreased but still there exists a sence of lending against personal or institutional guarantee. The personal guarantee is basically granted against the goodwill of very reputed business tycoons.But the amount of risk involved in such loans is quite high considering the fact that no other securities as such is mortgaged or hypothecated in favour of the bank.However, the institutional guarantee is still in existence for acceptance as additional security besides the regular collateral security of fixed as well as current assets.The institutional guarantee is more secured compared to that of personal guarantee in respect to the probability of recovery of loans.

The commercial banks have different portfolio on lending against guarantee.Standard Chartered Bank is lending against guarantee of government of Nepal only.It has lent

Rs138.8million, which is only 0.7% of the total loans and advances.The lending of Nabil Bank is Rs8.08 million in personal guarentee only, which is 0.02% of the total loans and advances. Similarly, other banks are also lending a small pertion of the loans and advances against personal and other guarantees.Likewise,Nepal Investment Bank has alos lent against personal guarantee only.It has lent Rs 9.68 million against personal guarantee, which is 0.02% of the total loans and advances.The lending of NIC Bank is found against guarantee of Governmntof Nepal and licensedinstitutions.The amount on Government of Nepal guarantee is 139.1million,which is 0.79% and on local licensed institutions guarantee is Rs 366.5 million,which is 2.09% of the total loans and advances. Similarly Laxmi Bank also has lent to government of Nepal guarantee Rs134.6million, which is 0.81% and to personal guarantee is Rs51.06 million,which is 0.31% of the total loans and advances.The lending pattern of the sampled commercial banks shows that the banks today are more cautious towards lending on unsecured basis, where the level of risk significantly rises.

Thus,from the above table it can be analyzed that the major portion of loans and advances are granted against collateral securities as well as current assets as stipulated by Nepal Rastra Bank via various directives.Besides, the banks are also involved in certain amount of risk by lending against personal as well as institutional guarantees.

4.1.5 Deprived Sector Loan Statement of Commercial Banks

The deprived sector investment of commercial banks are one of the most important lending of commercial banks which is directly associated with the development of under-developed country like Nepal.Moreover, the lending in the same has also been made compulsory by Nepal Rastra Bank.According to the directives issued by Nepal Rastra Bank, the commercial banks must provide at least 4 percent to the priority sector out of their total loans outstanding.

The table below shows the position of sampled commercial banks’ lending in the deprived sector as at the close of mid-july 2012

Table no. 4.17
Deprived Sector Loan Statement

(Rs in million)

Loan Title \Banks	SCBNL	Nabil	NIBL	NICB	Laxmi	Citizens
A.Direct Lending	0.0	42.9	2.1	0.0	3.8	0.0
-Agriculture	0.0	5.0	0.0	0.0	0.0	0.0
-Cottage Industries	0.0	0.0	0.0	0.0	0.0	0.0
-Services	0.0	35.6	0.0	0.0	0.0	0.0
-Others	0.0	2.3	2.1	0.0	3.8	0.0
B.Indirect Investment	533.3	1177.7	1079.4	402.0	435.8	291.2
i.Institutional lending	475.1	1061.1	1025.6	376.7	365.8	291.2
ii.Share investment	58.2	116.5	53.8	25.2	70.0	0.0
C.YubaSworojgarKarja	138.8	280.0	368.3	139.2	134.6	82.1
Total(A+B+C)	672.1	1500.6	1449.8	541.1	574.3	373.3

Nepal is an under-developed country with majority of population lying below the line of poverty.This has further push the country towards lack of development and further increase in poverty. The self-help development programs introduced by various NGO's and INGO's have helped to enhance the standard of living of the rural people.Similarly,The Yuba SworojgarKarjaPrograme has been conducting by government to increase the entrepreneours and to increase self dependency. With further funds flow from the commercial banking industry to the deprived population, the rate of poverty is expected to decrease significantly.The commercial banks have felt their social responsibility by providing credit to the deprived sectors of the economy.In this process, Nabil bank and Nepal Investment Bank have provided maximum amount of credit to the deprived sectors of the economy.They have lend Rs1500.6million and Rs 1449.8 million respectively.Similarly, StandardCartered Bank, NIC Bank, Laxmi Bank and Citizens Bank have lend Rs672.1 million, Rs 541.1million, Rs 574.3million and Rs 373.3million respectively.

From the table,it can also be seen that the banks have lent most of the funds in service sector of the economy. The amount of fund invested in agriculture and other domestic industries like power and domestic production unit is found to be nominal, considering the amount of funds advanced as credit.

4.2 Classification of Loans and Advances

The classification of loans and advances does not simply refer to the classification of loans and advances on the basis of sector-wise classification.It also refers to the classification on the basis of performing and non-performing loans.

Loan simply refers to the credit of funds in return for a promise to pay back in the future.During this period, the borrower pays the interest on the sum borrowed and before maturity of the loan; the principal amount is paid back with accrued amount of interest at that point of time.In this mechanism of lending and borrowing, there is a possibility of the borrower going bankrupt as a result of which, the principal amount of funds along with lent couldnot be paid back.Thus, the apex bank of Nepal, Nepal Rastra Bank has classified the same as Performing Loans and Non Performing Loans.

4.2.1 On the basis of Aging, Classification-wise Average Loan Outstanding

The classification of loan is made not only for the purpose of analysis, but to safeguard the bank and financial institutions against the occurence of any irregularities against loan.On the basis of this classification of loans, the provision is made from the profits of the bank so that in case the loan goes bad, the bank does not have to bear the entire amount of principal and interest in one stroke.The provision amount thus maintained by the bank helps the bank in adjusting the loss thus acquired.

The detailed study of the same is as follows:

4.2.1.1 Performing Loans

The performing loans can be classified on the basis of the regularity of the loan as well as the principal amount due of the loan. The loans are granted for a specified period of loan.Thus, the renewal of the same or payment of loan is required as soon as the loan is expired.All the credit norms of the bank is thereby to be fulfilled before the loan is finally renewed.Hence,depending upon the nature of the loan, the renewal process as well as the payment mechanism varies.For example: in case of Overdraft loan, the maturity of the loan is 1 year.If the same is not renewed within one three months of expiry of the loan, the loan can be classified under other head than the performing loans.Similarly, the loan that is based on EMI, on the other hand needs the regular payment of interest.In this case, the non-fulfillment of repayment obligations shall categorize the loan under sub-standard, doubtful or bad loan.

4.2.1.1.1 Pass Loan

Loans and advances whose principal amount are not past due and past due for a period upto 3(Three) months shall be included in this category.These loans are classified as performing loans.Under the pass loan category, a provision of 1% is required to be maintained by the commercial banks.This means that entire loans outstanding shall be maintained at least1%,if the entire loan falls in the pass category.

4.2.1.2 Non-Performing Loans:

The non-performing loan can be categorized as the loans, which are not performing well, and principal of the loan is past due for a period of more than three months. The loans falling under this category should be viewed suspiciously and with caution until the amount of interest and principal is recovered or the loan is again categorized as performing loans.The non-performing loans are further classified into sub-categories depending upon the age of principal amount due of the loan.

4.2.1.2.1 Sub-Standard

The sub-standard loan is the first type of non-performing loans category.All loans and advances the principal of which are past due for a period of more than 3 months and upto 6 months shall be included in this category.The percentage of provision required in this case is 25% of the total loans outstanding that falls in this category.

4.2.1.2.2 Doubtful

As the name itself suggests, this loan should be considered very carefully and with caution to prevent it from being loss of entire loan to the bank.All loans and advances the principal of which are past due for a period of more than 6months and up to 1 year shall be included in this category.The amount of provision required to be made in doubtful loan is 50% of the loan outstanding.

4.2.1.2.3 Loss

All loans and advances the principal of which are past due for a period of more than 1(one)year as well as advances which have least possibility of recovery or considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category.These loans are a threat to the performance of the bank and the same shall be disposed of as soon as possible.The provision of 100% shall be made in this loan where the possibility of recovery of the loan is almost nil.

Besides, the above-mentioned classification of loans and advances of performing and non-performing loans, the loans and advances of commercial banks and other financial institutions can also be classified as Reschedule/Restructure of loans.

The Reschedule/Restructure of loan occur in case of term loans having a long and fixed maturity period.In case of term loans, the maturity of the loan is more than one year where the repayment of the loan is made on monthly or quarterly basis as required by the borrower.On a later date, if the borrower is unable to fulfill the monthly repayment obligations and requires the loan to be further extended for another few years or months, then that is the case of rescheduling of loans.In case of rescheduling of loans, the bank must recover from the borrower at least 20% of the interest accrued at the time of reschedule.This type of loan falls in between the Performing and Non-Performing Loans category.

The following table gives a picture of the non-performing loan to total loans status of sampled commercial banks.

Table No. 4.18
Ratio of Non-Performing Loans to Total Loans

(In percent)

Banks	Mid-July 2008	Mid-July 2009	Mid-July 2010	Mid-July 2011	Mid-July 2012
SCBNL	0.92	0.66	0.54	0.62	0.74
Nabil	0.79	0.80	0.14	1.77	2.26
NIBL	1.12	0.82	0.46	0.59	1.98
NICB	0.86	0.90	0.56	0.60	0.73
Laxmi	0.13	0.05	0.12	0.90	0.62
Citizens	0.0	0.0	0.04	1.17	2.01

4.2.2 On the basis of Aging, Classification-wise Loan Loss Provisioning.

On the basis of the matters discussed earlier, the commercial banks and financial institutions are required to maintain a certain percentage of provision for their loans outstanding in case if there is any losses.These provisions are made on the basis of aging of loans outstanding.It requires that longer the age of the loans outstanding, the higher the percentage of provisioning required.

The loan loss provision maintained by the commercial banks has a dual effect on the profitability of the bank.On the one hand, they act as a burden to the banks in the sense that they increase expenses, raise liabilities,reduce profits and eventually turn into losses.While on the other hand, they act as a risk-sharing device in the long run when the loss loans finally do not realize.At this point of time, the banks are free from booking extra losses since the provision for the same loan has already been maintained.

In order to properly analyze and compare on these issues of commercial banks an attempt has been made to look in to some of the selected commercial banks' classification-wise loan provisioning, which is presented in the following table.

Table No. 4.19

Statement of Loan Loss Provisioning

(Rs in million)

Banks / Classification	SCBNL	Nabil	NIB	NIC	Laxmi	Citizens
1.Performing Loans	0.0	35.9	558.4	23.2	17.0	27.4
2.Non-Performing Loan	209.0	804.9	276.2	26.1	12.6	95.4
2.1 Sub-Standard	0.0	0.0	0.0	0.0	0.0	0.0
2.2 Doubtful	0.0	0.0	0.0	0.0	0.0	0.0
2.3 Loss	209	804.9	276.2	26.1	12.6	95.4

4.2.3 Partitioning of Total Loan as Total Loan Loss Provision and Net Loan

Commercial Banks' Loans and Advances that include Bills Purchased and Discounted are also composed of loan loss provision and net loan.The real or the actual amount of loans and advances of commercial banks can only be assessed if the amount of net loan excluding loan loss provision could be determined.This can be done by subtracting loan loss provision from the total loans and advances.The value thus derived is the net loan or the real value of loans granted.

In an attempt to analyze these aspects of the selected commercial banks and to compare one another, the following table is believed to be helpful.

Table No. 4.20

Total Loan Outstanding as compositionof Total Provision plus Net Loan

(Rs in million)

S.N.	Banks	Net Loan	Total Provision	Total loan
1.	Standard Chartered Bank Nepal Ltd	19576.0	252.5	19828.51
2.	Nabil Bank Ltd	41605.78	1262.0	42867.78
3.	Nepal Investment Bank Ltd	41642.38	1269.7	42912.08
4.	Nepal Industrial & Commercial Bank Ltd.	17314.89	280.3	17523.19
5.	Laxmi Bank Ltd.	16476.66	220.4	16697.06
6.	Citizens Bank International Ltd.	14129.69	285.7	14415.39

The above table highlights the loan loss provision of the sampled commercial banks and the amount of net loan of commercial banks after the provision for loan loss.The table also depicts the healthy position of commercial banks, where the loan loss provision of commercial banks is well below 10%.This shows that the sampled commercial banks are found to be lending with the caution and care making sure that the funds are not lent out carelessly.

Standard Chartered Bank Ltd. has a total loan amount of Rs 19828.51 million out of which Rs 252.5 million is provisioned for loan loss.Thisamounts to 1.27% of the total loans and advances.

Similarly,Nabil Bank Ltd is found to be making a loan loss provision of Rs1262.0 million out of a total loan amount of Rs 42867.78 million.The percentage of loan loss provision out of the total loan is 2.94%, which can be considered satisfactory.

Nepal Investment Bank holds the status of provisioning highest percentage of loan loss provision among the sampled commercial banks.The percentage of loan loss provision is 2.96% amounting to Rs 1269.7 million out of the total loan Rs 42912.08 million.

Similarly, Nepal Industrial and Commercial Bank, Laxmi Bank and Citizens Bank is found to be making loan loss provision of 1.60%, 1.32% and 1.89%respectively.The amount of provision of Rs280.3, Rs220.4 and Rs 285.7 out of total loanRs 17523.19, Rs16697.06 and Rs 14415.39 respectively.

Thus the above analysis shows that Standard Chartered Bank is in the most desirable position with least percentage of loan loss provision and holding 98.73% of the total loans and advances, whereas Nepal Investment Bank in the least desirable position with 97.04% of net loans.

4.3 Analysis of commercial Banks' Interest Accuredon Loans and Advances

The amount of interest accrued of the commercial banks is found to be in the decreasing trend over the years.The main reason for this is the maintain in the loans and advances of commercial banks as well as the policy of Nepal Rastra Bank, which is helpful to find out the leakage in the income realization of commercial banks.The amount of interest accrued of entire commercial bank in mid-july 2008 was Rs 30046.4 million, which has decreased to Rs 20790.3 million in mid-july 2012.The interest accrued on loans and advances reduces the quality of banks' loan portfolio, increases the overall risk and reduces profit as interest accrued can not be credited in the profit and loss account.

In order to analyze the details of interest accrued; the following table is found to be helpful.

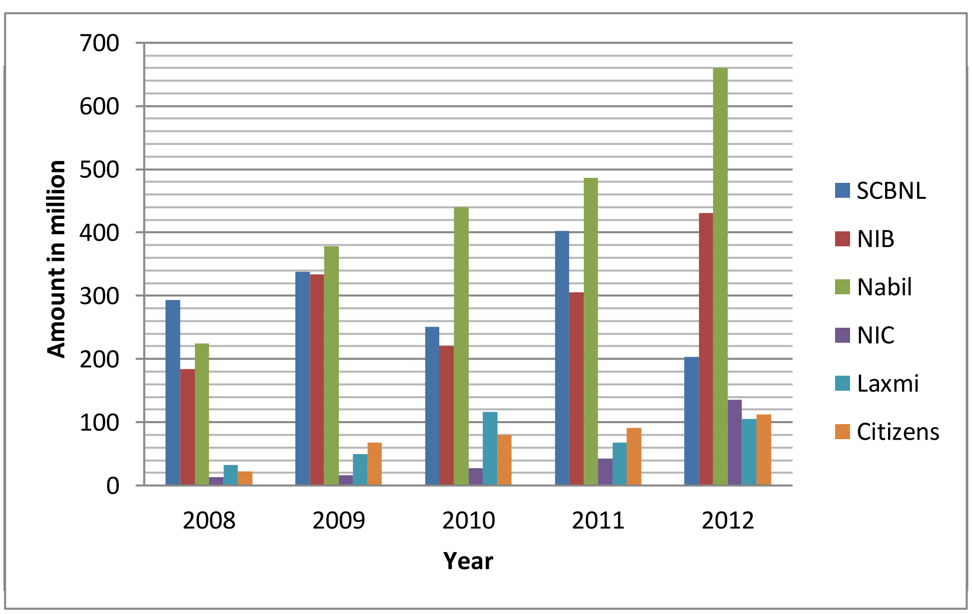
Table No. 4.21
Commercial banks' Amount of Interest Income

(Rs in million)

S.N.	Name of the Bank	2008	2009	2010	2011	2012
1.	Standard Chartered Bank Ltd.	293.5	337.6	251.3	402.6	203.3
2.	Nabil Bank Ltd.	224.2	378.3	440.3	486.9	660.4
3.	Nepal Investment bank Ltd.	184	333.7	220.1	305.4	430.7
4.	NIC Bank Ltd.	12.9	16.4	27.5	42.3	136.0
5.	Laxmi Bank Ltd.	32.7	49.5	115.9	68.1	105.2
6.	Citizens Bank Ltd.	22.8	67.6	79.2	91.1	112.4

Position of Interest Accrued

Fig. 13



The above table clearly shows the position of interest accrued of the sampled commercial banks over a period of five years from mid july 2008 to mid july 2012. During the period of study, the amount of interest accrued of sampled commercial banks are found to be fluctuating over the year.

Considering the individual banks in this regard,Standard Chartered Bank has Rs 293.5 million of interest accrued in mid-july 2008.The same has increased to Rs337.6 million in mid-july2009, decreased to Rs251.3 million in mid-july 2010, again increased in following years and reached to Rs 402.6 million in mid-july 2011.The same has decreased to Rs 203.3 million in mid-july 2012.This shows that the credit risk position of Standard Chartered Bank is minimized each year by maintaining the amount of interest accrued.The bank seems to focus on reducing the amount of interest accrued every year it is one the rise.

Nabil Bank has a similar trend of increasing amount of interest accrued; showing a high amount of interest accrued in comparison to that of the other banks.Moreover, the amount is also on the higher side considering the amount of loans and advances. The same is found to be Rs 224.2 million, Rs 378.3 million, Rs 440.3 million,Rs 486.9 million, Rs 660.4 million in the years of study from mid- july 2008 to mid-july 2012.

Similarly, Nepal Investment Bank has shown the trend of fluctuating amount of interest accrued over the last five years of the study.The amount of interest accrued was initially recorded at Rs 184 million in mid july 2008.The same increased to Rs 333.7 million in mid-july 2009, after which the interest accrued is shown to be decreased Rs 220.1 million in mid-july 2010.Then the same is shown to be in increasing trend as Rs 305.4 million and Rs 430.7 million respectively in mid july 2011 and mid-july 2012.This shows that the risk of the business could be diversified along with the amount of interest accrued and the portfolio of loans could be increased.

On the other hand,Laxmi Bank has shown upside-down position in the nature of interest accrued with respect to Nabil Bank.The amount of interest accrued of Laxmi Bank over the period of 2008 to 2010 is found to be in increasing trend.The amount has significantly increased each year with increase in loans and advances of the bank.In the last two years of the study,the bank is in decreased position than before.

On the other hand, the amount of interest income of Nepal Industrial and Commercial Bank is found to be in increasing trend over the study.The amount of interest is Rs 655.5 million in mid-july 2008. The same is increasing each year by 14% in mid-july 2009, 20% in mid-july 2010, 23% in mid-july 2011 and by 29% in mid-july 2012.

Similarly,Citizens Bank has shown the increasing trend in amount of interest income over the last five years of study.The amount of interest income was initially recorded at Rs 22.8 million in mid-july 2008.The same increased to Rs67.6 million in mid-july 2009,Rs79.2 million in mid-july 2010, Rs 91.1 million in mid-july 2011 and Rs 112.4 in mid-july 2012.This shows that the portfolio of the loans and advances is increased.

Thus, the amount of interest accrued of different sampled commercial banks is found to be in different trend.Some of the bank are found to be more prone to the interest risk whereas some are paying more attention to the risk and making effort t to minimize the same.In totality, it can be said that the commercial banks are more focused on income generation of the bank, despite a nominal amount of risk involved.Thus, from the table above, it can be seen that SCBNL is in finest position with negative growth in the amount of interest accrued whereas Nabil bank is the one with the highest growth of interest accrued.

4.4 Statistical Analysis

This section of analysis performs the statistical analysis of the selected commercial banks using statistical tools such as the coefficient of correlation and regression analysis between loans and advances and interest accrued, growth on annual loan loss provision and total loans and advances outstanding of the selected commercial banks.Moreover, the mean growth on loans and advances is also analyzed by another statistical tool called the test of hypothesis which assumes that the mean growth of sampled commercial banks is alike.This hypothesis is tested to obtain the results.

4.4.1 Coefficient of Correlation Analysis

This analysis uses the Karl Pearsons' coefficient of correlation to find out the relationship between selected variables.Correlation analysis describes the relationship between variables that could be positive or negetive.In other words, it helps to determine whether:

- A positive or negative relationship exists.
- The relationship is significant or not.
- It can establish cause and effect relationship or not.

A simple correlation uses the following properties to properly analyze and interpret in decision-making:

i. When r =1, there is a perfect positive correlation

ii. When r = -1, there is a perfect negative correlation

iii. When r = 0, there is no correlation

iv. When the value of 'r' lies in the range of 0.7 to 0.999(-0.7 to -0.999), there is a high degree of positive (negative) correlation.

v. When the value of 'r' lies between 0.5 to 0.699, there is a moderate degree of correlation.

vi. When the value of 'r' is less than 0.5, there is a low degree of correlation.

Correlation Coefficient between loans and advances and interest accrued

The correlation coefficient between loans and advances and interest accrued measures the degree of relationship between two variables; x and y. The analysis of correlation coefficient takes into account the two variables of which interest accrued is the independent variable(x) and loan and advances is the dependent variable(y). The basic reason for the computation of correlation coefficient is to determine whether the loans and advances is dependent on the amount of interest accrued or not.This analysis also determines whether there is significant relationship between these two variables.

In order to measure the actual relationship between the two variables, the probable error of correlation coefficient is also used.The Probable Error isan old measure of ascertaining the reliability of the value of Personian coefficient of correlation.The probable error is used to test whether the calculated value of sample correlation coefficient is significant or not.A few rules for the interpretation of the significance of correlation coefficient are as follows:

i. If r < P.E.(r), then the value of r is not significant.

ii. If r > 6* P.E.(r), then r is definitely significant.

iii. In other situations, nothing can be calculated with certainty.

The following table has been derived by calculating the Karl Pearsons' coefficient of correlation between loans and advances and interest accrued of SCBNL, Nabil, NIBL, NICB, Laxmi, Citizens.The numbers of years under study is for the last five fiscal years up to FY ended 2012.

Table No. 4.22

Correlation Coefficient between Loans and Advances and Interest accrued

Banks	Base of Evaluation			
	r	r^2	P.E.(r)	6*P.E.(r)
SCBNL	- 0.2001	0.04	0.2896	1.7376
Nabil	0.9684	0.9378	0.0188	0.1128
NIBL	0.6527	0.4260	0.1731	1.0386
NICB	0.8966	0.8039	0.0591	0.3546
Laxmi	0.7833	0.6136	0.1166	0.6996
Citizens	0.9834	0.9671	0.0099	0.0596

The above table includes the value of correlation coefficient(r), the coefficient of determination(r^2), the probable error(6*P.E.(r)). From the above presented data, the analysis of relationship between interest accrued(independent variable) and loans and advances (dependent variable) has been made easy. The analysis of study takes into consideration of the values for the last five years from FY2007/08 to FY2011/12.

The correlation coefficient of SCBNL is negative, which suggest there is high degree of negative correlation and correlation coefficient of NIBL lies between 0.5 to 0.699, which suggest that there is a moderate degree of correlation between interest accrued and loans and advances.The correlation coefficient ofNabil, NIC bank, Laxmi bank and Citizens banks lies in the range of 0.7 to 0.999, which suggests that there is a high degree of correlation between interest accrued and loans and advances of these banks.

Similarly, the coefficient of determination (r^2),has been calaulated to explain further minute relationship between the two variables.The value of r^2 of 0.04 suggests that 40% of variation in dependent variable(loan and advances) has been explained by the independent variable(interest accrued).Moreover, the probable error of the sampled commercial banks has been derived to varify the value of correlation coefficient.The values of correlation coefficient(r) of the sampled commercial banks are (0.20),0.96, 0.65, 0.89, 0.78, 0.98 respectively of SCBL, Nabil, NIBL, NICB, LBL and CBIL banks.The probable errors (6*P.E.(r)) of the same in the same order are 1.73, 0.11, 1.03, 0.35, 0.69 and 0.05.These data gives clear picture of the relationship between loans and interest accrued of sampled commercial banks.

From the above analysis, it can be seen that the value of r is less than the value of probable error, so the relation between the two variables is significant ie the increase in the value of independent variable(interest accrued) does not necessarily increase the value of the depedent variable (loans and advances).Similarly, the value of r for SCBNL isless than the value of probable error, which means that there is a significant relationship between the two variables ie the increase in the value of interest accrueddoes not increases the value of loans and advances.

Thus it can be concluded by the study of correlation coefficient that the value of loans and advances is not necessarily dependent on the value of interest accrued.With the change in the policy and directives issued by Nepal Rastra Bank to realize the interest on cash basis, the relation between loans and advances at the end of the Fiscal Year may further be seen as insignificant.

4.4.2 Regression Analysis

Regression analysis is the technique of studying how the variations in one series are related to variations in anotheseries.Using the relationship between a known variable and an unknown variable is to estimate the unknown one is term as regression analysis.Regression analysis shows how the variables are releted.

The equation of regression line where the dependent variable Y is determined by the indepedent variable X is

$Y = a + bX$

Where,

b = slope of the regression line(i.e. it measures the change in Y perunit change in X)

or, regression cofficient of Y on X which is denoted by b_{yx}.

According to the principal of least squares, two normal equations for estimating two numerical constants and b are given by

$\sum Y = na + b\sum X$

$\sum XY = a\sum X + b\sum X^2$

Table No. 4.23

Regression equation table

Banks	Regression equation	Value (a) constant	Regression(Coefficient)
Standard Chartered Bank Ltd	Y = 18592.18 – 7.02 X.	18592.18	- 7.02
Nabil Bank Ltd	Y = 10515.39 + 51.02 X.	10515.39	51.02
Nepal Investment bank Ltd.	Y= 25569.84 + 42.23 X.	25569.84	42.23
NIC Bank	Y = 12362.87 + 39.71 X	12362.87	39.71
Laxmi Bank	Y = 9713.88 + 57.91 X	9713.88	57.91
Citizens Bank	Y = 1898.54 + 110.79 X.	1898.54	110.79

From the above regression table we can get that,the regression equation of loans and advances on interest accrued in sampled commercial banks.Here Y indicates the amount of Loans and Advances and X indicates the amount of Interest Accrued. According to the table, the regression equation of loans and advances on interest accrued is y = 18592.18 – 7.02 X in SCBNL is in negetive. The value of ‘a’ constant is positive but the regression coefficient ‘b’ is negetive which indicates that the negative relationship exists between loans and advances and interest accrued. It can be said that if the value of interest accrued increases then the value of loans and advances will decrease. The regression equation of Nabil Bank of interest accrued and loans and advances is Y = 10515.39 + 51.02 X, is in positive. The value of ‘a’ constant is positive ie, 10515.39 and the regression coefficient ‘b’ is also positive ie 51.02 which indicates that the positive relationship exists between loans and advances and interest accrued of Nabil Bank. It can be said that if the interest accrued increases then loans and advances will also increase.The regression equation of NIC Bank, Laxmi Bank and Citizens Bank are also show the regression coefficient (b) is in positive, which indicates the positive relation between loans and advances and interest accrued.

4.4.3 Test of Hypothesis

Testing of hypothesis is a process of testing the significance of population parameters on the basis of sample statistics. It consists of decision rules required for drawing probabilistic inferences about the population parameters.It can also be called as an assumption that is made about the population parameter and then its validity is tested.Test of hypothesis can also be defined as the procedure to access the significance of statistics or difference between two independent statistics.The main goal of testing of hypothesis is to test the characterstics of hypothesized population parameter based on sample information whether the difference between the population parameter and sample statstic is significant or not. This process of statistical analysis makes an effort to test the significance difference between two independent means. Under the test of hypothesis, it has been assumed that mean growth of loans and advances of Standard Chartered bank and mean growth on loans and advances of other sampled commercial banks are alike. In the process of this test, the samples have been drawn from two normal populations having same mean, t-test for difference of means has been used.

The test of significance for difference between two independent means is based on the following assumptions:

- The populations from which the samples have been drawn are normally distributed.
- The two samples are random samples and have been drawn independently.

The test of significance or the test of hypothesis is one of the measures for analyzing the two independent variables, which should be conducted on methodical manner.The following are the steps that sre required to be followed to test a hypothesis:

a. Set up the Hypothesis ie Null or Alternative Hypothesis.

b. Compute appropriate test statistic.

c. Choose level of significance.

d. Find critical value of test statistic.

e. Make conclusion.

As mebtioned above, the following test of hypothesis is conducted on the assumption that mean growth on loans and advances of Standard Chartered bank is similar to that of the other sampled banks.

Let, mean groeth of loans and advances of Standard Chartered Bank Ltd(SCBL) be ‘x’ and that of Nabil, Nepal Investment Bank Ltd(NIBL), Nepal Industrial and Commercial Bank(NICB), Laxmi and Citizens bank be ‘y’.

4.4.3.1 Test of Hypothesis on Mean Growth of Loans of SCBL and Nabil

Null Hypothesis(H_0):$\mu = \mu_y$, ie There is no significant difference between mean growth on loans and advances of SCBL and Nabil.

Alternative Hypothesis(H_1):$\mu \neq \mu_y$, (two tailed) ie there is significant differenence between mean growth on loans and advances of SCBL and Nabil.

Computation of sample statistics:

Table No. 4.23
Test of hypothesis on mean growth of loans and advances of SCBL and Nabil

(In percent)

Year	SCBL		Nabil	
	X	$d_1^2 = (X - \bar{x})$	Y	$d_2^2 = (Y - \bar{Y})^2$
2007/08	51.6	1140.41	37.1	389.66
2008/09	(0.6)	339.66	33.77	269.28
2009/10	16.54	1.66	11.19	38.06
2010/11	15.37	6.05	2.29	227.1
2011/12	6.25	134.09	2.45	222.3
Total	89.16	1621.87	86.8	1146.4

$\bar{x} = \frac{\sum x}{n} = 89.16/5 = 17.83\%$

$\bar{Y} = \frac{\sum Y}{n} = 86.8/5 = 17.36\%$

$S^2 = \frac{1}{\{(n1+n2)-2\}} (\sum d_1^2 + \sum d_2^2)$

$= \frac{1}{8} (1621.87+1146.4)$

$=346.03$

Test statistic, under H_0:

$t = \frac{\bar{x} - \bar{y}}{\frac{\sqrt{s2}}{n1} + \frac{\sqrt{s2}}{n2}} = 0.47/11.76 = 0.04$

The tabulated value of 't'(two-tailed test) for 8 degree of freedom(df) at 5% level of significance is 2.306.

Decision

Since the calculated value of 't' is less than tabulated value, the null hypothesis (H_0) is accepted. Thus, it can be concluded that there is no significance difference between the mean growth of loans and advances of Standard Chartered Bank and Nabil Bank.

4.4.3.2 Test of Hypothesis on Mean Growth of loans and Advances of SCBL and NIBL

Null Hypothesis(H_0):$\mu = \mu_y$, ie There is no significant difference between mean growth on loans and advances of SCBL and NIBL

Alternative Hypothesis(H_1):$\mu \neq \mu_y$, (two tailed) ie there is significant differenence between mean growth on loans and advances of SCBL and NIBL.

Computation of sample statistics:

TableNo.4.24

Test of Hypothesis on Mean Growth of loans and Advances of SCBL and NIBL

(In percent)

Year	SCBL		NIBL	
	X	d_1^2 =(X- $\bar{x}$)	Y	d_2^2 =(Y- $\bar{Y})^2$
2007/08	51.6	1140.41	54.93	1156.68
2008/09	(0.6)	339.66	33.77	165.12
2009/10	16.54	1.66	11.19	94.67
2010/11	15.37	6.05	2.29	347.07
2011/12	6.25	134.09	2.45	341.1
Total	89.16	1621.87	104.63	2104.64

$\bar{x} = \frac{\sum x}{n} =$ 89.16/5 = 17.83%

$\bar{Y} = \frac{\sum y}{n}$ = 104.63/5 = 20.92%

$S^2 = \frac{1}{\{(n_1+n_2)-2\}} (\sum d_1^2 + \sum d_2^2)$

$= \frac{1}{8}(1621.87+2104.64)=465.81$

Test statistic, under H_0:

$t = \frac{\bar{x}-\bar{y}}{\sqrt{S^2/n_1+S^2/n_2}} =$ - 0.16/13.6 = 0.0118

The tabulated value of 't'(two-tailed test) for 8 degree of freedom(df) at 5% level of significance is 2.306.

Decision

Since the calculated value of 't' is less than tabulated value, the null hypothesis (H_0) is accepted. Thus, it can be concluded that there is no significance difference between the mean growth of loans and advances of Standard Chartered Bank and Nepal Investment Bank.

4.4.3.3 Test of Hypothesis on Mean Growth of loans and Advances of SCBL andNICB

Null Hypothesis(H_0):$\mu = \mu_y$, ie There is no significant difference between mean growth on loans and advances of SCBL and NICB.

Alternative Hypothesis(H_1):$\mu \neq \mu_y$, (two tailed) ie there is significant differenence between mean growth on loans and advances of SCBL and NICB.

Computation of sample statistics:

Table No. 4.25

Test of Hypothesis on Mean Growth of loans and Advances of SCBL and NICB

(In percent)

Year	SCBL		NICB	
	X	$d_1^2 = (X-\bar{x})$	Y	$d_2^2 = (Y-\bar{Y})^2$
2007/08	51.6	1140.41	27.15	122.1
2008/09	(0.6)	339.66	19.89	14.36
2009/10	16.54	1.66	(7.09)	537.77
2010/11	15.37	6.05	25.03	79.74
2011/12	6.25	134.09	15.55	0.30
Total	89.16	1621.87	80.53	754.27

$\bar{x} = \frac{\sum x}{n}$ = 89.16/5 = 17.83%

$\bar{Y} = \frac{\sum y}{n}$ = 80.53/5 = 16.10%

$S^2 = \frac{1}{\{(n_1+n_2)-2\}} (\sum d_1^2 + \sum d_2^2)$

$= \frac{1}{8}(1621.87-754.27) = 297.01$

Test statistic, under H_0:

$t = \frac{\bar{x}-\bar{y}}{\sqrt{S^2/n_1+S^2/n_2}}$ = 1.73/10.89 = 0.15

The tabulated value of 't'(two-tailed test) for 8 degree of freedom(df) at 5% level of significance is 2.306.

Decision

Since the calculated value of 't' is less than tabulated value, the null hypothesis (H_0) is accepted. Thus, it can be concluded that there is no significance difference between the mean growth of loans and advances of Standard Chartered Bank and Nepal Industrial and Commercial Bank.

4.4.3.4 Test of Hypothesis on Mean Growth of loans and Advances of SCBL andLaxmi

Null Hypothesis(H_0):$\mu = \mu_y$, ie There is no significant difference between mean growth on loans and advances of SCBL and Laxmi.

Alternative Hypothesis(H_1):$\mu \neq \mu_y$, (two tailed) ie there is significant differenence between mean growth on loans and advances of SCBL andLaxmi.

Computation of sample statistics:

Table No. 4.26

Test of Hypothesis on Mean Growth of loans and Advances of SCBL and Laxmi

(In percent)

Year	SCBL		Laxmi	
	X	$d_1^2 =(X- \bar{x})$	Y	$d_2^2 =(Y- \bar{Y})^2$
2007/08	51.6	1140.41	50.01	786.24
2008/09	(0.6)	339.66	37.46	239.94
2009/10	16.54	1.66	9.46	156.5
2010/11	15.37	6.05	4.43	307.65
2011/12	6.25	134.09	8.50	181.44
Total	89.16	1621.87	109.86	1671.77

$\bar{x} = \frac{\sum x}{n} = 89.16/5 = 17.83$

$\bar{Y} = \frac{\sum y}{n} = 109.86/5 = 21.97\%$

$S^2 = \frac{1}{\{(n_1+n_2)-2\}} (\sum d_1^2 + \sum d_2^2)$

$= \frac{1}{8}(1621.87+1671.77)=411.70$

Test statistic, under H_0:

$t = \frac{\bar{x}-\bar{y}}{\sqrt{S^2/n_1+S^2/n_2}} = -4.14/12.83 = - 0.322$

The tabulated value of ‘t’(two-tailed test) for 8 degree of freedom(df) at 5% level of significance is 2.306.

Decision

Since the calculated value of 't' is less than tabulated value, the null hypothesis (H_0) is accepted. Thus, it can be concluded that there is no significance difference between the mean growth of loans and advances of Standard Chartered Bank and Laxmi Bank.

4.4.3.5 Test of Hypothesis on Mean Growth of loans and Advances of SCBL and Citizens

Null Hypothesis (H_0):$\mu = \mu_y$, ie There is no significant difference between mean growth on loans and advances of SCBL and Citizens.

Alternative Hypothesis (H_1):$\mu \neq \mu_y$, (two tailed) ie there is significant differenence between mean growth on loans and advances of SCBL and Citizens.

Computation of sample statistics:

Table No. 4.27
Test of Hypothesis on Mean Growth of loans and Advances of SCBL and Citizens

(In percent)

Year	SCBL		Citizens	
	X	$d_1^2 = (X - \bar{x})$	Y	$d_2^2 = (Y - \bar{Y})^2$
2007/08	51.6	1140.41	134.4	6525.4
2008/09	(0.6)	339.66	71.11	305.90
2009/10	16.54	1.66	33.07	422.30
2010/11	15.37	6.05	14.48	1531.93
2011/12	6.25	134.09	15.06	1486.87
Total	89.16	1621.87	268.12	10272.40

$\bar{x} = \frac{\sum x}{n}$ = 89.16/5 = 17.83%

$\bar{Y} = \frac{\sum y}{n}$ = 268.12/5 = 53.62%

$S^2 = \frac{1}{\{(n_1+n_2)-2\}} (\sum d_1^2 + \sum d_2^2)$

$= \frac{1}{8}(1621.87+10272.40)=1486.78$

Test statistic, under H_0:

$t = \frac{\bar{x}-\bar{y}}{\sqrt{S^2/n_1+S^2/n_2}}$ = -35.79/24.38 = - 1.46

The tabulated value of ‘t’(two-tailed test) for 8 degree of freedom(df) at 5% level of significance is 2.306.

Decision

Since the calculated value of ‘t’ is less than tabulated value, the null hypothesis (H_0) is accepted. Thus, it can be concluded that there is no significance difference between the mean growth of loans and advances of Standard Chartered Bank and Citizens Bank.

4.5 Major Findings of the study

The previous chapters of the study mainly focused on the presentation and analysis of data derived from various secondary sources.This section is mainly introduced to conclude the major findings of the study from this chapter.

The study and analysis of commercial banks show that the loans and advances of commercial banks are found to be in increasing trend.The entire commercial banking industry as well as sampled commercial banks shows the upward movement in all the major indicators of balance sheet.This passes a positive impact on all the depositors as well as the stakeholders of the respective banks and the banking industry as a whole.

Loans and advances remained major component in total assets of the commercial banks during the year 2007-012.However, the share of loans and advances in total assets declined in the recent years.The share of loans and advances to total assets remained 58.3 percent in Mid - July 2012. In the Mid - July 2012, the loans and advances increased by 17.9 percent compare to 12.4 percent in Mid -July 2011. By the end of Mid - July 2012, the total outstanding amount of loans and advances includingBills Purchase and Loan against Collected Bills of commercial banks reached to Rs. 622,575 million. Itwas Rs. 528,023 million in Mid - July 2011.

Similarly loans to private sector always dominated on the overall outstanding figure of loans and advances.Of the total outstanding loans and advances of Rs 2655502.5 million, 95.96 percent was allocated to private sector, 2.93 percent to financial institution and 1.01 percent to Government sector.

Similarly, share of investment to total assets registered 17.0 percent in Mid – July 2012.The total investment including share & other investment of commercial banks in Mid - July 2012increased by 21.2 percent and reached to Rs. 181,273 million from Rs.149,557 million in Mid - July 2012.

Out of the Rs. 622,575 million outstanding sector wise credits in Mid - July 2012, the largest proportion of the loans and advances is occupied by manufacturing sector. The share of this sector is 23.1 percent followed by wholesale & retailers 20.5 percent, other sector 11.1 percent, finance, insurance & real estate by 10.0 percent and construction 9.8 percent. Similarly, transportation, communication & public services comprise 4.0 percent, consumable loan by 6.1 percent, other service industries by 4.9 percent and agriculture by 3.7 percent.

The outstanding of deprived sector credit of commercial banks in the Mid - July 2012 by the end of Mid –July reached to Rs. 24,150 million as presented in Table 42. The ratio of deprived sector credit to total outstanding of product wise loans and advances stood at 3.8 percent in the current period. Last year it was3.6 percent.

The non-performing loan of commercial banks decreased to 2.6 percent in Mid – July 2012 from 3.2 percent in the Mid - July 2011. The total amount of NPA in Mid –July 2012 reached to Rs. 16,325 millionfromRs. 16,872 million in the Mid - July 2011.

The sampled commercial banks under study also showed similar nature and performance over the period of study.From the tables above, the loans and advances of sampled commercial banks, the entire loans and advances figure of the commercial banks are found to be in increasing trend.The portfolio of the same is also found to be diversified into more than one type.The investment of commercial banks is found to be in the range of agriculture to mining and from construction to transport to wholesaler and service sector industries.As stated above, the major portion of the credit of commercial banks is directed towards the productive sector of the economy.The average amount of credit towards the productive sector of SCBL is 21.395 of total loans and advances outstanding.Similarly other banks like Nabil, NIBL, NICB, Laxmi and Citizens banks have invested 30 percent, 34 percent, 34 percent, 25 percent and 21 percent respectively of the total loans and advances outstanding of the respective banks.

The table depicting Loan Portfolio of commercial banks show the trend of fluctuation in Government sector lending, financial institution and bills purchased and discounted.The figure are found to fluctuate over the years of study.However, the amount of lending of respective banks in private sector is found to be increasing simultaneously from mid-july 2008 to mid-july 2012.This signifies that despite the insurgency and state of war prevalent in the country, the private sector has been growing. Similarly, the banks are found to be shy in lending to Government sector industries or lending against bills, which can be justifiable considering the performance and recovery of the advanced loans through the same.

In the similar manner, when we consider the investment pattern of commercial banks, the figures clearly express the tendency of commercial banks in safeguarding of their funds.The entire investment of commercial banks is directed towards the Government securities, which is safe in comparison to the shares and debentures of other financial institutions.Moreover, the short term treasury bill issued by Nepal Rastra Bank is also one of the major source of investment of commercial banks mainly due to the liquidity nature of the same.

The sampled commercial banks under study are also found to be falling in the category of the entire commercial banking industry.The investment of sampled commercial banks are more or less focused in the Government securities rather than shares and debentures of other financial institutions.The figures of investment in Government securities are found to be increasing over the years, with a minor fluctuation in some years of study.The banks are shyer towards investment in shares and debentures which is depicted by the figures which are in decreasing trend.Similarly, the investment in other securities are nominal except for a new amount of investment in other securities.

Reffering to the table of sector-wise classification of loans and advances the table shows the different areas where the commercial banks have advanced the loans.From the table, it can be analyzed that the commercial banks are concentrated on the development of entire sectors of the economy of the country.The sector-wise lending of commercial banks can be considered a very useful tool for determination of the portfolio of loans and advances.The larger the portfolio, the more diversified is the risk.Despite the social obligations of the commercial banks, the banks have also been maintaining its profitability by lending in the interest earning sectors like the private sector; basically the manufacturing sector.The manufacturing sector, on the one hand , is a part of rising the economic stability of the country and the other; this sector can also be considered as the major source of income for the banks.

Similarly, the entire banking industry has realized potentiality of consumer lending prevailing in the current market scenario.The consumer lending or retail lending is becoming one major tool for the bank to sustain in the market as well as create its goodwill in the market.The days are gone when the people used to save money for whole of their lives and build one small house at the age when they have become old.The banking habit in general people is growing in the today’s scenario. The people are more conscious of the various lending schemes of commercial banks and financial insttitution which provide them with the required amount of funds to construct a house or own a car.This has indeed given a boost to the retail loans of the commercial banks.As a result of which, the lendings of commercial banks in the construction sector is growing every year.

The profitability of the banks is also dependent upon the wholesalers and retailers who have been provided with the short term demand loans at comparatively better of interest.The banks are also the main reasons for the wholesalers, dealers and retailers to grow their business.Thus, from the table of sector-wise classification of loans and advances, it can be seen that a large amount of loans and advances has been granted towards the wholesalers, retailers and dealers of various consumable and non consumable goods.

Similarly, the banks have also granted loans and advances in the sectors like service industries, transport and communication, financial sectors, real estate, etc.More or less, it can also be concluded that the banks are basically focused on the profit earning sectors of the economy.Besides,it has also been fulfilling its social responsibility by granting loans and advances in the different forms to the deprived and service oriented organozations as well.

The commercial banking industry in Nepal is not as developed as the banks in other developed countries.The banking habits of people of the country needs a major change.This is mainly due to the fact that collateral security of land and building has become a must for any type of loans and advances. This can be illustrated by the figures from the table of security-wise classification of loans and advances.From the table above, it can be easily analyzed that major portion of loans and advances is granted against moveable and immovable securities.The basic reason for this is also due to the percentage of bad loans in the Government owned banks like Nepal Bank Ltd. And RastriyaBanijya Bank.

Security-wise classification of the loans and advances is necessary in view of the fact that not even a single penny is granted unless the advance is backed up by a strong security.Besides, guarantee has also became one of the security measures for the commercial banks to safeguard the loans advanced.Similarly, in the case of bills purchased and discounted, the bills itself act as the security for the loan because the advance against bills never exceeds the total amount of the bill, thereby leaving a margin for the bank to secure its loans against bills purchased.The fixed Deposit Receipt of commercial banks is also another safest security for the banks.The loans granted against the fixed deposit receipt are up to 90 percent, thereby leaving a zero percent risk of the loan being bad.

The statistical analysis conducted during the study also gives some picture of the position of loans and advances outstanding with respect to the relationship between interest accrued.The correlaton coefficient calculated above, is the base for determining that a certain degree of relation exists between loans and advances and interest accrued.In the study of 6 sampled commercial banks, some banks show a high degree of relation whereas some of them show a moderate degree of correlation.

Similarly, the regression analysis show positive relation between interest accrued and loans and advances of five sampled banks. Out of six sampled banks only one bank shows negative regression equation.

Further, the test of hypothesis is another statistical analysis which studies whether the growth on loans and advances of the bank is in any way related with other bank or not.The study conducted above, suggest that the growth of loans and advances of one bank is not in any way related with the growth in other bank.The above relation has been compared between Standard Chartered Bank and other sampled commercial banks like Nabil bank, Nepal Investment Bank, Nepal Industrial and Commercial Bank, Laxmi Bank ans Citizens Bank.

CHAPTER V

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary and Conclusion

This section attempts to summarize the study conducted of the few sampled commercial banks. The study was basically focused on the loan portfolio of commercial banks and their nature of investments as well as the classification of loans and advances of commercial banks on the basis of aging and performance.

The above study has highlighted on different aspects of the performance of the banks and we can draw different conclusions from it.From the above analysis, it has come to be known that Nepal Investment Bank has the highest amount of loans and advances disburse during the last year end mid-july 2012.The total amount of loans and advances comes to Rs 42912.1 million, followed by Nabil Bank with Rs 42781.7 million.Although the amount of loans and advances of these banks are high, the amount of interest accrued is not with relation to the amount of loans and advances. The result varies with the correlation analysis, on the basis of which the amount of interest accrued isnot related with the amount of loans and advances.

Similarly, the proportion of Non-Performing Loans is also one of the major aspects of the study.Although the amount of loan loss provision is directly proportional to the amount of loans and advances, the proportion of NPA is an independent entity which does not vary with the amount of loans and advances.The calculation of the ratio of NPA to total loans shows that Laxmi Bank and NIC Bank occupy the prestigious position of holding the least NPA of 0.62percent and 0.73 percent respectively.Similarly, Standard Chartered Bank and Nabil Bank come in a row with 0.74 percent and 1.98 percent respectively.Nabil Bank, despite being the bank with the highest loan and advances, has not been able to maintain its loan properly which has given rise to a NPA of 2.26 percent which is the highest of the sampled commercial banks.In the same way, the management of Citizens Bank also falls under the suspicious with high ratio of NPA with respect to the loans.

The objective of the study was also to analyze the portfolio of loans and advances, which has been presented in the table above.From the study, it has come to our knowledge that the commercial banks have advanced their credit in different sectors of the economy.The private sector economy, which is in the boom phase, is the main attraction of the commercial banks.The lending to the private wholesalers and retailers by the sampled commercial banks is found to be Rs 29094.2 million which is around 19 percent of the total credit advanced of the sampled commercial bank.Similarly, the sampled banks are also seen aggresive towards the development of manufacturing industries in Nepal where the total credit advanced is Rs 45410.5 million.The loans advanced by the sample commercial banks to the manufacturing industry alone come to29.44% of the total loans of the sampled commercial banks. Similarly, the construction sector has also been lent in the large amount. Out of the total lending by the sampled banks in construction , have advanced credit to the tune of Rs16324.8million which is around 10.58 % of the banks advances.Other sector of the economy is also being lent propertionately, thereby not leaving any sector neglected.Out of the sampled commercial banks Nepal Investment Bank is found to rank at the top in the amount of loans and advances, which is followed by Nabil Bank Ltd. and Standard Chartered Bank.

The study of security-wise loans and advances of the sampled commercial banks has also been carried which clearly depicts the picture of lending against moveable as well as immovable collateral securities.The banks are also providing non-funded credit facility in the form of Guarantee and Letter of Credit to import goods and machineries.This has indeed facilitated the customers in regard to convenience and transparency of the business.

Similarly, a study has also been conducted to find the pattern of lending to the priority sector loans as well as deprived sector loans. During the study, it has become evident that the commercial banks are lending to the priority and deprived sector loans as required by

Nepal Rastra Bank from time to time.However,with lack of adequate manpower and credit monitoring tools, the commercial banks are lending via different microfinance institutions as well as rural development agencies.However, despite all odds, the banks have been maintaining its social resposibility by proper lending to promote domestic industries and agriculture.

The study regarding classification of loans and advances of commercial banks has also been conducted.The study reveals satisfactory results of the commercial banks.The banks have been able to maintain its major portion of loan under the performing loans category.In the same way, the loans going bad can not be neglected.The position of non performimg loans to total loans shows the position of commercial banks in maintaining the loans and advances.The classification of loans and advances on the basis of aging shows the healthy position of the bank with major portion of the loans under the Performing Loan Category, which can be considered a major accompolishment of the private sector commercial banks.

Finally, the statistical analysis is made of the mean growth loans and advances of Standard Chartered Bank with the other sampled commercial banks. The regression analysis also show that the loans and advances and interest accrued of standard chartered bank is negative relation and other sampled banks have positive relation with their loans and advances and interest accrued. The test of hypothesis suggests that the mean growth of loans and advances of commercial banks is not related to each other.The growth on loans of all the banks is not related to each other.The growth on loans of all the banks is independent and does not affect in any way to the other banks.

Thus, the study could be concluded by generalizing that almost all of the sampled commercial banks have followed the central banks rules and regulations regarding the management of loans and advances portfolio.Their performance on loans and advances has been observed around the performance of industry average.

5.2 Recommendations

The study did not find any major mismanagement on the sampled commercial banks' loans and advances which would require significant recommendations. However, the following suggestions and recommendation could be useful.

The composition of these banks' investment is dominated by the government securities which reflect that they are of risk adverse nature.Since government securities are default free securities, they do not generate adequate return for the banks. Therefore, in order to increase the return on investments, they should compile an optimal portfolio of different securities.In other words, it is recommended that they should increase the ratio of shares and debentures and reduce the ratio of government securities.

From the analysis of loans and advances portfolio of commercial banks, it has come to be known that the banks have advanced majority of their funds to the private sector.This is beneficial to both the concerned parties as well as for the health of the economy.However, for stable and safety returns interms of default risk, they should increase their loans and advances to the government enterprises also.Similarly it is also recommended that the banks increase their loans and advances against purchase of foreign bills which generates adequate amount of commission income.

The sector-wise composition of loans and advances of the sampled commercial banks have revealed that they have lent most of their funds in the production sector. On the one hand, the increase in production sector shall benefit the economy to a great extent, thereby helping to reduce imports.On the other hand, the bank should also pay more attention towards the development of hydropower, service industries, communications and consumable loans, which is the highest income generating source as well as the fastest growing industries in 21st century.Thus, banks should analyze the profitability in these industries and increase its amount of loans and advances in the same.

Similarly, the security-wise composition of loans and advances suggest that the bank have granted all most all the loans against mortgage of collateral security.This is considered as the traditional way of lending. The main reason behind this is the lack of tools and technoques of monitoring the loans granted.The banks are recommended to device tools for credit monitoring and mobilize them in the convenience of the customers.Moreover,the banks should also focus on the non-fund based businesses like Letter of Credit and issue of Guarantee, which is the major source of commission based business. This can play a great role in the ultimate profitability of the bank with the least amount of cost involved.

The classification of loans and advances on the basis of aging gives us a picture of doubtful and loss loans position of the commercial banks which is at a lower position. The banks are recommended to maintain its position of performing loans and thereby further reduce its position of doubtful and loss loans.The above analysis suggest that Nabil Bank and Citizens Bank are two sampled banks which are bearing the highest percentage of non-performing loans.Other banks like Standard Chartered Bank, Nepal investment Bank, NIC Bank and Laxmi Bank are in satisfactory position of their NPA in the range of below 2 percent which can be considered reasonable looking into the amount of loans and advances figures of these banks.The two banks holding the highest amount of NPA are recommended to run a campaign against their non-performing loans and reactivate the loan collection programs.In order to succeed in the long run, they have to re-energize their lending policies and procedures and re-negotiate with the borrowers about the terms and conditions of the agreement as well.The restructuring and rescheduling of loans and offering discounts to the defaulters could be a major reform program for the banks.

The loan loss provision also suggests that the banks have been maintaining a large amount as loan loss provisions.Such huge amount of loan loss provision is a burden for the bank which increases the liability and reduces the operating profit of the banks.Thus, the bank should prioritize to reduce its non-performing loans into performing loans thereby reducing the amount of loan loss provision. Similar is the case with the amount of interest income. The amount of interest income has been found to be higher in relation to the amount of loans and advances outstanding. Standard Chartered Bank, Nepal Investment Bank, NIC Bank and Citizens Bank are found to be more-or-less maintaining their amount of interest income over the years, but the position of Nabil Bank and Laxmi Bank is found to be more critical with huge increase in the amount of the interest accrued as compare to the increase in loans and advances.These banks are suggested to implement some effective measures for recovery of bad loans and formulate strategies and policies for the same.

Thus, the study could be concluded that two of the sampled banks,Nabil Bank and Citizens Bank, should focus more on reducing the amount of non-performing loans and loan loss provision so that the depositors of other stakeholders of the bank are safe-guarded.Similarly, other sampled commercial banks like Standard Chartered Bank, Nepal Investment Bank, NIC Bank and Laxmi Bank should try to maintain its position of performing loans besides providing service to the customers. It can further be said that increasing of loan is not that big deal but reducing of bad loans should be a job of first priority for the banks.

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Annexure I

Sources and Uses of Funds of Standard Chartered Bank Nepal Ltd.

(Rs in million)

	Mid-july				
	2008	2009	2010	2011	2012
1. CAPITAL FUND	**2117.2**	**2493.4**	**3053.0**	**3371.6**	**3677.8**
a.Paid-up Capital	620.8	932.0	1398.5	1610.2	1610.2
b.Calls in Advance	0.0	0.0	0.0	0.0	0.0
c.Statutory Reserves	826.5	990.3	1195.3	1412.5	1636.3
d.Share Premium	0.0	0.0	0.0	0.0	0.0
e.Retained Earning	504.7	383.3	239.5	30.0	95.6
f.Other Reserves	165.2	0.0	0.0	77.9	76.5
g.Exchange Fluctuation Fund	0.0	187.8	219.7	241.1	259.2
2. BORROWINGS	**0.0**	**300.0**	**0.0**	**350.0**	**0.0**
3. DEPOSITS	**29743.9**	**35871.8**	**35182.7**	**37999.2**	**35965.6**
a.Current	6174.6	6202.8	9763.2	11545.6	11317.2
b.Saving	17856.0	19187.7	12430.0	11619.8	15502.3
c. Fixed	3301.1	7101.7	9175.1	10136.2	4623.3
d.Call Deposits	1938.2	3001.6	3563.2	4405.9	3617.5
e.Others	474.0	378	251.2	291.7	905.3
4.BILLS PAYABLE	**87.4**	**72.9**	**89.2**	**66.0**	**86.4**
5.OTHER LIABILITIES	**1550**	**1912.4**	**2113.5**	**2319.9**	**2067.9**
6.RECONCILIATION ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
7.PROFIT & LOSS ACCOUNT	**814.4**	**1028.3**	**1086.8**	**1120.5**	**1173.2**
SOURCES OF FUNDS	**34312.9**	**41678.8**	**415252.0**	**45227.2**	**42970.8**
1.LIQUID FUNDS	**4247.7**	**6788.5**	**3598.8**	**7256.7**	**8492.1**
2. INVESTMENTS	**8146.1**	**10007.3**	**8540.0**	**9965.8**	**7871.2**
a.Government Securities	8137.6	9998.8	8531.5	9957.3	7862.7
b.NRB Bonds	0.0	0.0	0.0	0.0	0.0
c.Govt. Non-Fin. Institution	8.5	8.5	8.5	8.5	8.5
d.Other Non-Fin. Institution	0.0	0.0	0.0	0.0	0.0
e.Non Residents	0.0	0.0	0.0	0.0	0.0
3.SHARES AND OTHER INVESTMENT	**5756.7**	**8633.2**	**11307.5**	**7292.9**	**5091.4**
4.LOANS AND ADVANCES	**13355**	**13118.6**	**15932.2**	**17698.2**	**18376.0**
a. Private Sector	12599.0	12722.4	15593.5	16064.7	17451.1
b.Financial Institutions	357.3	252.1	244.6	1487.7	924.9
c.Government Organizations	398.7	144.1	94.1	145.9	0.0
5. BILL PURCHASED	**609.4**	**762.1**	**244.5**	**964.2**	**1452.5**
6.LOANS AGAINST COLLECTED BILLS	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
7. FIXED ASSETS	**440.5**	**471.5**	**480.4**	**493.1**	**484.8**
8.OTHER ASSETS	**1755.9**	**1861.2**	**1390.3**	**1528.6**	**1179.1**
a.Accrued Intrests	293.5	337.6	251.3	402.6	203.3
b.Staff Loans/ Adv.	161.8	182.5	185.3	204.3	215.5
c.Sundry Debtors	87.6	143.8	310.5	271.5	198.9
d.Cash in Transit	0.0	0.0	0.0	0.0	0.0
e.Others	1213.0	1197.3	643.2	650.1	561.5
9.EXPENCES NOT WRITTEN OFF	**1.6**	**36.4**	**31.5**	**27.7**	**23.7**
10.NON BANKING ASSETS	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
11.RECONCILIATION ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
12.PROFIT & LOSS ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
USES OF FUNDS	**34312.9**	**41678.8**	**415252.0**	**45227.2**	**42970.8**

Annexure II

Sources and Uses of Funds of Nabil Bank Ltd.

(Rs in million)

	Mid-july				
	2008	**2009**	**2010**	**2011**	**2012**
1. CAPITAL FUND	**2057.0**	**2436.2**	**3129.4**	**3835.7**	**4566.5**
a.Paid-up Capital	689.2	965.7	1449.1	2029.8	2029.8
b.Calls in Advance	0.0	0.0	0.0	0.0	0.0
c.Statutory Reserves	983.5	1133.5	1340.5	1568.5	1836.5
d.Share Premium	0.1	0.1	0.1	0.1	0.1
e.Retained Earning	112.4	160.7	103.6	2.3	493.6
f.Other Reserves	271.8	112.1	160.7	153.6	109.1
g.Exchange Fluctuation Fund	0.0	64.1	75.4	81.4	97.5
2. BORROWINGS	**1600.0**	**1981.3**	**374.9**	**1950.6**	**611.1**
3. DEPOSITS	**31915.0**	**37348.3**	**46334.8**	**49691.4**	**55023.7**
a.Current	5365.8	5515.9	7920.7	5818.4	6734.4
b.Saving	12160.0	14620.4	13783.6	14288.5	17994.8
c. Fixed	8464.1	8310.7	14711.1	16840.8	14044.9
d.Call Deposits	5563.4	8438.3	9294.0	12166.3	15566.7
e.Others	361.8	463.0	625.5	577.3	682.9
4.BILLS PAYABLE	**141.9**	**407.7**	**101.1**	**189.6**	**132.4**
5.OTHER LIABILITIES	**2014.4**	**2143.3**	**2870.9**	**4355.6**	**9490.7**
6.RECONCILIATION ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
7.PROFIT & LOSS ACCOUNT	**750.4**	**1624.9**	**1798.7**	**1269.7**	**1720.9**
SOURCES OF FUNDS	**38478.6**	**45941.6**	**54609.8**	**61292.6**	**71545.3**
1.LIQUID FUNDS	**4623.5**	**3925.4**	**4513.7**	**4884.5**	**5098.6**
2. INVESTMENTS	**4889.6**	**3978.7**	**8128.3**	**8920.3**	**8211.5**
a.Government Securities	4646.9	3706.2	7941.3	8742.3	7991.2
b.NRB Bonds	0.0	0.0	0.0	0.0	0.0
c.Govt. Non-Fin. Institution	0.0	0.0	0.0	0.0	0.0
d.Other Non-Fin. Institution	0.0	0.0	0.0	0.0	0.0
e.Non Residents	247.2	272.4	187	178.1	220.3
3.SHARES AND OTHER INVESTMENT	**5077.0**	**6896.3**	**5483.8**	**4162.5**	**5863.4**
4.LOANS AND ADVANCES	**21514.6**	**27816.6**	**32902.8**	**38765.6**	**42731.7**
a. Private Sector	20857.5	27036.9	31995.5	37801.2	41713.5
b.Financial Institutions	596.4	779.2	627.3	684.4	1018.2
c.Government Organizations	60.8	0.4	280.0	280.0	0.0
5. BILL PURCHASED	**255.1**	**180.5**	**41.8**	**71.2**	**50.0**
6.LOANS AGAINST COLLECTED BILLS	**0.0**	**0.0**	**86.4**	**85.9**	**86.0**
7. FIXED ASSETS	**511.6**	**636.1**	**781.2**	**935.2**	**890.0**
8.OTHER ASSETS	**1607.1**	**2508.1**	**2669.8**	**3467.3**	**8613.9**
a.Accrued Intrests	224.2	378.3	440.3	486.9	660.4
b.Staff Loans/ Adv.	392.2	490.4	526.5	721.2	813.6
c.Sundry Debtors	2.1	273.7	73.3	460.1	4618.0
d.Cash in Transit	0.0	0.0	0.0	0.0	0.0
e.Others	988.6	1365.7	1629.6	1799.1	2521.9
9.EXPENCES NOT WRITTEN OFF	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
10.NON BANKING ASSETS	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
10.RECONCILIATION ACCOUNT	**0.0**	**0.0**	**2.1**	**0.0**	**0.0**
11.PROFIT & LOSS ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
USES OF FUNDS	**38478.6**	**45941.6**	**54609.8**	**61292.6**	**71545.3**

Annexure III

Sources and uses of Nepal Investment Bank

(Rs in million)

	Mid-july				
	2008	**2009**	**2010**	**2011**	**2012**
1. CAPITAL FUND	**1959.0**	**3421.1**	**3765.2**	**4585.4**	**5161.3**
a.Paid-up Capital	1203.9	2407.1	2409.1	2409.1	3012.9
b.Calls in Advance	516.1	655.9	836.0	1089.2	1324.5
c.Statutory Reserves	0.0	0.0	11.8	11.8	11.8
d.Share Premium	0.0	0.0	0.0	413.6	255.5
e.Retained Earning	213.1	330.3	480.4	630.7	519.3
f.Other Reserves	213.1	330.3	480.4	630.7	519.3
g.Exchange Fluctuation Fund	25.9	27.8	27.8	31.0	37.2
2. BORROWINGS	**1050.0**	**1088.8**	**1087.3**	**1330.8**	**1617.6**
3. DEPOSITS	**34451.8**	**46697.9**	**50094.7**	**50138.1**	**57010.6**
a.Current	3138.7	3756.4	4025.8	4042.7	6611.3
b.Saving	13688.8	17066.2	14322.5	13554.8	17276.0
c. Fixed	7944.2	11633.4	16825.1	18378.3	20057.5
d.Call Deposits	9073.0	13513.9	14141.8	13503.5	12194.7
e.Others	607.1	728.0	779.5	658.8	871.1
4. BILLS PAYABLE	**78.8**	**75.5**	**27.2**	**8.3**	**3.0**
5. OTHER LIABILITIES	**1835.2**	**2369.2**	**3154.3**	**4020.5**	**4655.1**
6. RECONCILIATION ACCOUNT	**0.0**	**0.0**	**3.6**	**10.7**	**15.7**
7. PROFIT & LOSS ACCOUNT	**830.7**	**982.0**	**1422.5**	**1263.2**	**1318.3**
SOURCES OF FUNDS	**40205.5**	**54634.5**	**59554.7**	**61357.0**	**69781.6**
1. LIQUID FUNDS	**3755.0**	**7918.0**	**7558.4**	**8290.4**	**12009.1**
2. INVESTMENTS	**3155.0**	**2531.3**	**4201.9**	**4294.6**	**6169.5**
a.Government Securities	3155.0	2531.3	4201.9	4294.6	6169.5
b.NRB Bonds	0.0	0.0	0.0	0.0	0.0
c.Govt. Non-Fin. Institution	0.0	0.0	0.0	0.0	0.0
d.Other Non-Fin. Institution	0.0	0.0	0.0	0.0	0.0
e.Non Residents	3664.5	4807.5	0.0	2696.0	0.0
3. SHARES AND OTHER INVESTMENT	**3724.4**	**4871.8**	**3694.5**	**3130.5**	**4271.6**
4. LOAN AND ADVANCES	**27145.5**	**36250.4**	**40689.6**	**41665.2**	**42510.4**
a. Private Sector	26533.4	33806.8	39101.6	40115.1	41238.0
b.Financial Institutions	561.9	2240.2	1563.2	948.6	740.6
c.Government Organizations	50.2	203.4	24.9	601.5	531.8
5. BILL PURCHASED	**383.8**	**576.8**	**259.2**	**222.5**	**401.7**
6. LOANS AGAINST COLLECTED BILLS	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
7. FIXED ASSETS	**970.1**	**1126.5**	**1191.1**	**1147.3**	**1087.4**
8. OTHER ASSETS	**1063.0**	**1358.2**	**1960.1**	**2606.6**	**3331.9**
a.Accrued Intrests	184.0	333.7	220.1	305.4	430.7
b.Staff Loans/ Adv.	62.9	81.3	100.6	122.2	143.3
c.Sundry Debtors	118.9	36.3	184.0	121.1	162.8
d.Cash in Transit	0.0	0.0	0.0	0.0	0.0
e.Others	697.2	906.9	1455.5	2057.9	2595.1
9. EXPENCES NOT WRITTEN OFF	**0.0**	**1.5**	**0.0**	**0.0**	**0.0**
10. NON BANKING ASSETS	**1.5**	**0.0**	**0.0**	**0.0**	**0.0**
11. RECONCILIATION ACCOUNT	**7.2**	**0.0**	**0.0**	**0.0**	**0.0**
12. PROFIT & LOSS ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
USES OF FUNDS	**40205.5**	**54634.5**	**59554.7**	**61357.0**	**69781.5**

Annexure IV

Sources and uses of funds of NIC Bank

(Rs in million)

	Mid-july				
	2008	2009	2010	2011	2012
1. CAPITAL FUND	**1069.9**	**1351.8**	**1660.3**	**1765.0**	**1998.3**
a.Paid-up Capital	943.9	1140.5	1311.6	1311.6	1311.6
b.Calls in Advance			0.0	0.0	0.0
c.Statutory Reserves	108.5	157.1	220.6	310.5	409.7
d.Share Premium	0.0	41.9	41.9	41.9	41.9
e.Retained Earning	11.9	1.6	30.6	2.1	68.2
f.Other Reserves	5.6	10.8	45.3	85.5	153.2
g.Exchange Fluctuation Fund	0.0	0.0	10.4	13.4	13.9
2. BORROWINGS	**535.0**	**860.4**	**1923.3**	**973.3**	**332.4**
3. DEPOSITS	**13078.5**	**15579.9**	**15968.9**	**18394.4**	**22111.8**
a.Current	648.2	831.4	1219.9	1608.7	1568.8
b.Saving	3667.7	3993.7	3732.6	3869.8	5129.5
c. Fixed	5876.0	7580.1	7554.1	9517.6	9649.9
d.Call Deposits	2814.4	3069.3	3340.9	3291.6	5644.2
e.Others	72.3	105.5	121.5	106.7	119.5
4.BILLS PAYABLE	**31.8**	**238.9**	**10.6**	**5.2**	**39.3**
5.OTHER LIABILITIES	**487.2**	**615.9**	**685.7**	**931.3**	**1053.8**
6.RECONCILIATION ACCOUNT	**0.0**	**73119.7**	**0.0**	**0.0**	**0.0**
7.PROFIT & LOSS ACCOUNT	**248.9**	**357.1**	**447.4**	**498.4**	**394.2**
SOURCES OF FUNDS	**15451.4**	**92123.8**	**20696.2**	**22567.6**	**25929.9**
1.LIQUID FUNDS	**1352.3**	**1461.1**	**2186.2**	**1677.1**	**2755.4**
2. INVESTMENTS	**1545.4**	**2195.6**	**4270.1**	**3997.1**	**3785.7**
a.Government Securities	1545.4	2195.6	3979.0	3865.1	3622.2
b.NRB Bonds	0.0	0.0	0.0	0.0	0.0
c.Govt. Non-Fin. Institution	0.0	0.0	0.0	0.0	0.0
d.Other Non-Fin. Institution	0.0	0.0	0.0	0.0	0.0
e.Non Residents	0.0	0.0	291.2	132.0	163.5
3.SHARES AND OTHER INVESTMENT	**766.1**	**830.9**	**676.6**	**872.3**	**287.3**
4.LOANS AND ADVANCES	**11446.5**	**13889.3**	**12906.1**	**15149.3**	**17460.2**
a. Private Sector	11009.8	13527.0	12602.8	14873.4	17460.2
b.Financial Institutions	436.4	362.3	303.3	275.9	0.0
c.Government Organizations	0.3	0.0	0.0	0.0	0.0
5. BILL PURCHASED	**18.8**	**26.5**	**23.2**	**16.2**	**63.0**
6.LOANS AGAINST COLLECTED BILLS	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
7. FIXED ASSETS	**172.1**	**221.8**	**292.4**	**354.2**	**405.6**
8.OTHER ASSETS	**122.8**	**337.5**	**331.5**	**492.0**	**1160.5**
a.Accrued Intrests	12.9	16.4	27.5	42.3	136.0
b.Staff Loans/ Adv.	18.9	27.6	42.2	55.0	86.5
c.Sundry Debtors	80.0	274.5	69.8	130.2	902.4
d.Cash in Transit	0.0	0.0	0.0	0.0	0.0
e.Others	11.0	19.0	192.1	264.5	35.7
9.EXPENCES NOT WRITTEN OFF	**26.7**	**40.2**	**10.1**	**9.3**	**9.1**
10.NON BANKING ASSETS	**0.7**	**1.1**	**0.0**	**0.0**	**1.3**
11.RECONCILIATION ACCOUNT	**0.0**	**73119.7**	**0.0**	**0.0**	**1.8**
12.PROFIT & LOSS ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
USES OF FUNDS	**15451.4**	**92123.8**	**20696.2**	**22567.6**	**25929.9**

Annexure V

Sources and Uses of Funds of Laxmi Bank Ltd.

(Rs in million)

	Mid-july				
	2008	**2009**	**2010**	**2011**	**2012**
1. CAPITAL FUND	**1047.9**	**1158.3**	**1795.6**	**1912.8**	**2113.9**
a.Paid-up Capital	913.2	1098.1	1613.5	1613.5	1694.1
b.Calls in Advance			0.0	0.0	0.0
c.Statutory Reserves	27.8	51.8	89.6	155.0	230.0
d.Share Premium	0.0	0.0	13.1	13.1	13.1
e.Retained Earning	52.1	5.5	21.3	17.0	11.3
f.Other Reserves	53.4	0.0	51.8	104.5	154.0
g.Exchange Fluctuation Fund	1.4	2.9	6.3	9.7	11.4
2. BORROWINGS	**450.0**	**800.0**	**450.0**	**350.0**	**378.0**
3. DEPOSITS	**10917.2**	**16051.3**	**18082.9**	**18299.6**	**22831.8**
a.Current	284.4	1043.8	819.8	749.6	878.6
b.Saving	2590.4	3463.2	3684.9	3215.7	4403.2
c. Fixed	5824.7	7185.0	7821.6	9453.5	10733.6
d.Call Deposits	2068.6	4003.9	5455.4	4673.9	6517.8
e.Others	149.1	355.3	301.2	207.0	298.6
4.BILLS PAYABLE	**5.9**	**16.2**	**5.3**	**302.1**	**1.8**
5.OTHER LIABILITIES	**485.8**	**643.2**	**969.3**	**1207.3**	**1466.8**
6.RECONCILIATION ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
7.PROFIT & LOSS ACCOUNT	**120.8**	**186.2**	**326.2**	**380.4**	**357.3**
SOURCES OF FUNDS	**13027.6**	**18855.1**	**21629.3**	**22452.2**	**27149.5**
1.LIQUID FUNDS	**1489.9**	**2082.8**	**2744.1**	**2823.3**	**5108.2**
2. INVESTMENTS	**734.7**	**933.9**	**1520.4**	**2019.7**	**2055.5**
a.Government Securities	684.7	883.9	1470.4	1969.7	2005.5
b.NRB Bonds	0.0	0.0	0.0	0.0	0.0
c.Govt. Non-Fin. Institution	0.0	0.0	0.0	50.0	50.0
d.Other Non-Fin. Institution	50.0	50.0	50.0	0.0	0.0
e.Non Residents	0.0	0.0	0.0	0.0	0.0
3.SHARES AND OTHER INVESTMENT	**516.5**	**1715.4**	**1676.7**	**1031.9**	**1712.8**
4.LOANS AND ADVANCES	**9784.0**	**13446.1**	**14731.8**	**15262.7**	**15847.8**
a. Private Sector	9784.0	13446.1	14283.8	14789.0	15383.6
b.Financial Institutions	0.0	0.0	316.4	339.0	329.6
c.Government Organizations	0.0	0.0	131.6	134.6	134.6
5. BILL PURCHASED	**10.5**	**17.3**	**4.6**	**126.8**	**849.3**
6.LOANS AGAINST COLLECTED BILLS	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
7. FIXED ASSETS	**273.6**	**323.1**	**380.5**	**450.5**	**434.5**
8.OTHER ASSETS	**203.6**	**331.7**	**570.1**	**737.3**	**1141.5**
a.Accrued Intrests	32.7	49.5	115.9	68.1	105.2
b.Staff Loans/ Adv.	30.3	53.0	64.5	89.1	161.0
c.Sundry Debtors	6.8	0.9	6.2	8.4	131.5
d.Cash in Transit	0.0	0.0	0.0	0.0	0.0
e.Others	133.9	228.3	383.5	571.6	743.9
9.EXPENCES NOT WRITTEN OFF	**1.7**	**0.9**	**0.6**	**0.0**	**0.0**
10.NON BANKING ASSETS	**3.9**	**3.9**	**0.5**	**0.0**	**0.0**
11.RECONCILIATION ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
12.PROFIT & LOSS ACCOUNT	**9.1**	**0.0**	**0.0**	**0.0**	**0.0**
USES OF FUNDS	**13027.6**	**18855.1**	**21629.3**	**22452.2**	**27149.5**

Annexure VI

Sources and Uses of Funds of Citizens Bank

(Rs in million)

	Mid-july				
	2008	2009	2010	2011	2012
1. CAPITAL FUND	**544.7**	**1034.1**	**1308.3**	**2144.3**	**2233.9**
a.Paid-up Capital	560.0	1000.0	1207.0	2000.0	2101.8
b.Calls in Advance			0.0	0.0	0.0
c.Statutory Reserves	0.0	30.1	68.8	68.8	108.5
d.Share Premium	0.0	0.0	0.0	43.0	3.0
e.Retained Earning	(15.3)	3.2	27.1	27.1	9.2
f.Other Reserves	0.0	0.0	4.6	4.6	10.5
g.Exchange Fluctuation Fund	0.0	0.7	0.8	0.8	0.8
2. BORROWINGS	**476.1**	**250.0**	**651.2**	**805.0**	**88.3**
3. DEPOSITS	**6139.6**	**11524.4**	**14214.5**	**13478.3**	**17354.5**
a.Current	145.7	397.4	383.2	319.1	512.8
b.Saving	1107.0	3610.2	3809.1	3235.8	4719.0
c. Fixed	4037.9	3678.5	6531.4	6016.6	7412.5
d.Call Deposits	849.0	3838.4	3414.2	3848.5	4632.0
e.Others	0.0	0.0	76.6	58.4	78.2
4.BILLS PAYABLE	**4.2**	**4.2**	**2.4**	**3.8**	**1.4**
5.OTHER LIABILITIES	**115.5**	**350.2**	**573.1**	**759.2**	**923.1**
6.RECONCILIATION ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
7.PROFIT & LOSS ACCOUNT	**75.3**	**0.0**	**0.0**	**312.4**	**355.4**
SOURCES OF FUNDS	**7355.4**	**13162.9**	**16749.4**	**17503.0**	**20956.6**
1.LIQUID FUNDS	**1065.6**	**2455.2**	**2680.6**	**1732.4**	**3790.3**
2. INVESTMENTS	**177.6**	**336.5**	**1355.7**	**1113.9**	**1323.2**
a.Government Securities	177.6	336.5	1355.7	1113.9	1323.2
b.NRB Bonds	0.0	0.0	0.0	0.0	0.0
c.Govt. Non-Fin. Institution	0.0	0.0	0.0	0.0	0.0
d.Other Non-Fin. Institution	0.0	0.0	0.0	0.0	0.0
e.Non Residents	0.0	0.0	0.0	0.0	0.0
3.SHARES AND OTHER INVESTMENT	**996.4**	**1690.8**	**1324.5**	**1287.6**	**207.0**
4.LOANS AND ADVANCES	**4788.3**	**8195.8**	**10906.1**	**12437.4**	**14325.5**
a. Private Sector	4788.3	8195.8	10711.5	12145.3	13811.1
b.Financial Institutions	0.0	0.0	194.7	209.8	361.3
c.Government Organizations	0.0	0.0	0.0	82.3	153.1
5. BILL PURCHASED	**10.0**	**14.4**	**18.8**	**69.4**	**65.1**
6.LOANS AGAINST COLLECTED BILLS	**0.0**	**0.0**	**0.0**	**7.5**	**24.8**
7. FIXED ASSETS	**145.6**	**170.0**	**230.1**	**332.2**	**529.7**
8.OTHER ASSETS	**171.8**	**300.1**	**233.7**	**519.8**	**658.5**
a.Accrued Intrests	22.8	67.6	79.7	91.1	112.4
b.Staff Loans/ Adv.	6.1	29.8	71.1	84.2	109.2
c.Sundry Debtors	1.8	9.9	6.5	6.4	50.5
d.Cash in Transit	0.0	0.0	0.0	0.0	0.0
e.Others	141.0	192.8	76.4	338.1	386.4
9.EXPENCES NOT WRITTEN OFF	**0.0**	**0.0**	**0.0**	**2.9**	**32.4**
10.NON BANKING ASSETS	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
11.RECONCILIATION ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
12.PROFIT & LOSS ACCOUNT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
USES OF FUNDS	**7355.4**	**13162.9**	**16749.4**	**17503.0**	**20956.6**

Annexure VII

Calculation of Correlation Coefficient of SCBNL

	Loans(Y)	Interest(X	Y^2	X^2	XY
2008	13964.4	293.5	195004467.4	86142.25	4098551.4
2009	13880.7	337.6	192673832.5	113973.8	4686124.3
2010	16176.7	251.3	261685622.9	63151.69	4065204.7
2011	18662.5	402.6	348288906.3	162086.8	7513522.5
2012	19828.5	203.3	393169412.3	41330.89	4031134.1
Total	**82512.8**	**1488.3**	**1390822241**	**466685.4**	**24394537**

Mean $\bar{x} = \frac{\sum x}{N} = 16502.56$

$\bar{y} = \frac{\sum y}{N} = 297.66$

We have,

Karl Pearsons' Coefficient of Correlation,

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{N\sum X^2 - (\sum X^2)}\sqrt{N\sum Y^2 - (\sum Y^2)}} = -0.2$$

$$P.E.(r) = 0.6745 \text{ X } \frac{1-r^2}{\sqrt{N}} = 0.2806$$

Now,

Regression Analysis

Y = a + b x.................i

$\sum Y = n\,a + b\sum X$..................ii

$\sum XY = a\sum X + b\sum X^2$................iii

Substituting the value of X and Y in equation (ii) and (iii), we get

82512.8 = 5a + 1488.3 b iv

24394537 = 1488.3 a + 466685.4 b v

Solving the equation iv and v, we find

Y = 18592.18 – 7.02 X.

Annexure VIII

Calculation of Correlation Coefficient of Nabil

	Loans(Y)	Interest(X)	Y^2	X^2	XY
2008	21769.8	224.2	473924192	50265.64	4880789.16
2009	27997	378.3	783832009	143110.89	10591265.1
2010	32944.8	440.3	1085359847	193864.09	14505595.44
2011	38836.8	486.9	1508297034	237071.61	18909637.92
2012	42781.7	660.4	1830273855	436128.16	28253034.68
Total	**164330.1**	**2190.1**	**5681686937**	**1060440.39**	**77140322.3**

Mean

$\bar{x} = \frac{\sum x}{N} = 438.02$

$\bar{Y} = \frac{\sum Y}{N} = 32866.02$

We have,

Karl Pearsons' Coefficient of Correlation,

$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{N\sum X^2 - (\sum X^2)}\sqrt{N\sum Y^2 - (\sum Y^2)}} = 0.9684$

P.E.(r) = $0.6745 \times \frac{1-r^2}{\sqrt{N}} = 0.0188$

Now,

Regression Analysis

$Y = a + b x$..................i

$\sum Y = n a + b\sum X$...................ii

$\sum XY = a\sum X + b \sum X^2$.................iii

Substituting the value of X and Y in equation (ii) and (iii), we get

164330.1 = 5a + 2190.1 b iv

77140322.3 = 2190.1 a + 1060440.39 b v

Solving these two equation ,we get

Y = 10515.39 + 51.02 X

Annexure IX

Calculation of Correlation Coefficient and Regression Analysis of NIB Ltd.

	Loans(Y)	Interest(X)	Y^2	X^2	XY
2008	27529.3	184	757862358.5	33856	5065391.2
2009	36827.2	333.7	1356242660	111355.69	12289236.6
2010	40948.9	220.1	1676812411	48444.01	9012852.89
2011	41887.7	305.4	1754579411	93269.16	12792503.6
2012	42912.1	430.7	1841448326	185502.49	18482241.5
Total	**190105.2**	**1473.9**	**7386945167**	**472427.35**	**57642225.8**

Mean

$\bar{x} = \frac{\sum x}{N} = 287.58$

$\bar{Y} = \frac{\sum Y}{N} = 38021.04$

We have,

Karl Pearsons' Coefficient of Correlation,

$$\mathbf{r_{xy}} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{N\sum X^2 - (\sum X^2)}\sqrt{N\sum Y^2 - (\sum Y^2)}} = 0.6527$$

$$\mathbf{P.E.(r)} = 0.6745 \text{ X } \frac{1-r^2}{\sqrt{N}} = 0.1731$$

Now,

Regression Analysis

Y = a + b x..................i

$\sum Y$ = n a + b$\sum$ X...................ii

$\sum XY = a\sum X + b \sum X^2$.................iii

Substituting the value of X and Y in equation (ii) and (iii), we get

190105.2 = 5a + 1473.9 b iv

57642225.8 = 1473.9 a + 472427.35 b v

Solving these wquations, we get

Y = 25569.84 + 42.23 X

Annexure X

Calculation of Correlation Coefficient and Regression Analysis of NIC Bank

	Loans(Y)	Interest(X)	Y^2	X^2	XY
2008	11607.5	12.9	134734056.3	166.41	149736.75
2009	13916.1	16.4	193657839.2	268.96	228224.04
2010	12929.3	27.5	167166798.5	756.25	355555.75
2011	15165.5	42.3	229992390.3	1789.29	641500.65
2012	17523.2	136	307062538.2	18496	2383155.2
Total	**71141.6**	**235.1**	**1032613622**	**21476.91**	**3758172.39**

Mean

$\bar{x} = \frac{\sum x}{N} = 47.02$

$\bar{Y} = \frac{\sum Y}{N} = 14228.32$

We have,

Karl Pearsons' Coefficient of Correlation,

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{N\sum X^2 - (\sum X^2)}\sqrt{N\sum Y^2 - (\sum Y^2)}} = 0.8966$$

$$\text{P.E.(r)} = 0.6745 \text{ X } \frac{1-r^2}{\sqrt{N}} = 0.0591$$

Now,

Regression Analysis

Y = a + b x..................i

$\sum Y = n a + b\sum X$...................ii

$\sum XY = a\sum X + b \sum X^2$.................iii

Substituting the value of X and Y in equation (ii) and (iii), we get

71141.6 = 5 a + 235.1 b iv

3758172.39 = 235.1 a + 21476.91 b v

Solving these equation, we get

Y = 12362.87 + 39.71 X

Annexure XI

Calculation of Correlation Coefficient and Regression Analysis of Laxmi Bank

	Loans(Y)	Interest(X)	Y^2	X^2	XY
2008	9794.5	32.7	95932230.25	1069.29	320280.15
2009	13463.4	49.5	181263139.6	2450.25	666438.3
2010	14736.4	115.9	217161485	13432.81	1707948.76
2011	15389.4	68.1	236833632.4	4637.61	1048018.14
2012	16697.1	105.2	278793148.4	11067.04	1756534.92
Total	**70080.8**	**371.4**	**1009983636**	**32657**	**5499220.27**

Mean

$\bar{x} = \frac{\sum x}{N} = 74.28$

$\bar{Y} = \frac{\sum Y}{N} = 14016.16$

We have,

Karl Pearsons' Coefficient of Correlation,

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{N\sum X^2 - (\sum X^2)}\sqrt{N\sum Y^2 - (\sum Y^2)}} = 0.7833$$

$$P.E.(r) = 0.6745 \text{ X } \frac{1 - r^2}{\sqrt{N}} = 0.1166$$

Now,

Regression Analysis

$Y = a + b x$..................i

$\sum Y = n a + b\sum X$...................ii

$\sum XY = a\sum X + b \sum X^2$.................iii

Substituting the value of X and Y in equation (ii) and (iii), we get

70080.8 = 5a + 371.4 b iv

5499220.27 = 371.4 a + 32657 b v

Solving these equation, we get

Y = 9713.88 + 57.91 X

Annexure XII

Calculation of Correlation Coefficient and Regression Analysis of Citizens Bank

	Loans(Y)	Interest(X)	Y^2	X^2	XY
2008	4798.3	22.8	23023682.89	519.84	109401.24
2009	8210.2	67.6	67407384.04	4569.76	555009.52
2010	10925	79.7	119355625	6352.09	870722.5
2011	12506.8	91.1	156420046.2	8299.21	1139369.48
2012	14390.6	112.4	207089368.4	12633.76	1617503.44
Total	**50830.9**	**373.6**	**573296106.5**	**32374.66**	**4292006.18**

Mean

$\bar{x} = \frac{\sum x}{N} = 74.72$

$\bar{Y} = \frac{\sum Y}{N} = 10166.18$

We have,

Karl Pearsons' Coefficient of Correlation,

$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{N\sum X^2 - (\sum X^2)}\sqrt{N\sum Y^2 - (\sum Y^2)}} = 0.9834$

P.E.(r) = $0.6745 \times \frac{1 - r^2}{\sqrt{N}} = 0.0099$

Now,

Regression Analysis

Y = a + b x..................i

$\sum$Y = n a + b$\sum$ X...................ii

$\sum$XY = a$\sum$X +b $\sum X^2$.................iii

Substituting the value of X and Y in equation (ii) and (iii), we get

50830.9 = 5 a + 373.6 b iv

4292006.18 = 373.6 a + 32374.66 b v

Solving the equation iv & v ,we find

Y = 1898.54 + 110.79 X