

NON-PERFORMING LOANS OF COMMERCIAL BANKS
(A Comparative Study of the Selected Commercial Banks)

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RECOMMENDATION

This is to certify that the Thesis

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Entitled:
Non-Performing Loans of Commercial Banks
(A comparative Study of the Selected Commercial Banks)

has been prepared as approved by this Department in the prescribed format of the Faculty of Management. The thesis report is forwarded for examination.

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VIVA-VOCE SHEET

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This thesis entitled **Non-Performing Loans of Commercial Banks (A comparative Study of the Selected Commercial Banks)** has been carried out for the partial fulfillment of the requirements for the degree of **Master of Business Studies (M.B.S.)**. This thesis is brought in this form not only with my effort but also from the important suggestion, advice and recommendation from my teacher and seniors. I am also grateful to those who have assisted me directly or indirectly to accomplish my effort to this form.

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DECLARATION

I hereby declare that the work reported in this thesis entitled **Non-Performing Loans of Commercial Banks (A comparative Study of the Selected Commercial Banks)** submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirements for the Degree of **Masters in Business Studies (M.B.S.)** under the strict supervision of **Dr. Shankar Prasad Dahal**, Associate Professor of Management, Post Graduate Campus.

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ABBREVIATION

A.D	: Anno Dimini
BS	: Bikram Sambat
CD	: Credit to Deposit
C.V	: Coefficient of Variation
i.e.	: That Is
LBL	: Lumbini Bank Limited
LLP	: Loan Loss Provision
NBBL	: Nepal Bangladesh Bank Limited
NBA	: Nepal Banker's Association
NBL	: Nepal Bank Limited
NEPSE	: Nepal Stock Exchange
NICB	: Nepal Industrial and Commercial Bank Limited
NP	: Net Profit
NPA	: Non-Performing Assets
NPL	: Non-Performing Loans
PE	: Probable Error
SCB	: Standard Chartered Bank Nepal Limited
SD	: Standard Deviations
TLA	: Total Loans and Advances
TU	: Tribhuvan University

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CHAPTER – I

INTRODUCTION

1.1 General Background of the Study

Nepal is a developing country with the utmost rich in natural resources, beautiful sceneries and the title of peak Himalayas. Agriculture is the dominant industry of Nepal. About 80% of population is engaged in farming which contributes 38% in GDP. Industrialization in Nepal is comparatively a new phenomenon. Prior to the restoration of democracy, when the government had not liberalized its economic policy, there were only few numbers of industries in Nepal. After the initiation of liberalization policy, industrial sectors like manufacturing & services have been somewhat mushroomed in a short span of time.

Nepal's foreign trade is increasing rapidly. Its foreign trade relation exists with more than 80 countries although; the foreign trade is concentrated with the India only. More than third fourth of total trade is conducted with India. During the nineties, country has experienced a rising negative trade balance. Nepal imports more than it exports. More specifically, Nepal exports very cheap products like Agro, Pashmina, Garments, Carpets and Handicrafts where as imports expensive Electronic products, Computer parts, Machineries, Medicines etc. During the days, export has been increasing but import has risen faster. Due to the ineffective and a slow pace of development of the industrial sector, Nepal's overall trade is getting a huge economical & financial loss.

Financial institutions are said to be the bridge between the savers & users. The development of economy basically depends upon the development of financial system of the country. That's why financial institutions are becoming a paramount part for the development of the entire economic & industrial sector of the country. Banks receive deposits, support the payment system and provide the largest source of funds to the

economy. Banking, more especially commercial banking sector is the heart of the development of the business as they supply life-blood (capital) to the industries. They have significant role in the smooth functioning of the economy. Therefore, stable and safe banking practices are of crucial importance for the development of a safe and growth-oriented strong economy. Keeping this in mind, government initiated the financial sector reform program in mid 1980's. As a result, there is a prominent growth in financial industry and commercial banks hold a large-scale share in the economic activities of the country.

The Nepalese financial sector is composed of banking sector and non-banking sector. Banking sector comprises Nepal Rastra Bank (NRB) and commercial banks. The non-banking sector includes development banks, micro credit development banks, finance companies, co-cooperative financial institutions, non-governmental organizations (NGOs) performing the limited banking activities. Other financial institutions comprise of the insurance companies, employees provident fund, citizens investment trust, postal saving offices and Nepal stock exchange (NEPSE). By the year 2012, 32 commercial banks are established with their more than 800 operating branches across the country. Similarly, 88 Development Banks, 69 Finance Companies, 24 Micro Credit Development Banks are functioning in the country.

Central bank being the supervisor of the entire banking system allocated the authority to regulate & supervise the banking for the stability of the financial sector. So, for the effective and efficient functioning of the commercial banks, Nepal Rastra Bank issues directives to the commercial banks. The objective of bank supervision in Nepal has always been to promote and maintain the safety, soundness and integrity of the financial system while promoting confidence in the system through the implementation of policies and standards that are in line with the best international practices. The main aim of the directives issued by NRB is to maintain the stability & healthy development of banking & financial system of the country. According to the Bank and Financial Institution Act 2063, Nepal Rastra Bank is guiding the commercial banks through its stated eleven directives. Those are stated as follows:

- Dir-1: The provision of minimum Capital Fund to be maintained by the Commercial banks.
- Dir-2: The provision of Loan Classification and Loan Loss Provisioning on the credit.
- Dir-3: The provision of relating to single borrower limit.
- Dir-4: The provision of accounting policy and the structure of financial statements to be followed by the commercial banks.
- Dir-5: The provision of reducing risk on activities of the commercial banks.
- Dir-6: The provision of institutional good governance to be followed by commercial banks.
- Dir-7: The provision of implementation schedule of regulatory directives issued in connection with inspection and supervision of the commercial banks.
- Dir-8: The provision of investment on shares and securities.
- Dir-9: The provision of submission of statistical data to the Nepal Rastra Bank, Banking Management Division and inspection and Supervision Division.
- Dir-10: The provision of sale and re-registration of foundation shares of commercial banks.
- Dir-11: The provision of stringent blacklisting procedure for loan defaulters.

To reflect this dynamic environment, the functions and objectives of the Bank have been recast by the new NRB Act of 2002, the preamble of which lays down the primary functions of the Bank as: to formulate necessary monetary and foreign exchange policies to maintain the stability in price and consolidate the balance of payments for sustainable development of the economy of the nation; to develop a secure, healthy and efficient system of payments; to make appropriate supervision of the banking and financial system in order to maintain its stability and foster its healthy development; and to further enhance the public confidence in Nepal's entire banking and financial system.

To address the needs for timely changes in policies and activities emanated from external and internal economic forces, NRB has embarked on a major restructuring process in both policy and operational fronts. The adoption of financial sector liberalization policies by NRB has necessitated its organizational restructuring to enhance policy credibility and increase operational transparency and accountability. Policies and activities of the NRB are very critical in creating macro-economic growth environment and fostering sound health of banking and financial industry of the country. For the very first time, the Strategic Plan of the NRB has been prepared

to address these issues. The mandate of the NRB, as enshrined in the NRB Act-2002, is to maintain price, external sector, and financial sector stability. In order to be efficient and effective to accomplish these objectives, the first Five Year Strategic Plan (2006-2010) has been prepared with defined vision, mission, core values, and strategic goals. Action plans with defined responsibility, operational timeframe and key performance indicators have been devised to implement the plan. To improve the financial sector legislative framework, some new Acts, namely Bank and Financial Institution Act, 2006; Nepal Rastra Bank (First Amendment) Act, 2006; Insolvency Act, 2006; Secured Transaction Act, 2006; Company Act, 2006 have recently been enacted. Money Laundering Control and Deposit and Credit Guarantee Acts are expected to be soon materialized, all with the goal of strengthening the financial sector through building on its healthy development and improved stability.

1.1.1 Banking in Nepal

Till the early 1980s, the financial sector was not opened up for private sector, only two commercial banks - Nepal Bank Limited and Rastriya Banijya Bank, that were government controlled, were functioning in Nepal. The economic reforms initiated by the Government more than two decades ago have changed the landscape of several sectors of the Nepalese economy in which the Nepalese banking industry is no exception. As a result of this policy, large number of banks and financial institutions boomed across the country.

The first conventional bank in Nepal was Nepal Bank Limited, established in 1937 A.D. followed by Rastriya Banijya Bank in 1966 A.D. These two banks are the pioneers of the Nepalese banking industry. These banks have the largest network and they have their operations even in remote areas of the country. Rastriya Banijya Bank is fully owned by the Government while the Government has controlling stake in Nepal Bank Limited. As the financial market was barred for private investors till the mid 1980s, these two banks were the only players in the banking industry.

The economic liberalization policy adopted in the mid 1980s brought about a surge in the banking industry. A large number of banks were established and there is a tremendous growth in the number of the financial institutions in last two decades. At the beginning of the 1980s when financial sector was not liberalized, there were only two commercial banks, and two development banks performing banking activities in Nepal. The first bank in the history, Nepal Bank Limited established in 1937 stagnated with its monopoly up to 1966 after which another commercial bank, Rastriya Banijya Bank initiated. Agriculture Development Bank and Nepal Industrial Development Bank were established accordingly in 1967 & 1968 to meet the increasing need of banking practices. At the time, there were no micro credit development banks, finance companies, co-operatives and NGOs with the limited banking transactions. As the financial sector liberalized in 1980, financial sector made a hall mark progress both in terms of the number of financial institutions and beneficiaries of the financial services. By the year 2012, NRB licensed bank and non-bank financial institutions reached to 260, out of them 32 are commercial banks, 88 Development Banks, 69 Finance Companies, 24 Micro Finance Development Banks, 16 Saving & Credit Cooperatives (Licensed by NRB) and 36 NGOs (Financial Intermediaries).

The statute requires all institutions accepting deposit from the public in Nepal to be licensed by Nepal Rastra Bank.

SN	Name of the Institution	Date of Operation	Head Office
1	Nepal Bank Limited	15-11-1937	Kathmandu
2	Rastriya Banijya Bank	23-01-1966	Kathmandu
3	Nabil Bank Limited	16-07-1984	Kathmandu
4	Nepal Investment Bank Limited	27-02-1986	Kathmandu
5	Standard Chartered Bank Limited	30-01-1987	Kathmandu
6	Himalayan Bank Ltd	18-01-1993	Kathmandu
7	Nepal SBI Bank Limited	7/7/1993	Kathmandu
8	Nepal Bangladesh Bank Limited	5/6/1994	Kathmandu
9	Everest Bank Limited	18-10-1994	Kathmandu
10	Bank of Kathmandu Limited	12/3/1995	Kathmandu
11	Nepal Credit and Commerce Bank Ltd	14-10-1996	Rupandehi
12	Lumbini Bank Limited	17-07-1998	Chitwan
13	Nepal Ind. and Commercial Bank Ltd	21-07-1998	Biratnagar
14	Machhapuchhre Bank Limited	3/10/2000	Pokhara
15	Kumari Bank Limited	3/4/2001	Kathmandu
16	Laxmi Bank Limited	3/4/2002	Birgunj
17	Siddhartha Bank Limited	24-12-2002	Kathmandu
18	Agriculture Development Bank Limited	16-03-2006	Kathmandu
19	Global IME Bank Limited	2/12/2006	Birgunj
20	Citizens Bank International	2/12/2006	Kathmandu
21	Prime Commercial Bank Limited	21-09-2007	Kathmandu
22	Sunrise Bank Limited	12/10/2007	Kathmandu
23	Bank of Asia	12/10/2007	Kathmandu
24	NMB Bank Limited	2/5/2008	Kathmandu
25	DCBL Bank	25-05-2008	Kathmandu
26	Kist Bank Limited	7/5/2009	Kathmandu
27	Janta Bank Nepal Limited	2010	Kathmandu
28	Mega Bank Limited	2010	Kathmandu
29	Commerz and Trust Bank Nepal Limited	2010	Kathmandu
30	Civil Bank Limited	2010	Kathmandu
31	Centuary Commercial Bank Limited	2010	Kathmandu
32	Sanima Bank Limited		Kathmandu

(Source: Nepal Rastra Bank, Bank & Financial Statistics, 2013, Vol: 53)

Nepal Rastra Bank as the bank of the banks and the government bank has been granted the full authority to regulate and develop the banking sector in Nepal. Commercial banks have to strictly follow the rules and regulations issued by the NRB. The establishment of the NRB was the major step in the evolution of the financial institutions. The commercial banks are supervised by the Bank Supervision Department while the rest of these institutions are supervised by Financial Institution Supervision Department. Initiation of the NRB provided the special impetus for the development of the financial institution.

1.1.2 Nepal Rastra Bank as a Central Bank

Nepal Rastra Bank (NRB), the central bank of Nepal was established in 26th April 1956 (14th Baishakh 2013 B.S.) as per the Nepal Rastra Bank act 2012 B.S. It was established to discharge the central banking responsibilities including the development of the embryonic domestic financial sector. Since then, there has been a huge growth in both the number and the activities of the domestic financial institution. NRB as the central bank of the country is established with the responsibilities of the management & supervision of the monetary and the credit system of the country, NRB has been given wide regulatory responsibilities and the authorities under the various provisions.

NRB has set up with the full ownership of the government of Nepal and an autonomous body with the main objective of stabilizing the economy and the entire financial system of the country. Unlike the other commercial banks, it neither accepts deposits nor provides loan to the public. But it accepts the credit of Government of Nepal & its offices, commercial banks and other financial institutions and provides loan to the Government of Nepal and financial institution as they need and demand. NRB is committed to strengthen and ensure the stability and soundness of the banking system. NRB issues directives to the commercial banks instructing them to fulfill its regulatory requirements of the country.

Under the existing structure of Nepal Rastra Bank, the directives applicable to the commercial banks are primarily issued from two departments viz. Bank and Financial Institutions Regulation Department and Foreign Exchange Management Department. The Foreign Exchange Management Department regulates the foreign currency transactions of the bank while the Bank and Financial Institutions Regulation Department covers the rest. At present NRB is regulating financial sector through its following legal bodies.

- Nepal Rastra Bank Act, 2012
- Foreign Exchange Act, 2019
- Bank & Financial Institution Debt Recovery Act, 2058
- Directives, Guidelines & Circulars-Unified Directives 2062
- Banking and Financial Institution Act, 2063.

1.1.3 Profile of the Sample Banks

Nepal Bank Limited

Nepal Bank Limited is the first conventional bank in the history of banking in Nepal was initiated in 15th November 1937 inaugurated by the late king Tribhuvan with the full government ownership. This marked the beginning of an era of formal banking in Nepal. It has authorized capital of NPR 6000 million and issued & paid up capital of NPR 380 million. There were only 10 shareholders when the bank first started. From the very conception and its creation, Nepal Bank Limited was as joint venture between the government and the private sector. At present, the capital formation of the bank consists 40% is subscription of the government and the balance 60% is offered for the sale to private sector.

In the absence of any bank in Nepal the economic progress of the country was being hampered and causing inconvenience to the people and therefore with the objective of fulfilling that need by providing service to the people and for the betterment of the country, this law in hereby promulgated for the establishment of the Bank and its operation. The Bank's objective is to render services to the people whether rich or poor and to contribute to the nation's development will also need the support and best wishes of all.

Nepal Bank Limited was experiencing difficulty in terms of unpaid loan and felling profits. Therefore, the bank has been put under control of Nepal Rastra Bank and hired the services of The Bank of Scotland (Ireland) Ltd., ICC Consulting effective

from 22nd July 2002 for the management of the bank for an initial period of 2 years. The contract was renewed subsequently for one more year and was extended till July 2007. The team of consultants comprises mix of both foreign and Nepali nationals. In its effort to restructure the bank, the ICC team has been successful in providing leadership to return the bank to its former position of financial leadership within the country. Numerous systems in every functional area of bank management e.g. Credit, Accounting, Human Resources, Internal Audit, and Treasury have been modernized. The bank has been succeeded in impressive NPA recovery with the massive reduction in non-performing loan.

To meet the raising competition of the commercial banking in Nepal, the banking system of NBL has been computerized. To reduce the operating cost, HR department of bank has reduced its manpower to control the overstaffing. Recently, the bank has initiated its Any Branch Banking System (ABBS) too.

Vision Statement

To remain the leading financial institution of the country.

Mission Statement

Nepal Bank Limited seeks to provide an environment within which the bank can bring unique financial value and services to all customers. It will be a sound institution where depositors continue to have faith in the security of their funds are receive reasonable returns; borrowers are assured of appropriate credit facilities at reasonable prices; other service- seekers receive prompt and attentive service at reasonable cost; employees are paid adequate compensation with professional career growth opportunities and stockholders receive satisfactory return for their investment.

Values Statement

At Nepal Bank Limited, we believe that our banking should be based on: Respect, service and safety for the customers we serve respect, reward and opportunity for the people with whom we work. Respect, co-operation and support for the economic community of Nepal.

Objectives

Nepal Bank Limited has the following objectives:

- Continue to maintain leading share of banking sector with a significant presence in all major geographical areas in the country.
- Provide competitive and customer oriented banking services to all customers through competent and professional staffs.
- Reclaim leadership within the national financial community.

Nabil Bank Limited

Nabil Bank Limited was established in 12th July 1984 as the first joint venture bank in Nepal with the venture of Dubai International Bank Limited, Dubai. Nepal Arab Bank Limited is the official name of the Nabil before it is renamed in 31st December 2001. It has authorized capital of NPR.2100 million and issued & paid up capital of NPR 2029.769 million. Nabil is the pioneer in the history of the commercial banking in Nepal in innovating and introducing new products and services. Nabil is operating most part of the Nepal. Its head office is situated at Kantipath, Kathmandu. Nabil is only the bank in Nepal having its presence at Tribhuvan International Airport. As it is the first joint venture bank, it has a wide range of networks in Nepal

Standard Chartered Bank Nepal Limited

Standard Chartered Bank Nepal Limited has been in operation in Nepal since 1987 when it was initially registered as a joint-venture operation with the Grind lays Bank Limited, London. It was renamed from Nepal Grind lays Bank Limited in 13th July 2001. Today the bank is an integral part of the Standard Chartered Group who holds 75% ownership and remaining is hold by the Nepalese promoters. The bank entitles the largest internationally ventured bank in operation in Nepal. It has authorized capital of NPR 2000 million and issued & paid up capital of NPR 1610.168 million.

Standard Chartered Bank group is operating its service more than 50 countries in the world. As an integral part of the only International Banking Group currently operating

in Nepal, the Bank enjoys an impeccable reputation of a leading financial institution in the country. With 20 points of representation (17 Branches and 12 ATMs) across the country, Standard Chartered Bank Nepal Ltd. is in a position to service its customers through a large domestic network. In addition to which the global network of Standard Chartered Group gives the Bank the unique opportunity to provide truly international banking in Nepal.

The Bank has been the pioneer in introducing customer focused products and services in the country and aspires to continue to be a leader in introducing new products and highest level of service delivery. It is the first Bank in Nepal that has implemented the Anti-Money Laundering policy and applied the 'Know Your Customer' procedure on all the customer accounts. It offers a full range of banking products and services in Wholesale and Consumer 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.

The bank is socially responsible to the staff & communities in which it operated. The bank has offered a huge contribution in the areas of health & education. The Bank has undertaken "Living with HIV" and "Seeing is Believing" since 2003. The bank has also awarded by the various awards from various financial and non-financial institutions. "Best Presented Accounts" award by the ICAN, "The Best Company, Financial Institutions" by The BOSS, "Bank of the Year 2002 Nepal" by the Banker Association, "Commercially Important Person (CIP)" by Government, Ministry of Finance and "National Excellence Award 2002" by FNCCI awarded in various years.

Lumbini Bank Limited

Lumbini Bank Limited is the first Regional bank of Nepal, which was established in 1998. It has started its operation from the Narayangarh as a head office at Pragatipath; corporate office at Durbarmarg, Kathmandu and with the other three more places

Hetauda, Biratnagar and Butwal as branch offices. Lumbini Bank Limited is a commercial bank offering a wide range of banking solutions in Nepal.

It has authorized capital of NPR 1600 million and issued & paid up capital of NPR 1430 million. The ownership pattern of Lumbini Bank Limited consists 30% of Public Institutions, 33.77% of Private Institutions, 6.23% of Individuals and 30% of General Public. Lumbini Bank assures its excellence in the offering of its products and services. Lumbini Bank Limited has, as a part of an ongoing process restructured various products to cater to the retail segment. Backed by the state-of-the-art technology and experienced professionals adopt in modern banking management, Lumbini Bank Limited strives to make banking simple, fast and customer friendly.

With the diversifying in its services, Lumbini Bank is offering extended banking of 9 am to 7 pm is providing SMS and 365 days banking service to the customer. Its service is backed by the various types of loan such as Working Capital Loan, Term loan, Overdraft/Hypothecation, TR Loan, Export/Import Loan, Priority Sector Loan, Deprived Sector Loan, Loan against Government Securities, Loan against FDR, Loan against Bank Guarantee, Personal Loan, Hire Purchase Loan, Housing Loan, Consortium Finance etc.

Nepal Industrial & Commercial Bank (NICB)

Nepal Industrial & Commercial Bank Limited (NIC Bank) commenced its operation on 21st July 1998, is the first commercial bank in the country to be capitalized at NPR 500 million with the authorized capital of NPR 1000 million. Out of the total 500 million capitalizations, the promoter group of the bank holds 65% share and 35% is issued to the public. The Bank which has been in profitable operation from its inception, has managed robust growths in its overall business and profitability during the recent years. The Bank offers a complete suite of commercial banking products and services including transaction banking, international trade finance, business banking, project finance, corporate banking and consumer banking. NIC Bank is one of the most widely held banking companies in Nepal with close to 35,000 shareholders.

The Board, supported by the management team comprising of young, enthusiastic professionals, has successfully embarked on a multi-pronged strategy of consolidation, administrative streamlining, human resource up-skilling, strategic cost management, focused non-performing assets management, balance sheet and treasury management and controlled asset growth in tandem with strengthening the credit culture and strategic marketing and sales.

The Bank's achievements following these strategic measures are considered well-reflected in recognition by Nepal Rastra Bank, the central bank of Nepal, as the highest rated Bank amongst all private sector commercial banks in the country, based on the internationally recognized "CAMELS" rating, during an assessment done in April 2005. The Bank is seriously considering adopting capital adequacy norms under the Basel II accord to the extent applicable to the Nepalese banking industry well before it becomes a regulatory requirement.

The Bank believes in continuously offering new and value added services to customers with commitment to quality and value to clients. Accordingly, the Bank has been in the forefront in launching innovative & superior products with unique customer friendly features with immense success.

A Comparative Sheet Showing the Capital Status of the Banks

(in 'million)

	NBL	NABIL	SCB	LBL
Authorized Capital	6000	2100	2000	1600
Issued Capital	4000.000	2029.769	1610.168	1430.000
Paid-Up Capital	380.383	2029.769	1610.168	1430.000

1.2 Statement of the Problem

Nepal is one of the least developed countries of the world with the very lower per capita income. According to the economic survey, more than 38% of the total population is below the poverty line. The major cause of this chronic problem is the lack of economic development or the slow rate of the national economic growth.

Capital resource is the prime source of the economic development of the country. Economic development of a country succeeds only when the development of the capital formation mechanism exists. Banking, especially the commercial banking sectors can flourish the capital resources in the country. Commercial banks do collect or deposit necessary capital from the people in the different parts of the country. They powerfully help in the creation of the capital resources for the national investment.

But, Commercial banks have not formulated their investment policy in an organized manner. The implementation of the investment policy is not effective. The credit extended by the commercial banks to agriculture and the industrial sector is not satisfactory to meet the present growing needs. Granting loan against in deposit, over valuation of goods pledge, land & building mortgaged, risk averting decision regarding loan recovery and negligence in recovery of overdue loan is some of the basic loopholes and the result of unsound investment policy sighted in the banks. Due to this fact, the Non-Performing Loan remains a very serious problem which in turn affects the efficiency of the commercial banks. Therefore, an appropriate investment policy is the basic need of all the commercial banks.

Commercial bank's investment has been found to be have lower productive due to the lack of supervision regarding whether there is a proper utilization of their investment or not. NRB as a bank of the banks formulates plans, policies, guidelines, rules and directives to control, to supervise and to promote the banking sector. Commercial banks have to strictly follow the rules and directives issued by the NRB. But, lack of farsightedness in policy formulation and absence of strong commitments towards its implementation has caused many problems to commercial banks.

Therefore, the directives themselves are not important unless properly implemented. The rules & regulations are only the tools of NRB to supervise and monitor the financial institution and they are worthless until they could not implement by the concerned institutions.

1.3 Focus of the Study

Nepal Rastra Bank issues directives on various aspects to regulate and promote the financial institutions. NRB as a bank of the banks issues directives to ensure that banks are investing the public deposit in right way. This research study specifically focused on the directives issued by NRB on Non-Performing Loan and its implication, implementation and impact over sampled Commercial banks namely Nepal Bank Limited, Standard Chartered Bank Nepal, Nabil Bank Limited, Lumbini Bank Limited and Nepal Industrial & Commercial Bank. Moreover, this research study tries to attempt the relationship between Non Performing Loans, Loan Loss Provision and Total Loan & Advances.

1.4 Objectives of the Study

Each and every of the research study posses a certain objective. The research without any specific objectives will be worthless. This research study entitled "Non-Performing Loans of Commercial Banks (A Comparative Study of the Selected Commercial Banks)" highlights to attempt the following objectives:

1. To find the status of non-performing loan and the impacts that it has done with the Loan Loss Provision.
2. To find out the relationship between non-performing loan, loan loss provision and total loan and advances
3. To analyze the Non-Performing Loan of the sampled banks and to suggest necessary recommendations on the base of research findings.
4. To examine the impact of NRB guidelines (Non-Performing Loan) on financial performance of the sampled banks.

5. To examine whether NRB directives are being actually followed or not in respect to the Non-Performing Loan by the sampled banks.
6. To examine whether the implementation of NRB directives are being monitored or not.

1.5 Limitations of the Study

This study is the partial fulfillment for the Degree of Masters in Business Studies, Tribhuvan University. So, it may not be applicable and suitable for all the aspects. Meaning that, the study limits its findings & recommendations to a specific purpose that is on Non-Performing Loans and its Impact. The main limitations of this study are presented below.

1. The findings of this research study depend upon the data and information of a Five Years time horizon.
2. This research study concentrates only on the NRB directives specific to Non-Performing Loan. Also, the researcher only uses data and information of the sampled commercial banks.
3. The research study based upon the secondary data and information mostly. Hence, the truth of this research will depend on the reliability of the data provided by the concerned departments.
4. The researcher will use statistical tools wherever needed. Hence, drawbacks and weakness of those tools are also the limitation of the study.
5. The statistical tools like average, standard deviations, correlation, etc used in the research are calculated using the software, Microsoft Excel. Hence the correctness of the result depends upon of the accuracy and reliability of the software.

1.6 Organization of the Study

This study will be classified into five different chapters viz. Introduction, Review of the Literature, Research Methodology, Data Presentation and Analysis, and Summary, Conclusion & Recommendations.

Chapter - I Introduction:

The first chapter introduction includes the overall background of the study subtitled General Background, Banking in Nepal, Nepal Rastra Bank as a Central Bank, Profile of the Selected Banks for the Study, Statement of the Problem, Objectives of the Study, Focus of the Study, and Limitations of the Study.

Chapter - II Review of Literature

The second chapter Review of Literature enables the reviews of the previous studies with respect to the study. This is also devoted to the theoretical analysis and the brief reviews of the related journals, literature, and articles.

Chapter - III Research Methodology

Research Design, Population and Sample, Nature & Sources of the Data, Data Collection & Analysis Procedures and Analytical tools used for the study have been included in the third chapter.

Chapter - IV Data Presentation and Analysis

The Data Presentation and Analysis chapter includes presentation and analysis of the relevant secondary data and information through a definite course of the methodology. For the analysis of the collected data, appropriate mathematical, financial as well as statistical tools are used as per their necessity and findings of the study are included.

Chapter - V Summary, Conclusion & Recommendations

The last chapter Summary, Findings, Conclusion & Recommendations will contain the findings, summary & conclusion and necessary recommendations of the overall research study.

CHAPTER-II

REVIEW OF LITERATURE

2.1 Introduction

Review of literature is the fundamental part of research work, which describes what research studies have been conducted in the past and what remains to be done. Literature review is basically a "stock taking" of available literature in the selected research topic. The literature review thus provides a useful knowledge of the status of the research topic. In this section, the researcher has tried to focus on the Role of NRB in Financial System, Introduction to the Non-Performing Loan, Loan Loss Provision, and reviews of various related articles, journals and unpublished thesis.

2.1.1 Role of NRB in Financial System

Nepal Rastra Bank being the regulator and the supervisor on the whole of the financial system of Nepal, it has got clear and mandatory responsibilities as prescribed in the Nepal Rastra Bank Act, 2058. These responsibilities have been assigned to it in order to prevent the interest of the depositors and stakeholders of the financial system. The clear objectives and responsibilities of the bank as specified in the NRB Act 2058 in relation to financial system are as follows:

- To promote stability and liquidity required in the banking and financial sector.
- To develop a secure, healthy and efficient system of payments.
- To regulate, inspect, supervise and monitor the banking and financial system.
- To promote the entire banking and financial sector of Nepal and to enhance public credibility towards the system.

2.1.2 Vision, Mission, Core Values, Strategic Objectives and Strategic Guidelines (NRB Strategic Plan, 2006:2).

Vision: A modern, dynamic, credible, and effective Central Bank.

Mission: Maintaining macro-economic stability through sound and effective monetary, foreign exchange, and financial sector policies.

Core Values (CREATE)

C = Credibility

R = Responsibility

E = Efficiency

A = Accountability

T = Transparency

E = Effectiveness

Strategic Objectives

- Formulate necessary monetary and foreign exchange policies in order to maintain price and balance of payments stability for sustainable development of the economy and managing it;
- Promote financial stability and ensure adequate liquidity in the banking and financial system;
- Develop a secure, healthy, and efficient currency management and payments system;
- Regulate, inspect, supervise, and monitor the banking and financial system; and
- Promote and develop the overall banking and financial system, and enhance accessibility and its public credibility.

Strategic Guidelines

- Develop a long-term vision of the bank and implement it through medium-term and annual strategic plans.
- Formulate and implement sound and effective monetary, foreign exchange, and financial sector policies.

- Formulate and implement sound, efficient, and effective regulatory and supervisory system to make financial system healthy and stable.
- Reengineer the organizational structure of the Bank.
- Formulate and implement strategic human resource planning and development.
- Develop and implement management information system.
- Automate and modernize payments and settlement system of the country.

2.2 Non-Performing Loan: An Introduction

Commercial banks should categorize their loans and advances according to their perceived risk and other relevant characteristics; this process is known as loan classification. Banks used to review their loans portfolios and assign loans to categorize them on the base of perceived risk and other factors. This would help in monitor the quality of their loans portfolios and when necessary, to take the remedial actions to counter the deterioration in the credit quality of the loan portfolios. According to the prudential rule provided in Bank & Financial Institution Debt Recovery act 2058 by NRB effective from 1st Shrawan 2058, banks should have to classify their loans and advances into following four categories on the basis of ageing of the principle.

Pass Loan

Loans and advances not past due and past due up to 3 months shall be included in this category. These are classified and defined as performing loan.

Sub-Standard Loan

Loans and advances past due for a period of over 3 months to 6 months fall in this category.

Doubtful Loan

Loans and advances past due for a period of over 6 months to 1 year are Doubtful loan.

Loss

Loans and advances past due for a period of over 1 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 considered as loss.

Such loans & advances falling in the category of Sub-Standard Loan, Doubtful Loan and Loss Loan are considered as Non-Performing Loan. A Non-Performing Loan is the loan that is in default or in close to being default. A Non-Performing Loan has the following features.

- loan that is not earning income,
- full payment of principle and interest is no longer anticipated,
- principle or interest is 90 days or more delinquent or
- the maturity date has passed and payment in full has not been made.

The term Non-Performing Loan has different meanings. According to the International Monetary Fund (IMF), "A loan is Non-Performing when payments of interest and principle are past due by 90 days or more, or at least 90 days interest payments have been capitalized, refined or delayed by agreement or payments are less than 90 days overdue, but there are good reasons to doubt that payments will be made in full".

Similarly, in some countries, non-performing loan means the loan that is impaired. In some other countries, it means that the payments of interest and principle are past due, but there is a significant difference among the countries as to how many days a payment should be in arrears. Anyway, the common meaning of non-performing loan is that the payments are more than 90 days past due especially for retail loans.

As per the directives issued by NRB, at the end of each quarter i.e. at the end of *Asoj*, *Poush*, *Chaitra* and *Ashadh*, banks should prepare their statement of outstanding Loan & advances classified on the basis of ageing and submit the particulars to the Banking Operation Department and Inspection & Supervision Department of NRB within one month from the end of each quarter.

Additional conditions for which the loan is considered as Loss Loan (Unified Directives 2004:9)

In case of the loan having any or all of the following condition, the loan amount is regarded as Loss loan. The conditions are:

- Inadequate collateral amount,
- Insolvency of debt holder or the borrower is declared to be bankrupt,
- The borrower is absconding or cannot be found,
- Miss use of loan or the loan has not been used for the purpose originally intended,
- Purchased or discounted bills are not realized within 90 days from the due date or
- Loans provided to the borrowers included in the blacklists and where the Credit Information Bureau blacklists the borrower.
- Owing to non-recovery, if initiation of auction of collateral passed six months or recovery process is under litigation

2.3 Loan Loss Provision

In short, loan is the money lent at interest. But in commerce & finance, the term loan is used as the transfer of money or other properties on promise to repay along with the interest, usually at a fixed future date. Loan and advances are the primary source of income and the most profitable of all the assets of the banks. They occupy a largest portion of revenue of the bank. Hence, banks need to be careful about the safety of such loans and advances because banks may be influenced by the bad debts. From an accounting perspective, loans should be recognized as being impaired and necessary provisions should be made, if it is likely that the bank will not be able to collect all the amounts due i.e. principle and interest.

Loan loss provision is an arrangement made in order to safeguard from the bankruptcy if loaned amount is not recovered or if the debtors default on repayment

of loan. It provides buffer against future unexpected losses. Loan loss provision is thus a method that banks used to recognize a reduction in the realizable value of their loans. Banks are expected to evaluate credit losses from their loan portfolios on the basis of available information- a process that involves a great deal of judgment and is subject to opposing information. Banks are directed to make a provision as per the classification of the loans into four categories viz. pass loan, sub-standard loan, doubtful loan and loss loan as per the following system.

Provision for Loan Loss

Loan Classification	Time Period	Loan Loss Provision
Pass Loan	Less than 3 months	1%
Sub-Standard Loan	3 Months to 6 months	25%
Doubtful Loan	6 months to 1 year	50%
Loss Loan	More than 1 year	100%

Provisions made for the performing loan i.e. pass loan is considered as general loan loss provision and the provision made for the non-performing loan is considered as specific loan loss provision.

Additional guidelines for the Loan Loss Provision

- a. For restructured or rescheduled loan, loan loss provision should be at least 12 percent.
- b. If priority sector or deprived sector loan, which is insured or guaranteed priority sector credit has been rescheduled or restructured, provision should be only 25 percent of above point (a) such loans.
- c. If interest and principle of restructured or rescheduled loans have been served regularly since last two years, such loans can be converted in pass loan.

- d. Priority sector or deprived sector loans, which are not insured, should be provisioned as per general provision (i.e. stated above in the loan loss provision).
- e. Where the loan is extended only against personal guarantee, a statement of the assets and equivalent to the personal guarantee amount not claimable by any other shall be obtained. Such loans shall be classified as per above and where the loans fall under the category of Pass, Sub-Standard and Doubtful, in addition to the normal loan loss provision applicable for the category, an additional provision by 20 percent shall be provided. Classification of such loans and advances shall be prepared separately. Hence the loan loss provision required against the personal guarantee loan will be 21%, 45% and 70% for Pass, Substandard and Doubtful Loan category respectively.

2.4 Review of the Articles

2.4.1 NPL in the Nepalese Financial System and the Role of NRB and Judiciary System in Resolving the Problem

B. R. Dhungana in his article in the 42nd Souvenir of Rastriya Banijya Bank has stated that- A lot of defaulters in the loan portfolio indicates poor and weak health of the institution. If there are such types of weak banks and financial institutions, they will not be able to finance the resources as needed by the private sectors to boost up the economy. Therefore, the system should be managed in the disciplined way and the players of the system should maintain and exhibit financial discipline in each and every aspect. If the financial discipline is weak in the system, there will be lapses either lending or recovery and there will be a reflection of it in the form of weak portfolio, i.e. high level of NPL in the system is an indicator of financial crisis and it should be resolved as soon as possible. To overcome from this situation, great effort is needed in the recovery of loan and advances by the banks and financial institutions themselves. Recovery of distress loan is a challenging task for the banks and financial institutions. This is a disposal; sale or acquiring of borrower's assets and legal

proceeding is likely to happen in most of the cases. In the banking experience, almost in all the big loans of the banks, borrowers are appealing in the court to restrain the recovery process. Therefore, to materialize the recovery process for banks and financial institutions, the role of judiciary has been extremely important in Nepal. This is because the stay over can restrain the recovery process and vacant of stay orders can facilitate banks too recover the loan.

About the Nepalese banking system and the level of NPLs, Dhungana forwards, "In order to make the financial system interrupted, banks should have all the loans as performing assets i.e. good loans. Good loans and advances are called performing assets. Banks and financial institutions always try to make them sound, sustainable, profitable and healthy within the system. Sometimes, unfavorable internal economic conditions and other discrepancies affect the quality of such assets, give birth to non-performing loans and ultimately invite the financial crisis. In Nepalese case, the quality of loans has been deteriorated mostly not because of the unfavorable economic conditions of the nations but because of the bad intention of the borrowers. This is because, if we study the defaulted loan files of the banks we conclude that most of the loans had been defaulted from the long back when the economic situation was favorable to the borrowers and also economy was achieving a higher level of economic growth. If we see the scenario of defaulted borrowers, they have not gone to repay the loan even they have different options to pay. If they were serious to repay the loans, they should have liquidate their personnel assets and cut down the cost for luxurious life in order to repay the banks debt."

Dhungana's statistical analysis shows that, "The government of Nepal has been endeavored a lot of efforts to make the Nepalese financial sector healthy and prudent through various reform initiatives. Despite various efforts within program, the level of NPL in the Nepalese Banking System has not come down to an acceptable level. The efforts to date succeeded only to reduce the NPL to some extent but it is still not sufficient to maintain the health of the desired level. The level of NPL was around 30 percent in 2003 and is continuously decreasing thereafter with the implementation of

FSRP (Financial Sector Reform Program); it has decreased to 18.04 percent in July 2005 and 14.22 percent in July 2006."

Further he states that, "If we analyze the share of NPA of the banking system, out of the total NPL, Rastriya Banijya Bank & Nepal Bank Limited (RBB & NBL) hold the 60 percent of NPL of the system. Unless and until the NPL of these banks will not decrease drastically, the NPL of the entire banking system will not come at the prudent level. While analyzing the NPA portfolio of these two banks, the severity of problem is increasing the bad category of loan and bad loans with big borrowers is increasing irrationally. Observing the quantity of non-recoverable loans, banks have begun to write off the loan. It is completely a loss to the banks. The cost is directly or indirectly is borne by the government, as the government owns both the banks. It is clear that if the money from these willful defaulters will not be recovered, the government will have to inject around Rs. 25 billion from the budget to cover the negative net worth of NBL and RBB.

Dhungana in his article has pointed the reasons for this higher level of NPL is due to the two major factors i.e. Internal & External factors. "First the internal factor which mainly comprises of weakness of the particular bank or financial institution in the credit management and oversight deficiencies in this regard. If preventive measures are applied at the institutional level, the banks themselves to some extent can resolve the problem of NPLs. Similarly, another aspect relate with the external factors which are beyond control of the banks and financial institutions.

He further points, deficiencies in risk management and the management oversight within the banks is the prime problem for these NPLs. This comprises poor system, poor procedures & the credit culture and lack in policy level. Poor recovery efforts even the loan is categorized under bad. Lack of supervision by the bank itself and weak internal controls in the bank, this comprises of weak supervision & monitoring, lack of reward & punishment system and poor MIS (Management Information

System) to monitor and control. Similarly, lack of financial discipline in borrowers and poor legislative regime in this system & lack of bankruptcy law and the lack of judicial support to recover the loans are other facts for the loan default. Lack of supportive institutions helping to reduce the NPA: such as lack of assets Management Corporation to manage the distressed loans, lack of proper training center, lack of commercial bench to deal with the banking cases, lack of other financial advisory service.

NRB is doing its best to make the financial system pro-active to deal in this matter. It has initiated various measures to contain the NPL in the desired level. The activities such as implementation of prudential regulations, compulsions for formulation of credit policy guidelines and loan write off procedures, enhancing blacklisting and credit information system, initiation of risk based supervision, enforcing new Bank & Financial institution Act, implementation of NRB Act, establishment of Debt Recovery Tribunal, launching of compressive financial sector reform program has contributed a lot to improve the financial system and financial discipline in this system.

He concludes that, NRB and the government of Nepal have initiated various measures to control the level of NPL and improving the financial discipline in the system under the financial sector reform program. The court has also come up to with supportive initiatives in these areas now days. But the efforts made to the date have not seemed adequate to transform the mentality, behavior and practices in the system. Lastly, the regulators and the supervisors of the financial system should be responsible in their areas as per act and the efforts initiated by them in order to prevent the system and to store financial discipline should be supported and helped by all the related state agencies. It is necessary for building a good nation, discipline society and prudent & sound financial system (Rastriya Banijya Bank in 42nd years, 2006:29).

2.4.2 Problems of Debt Recovery in the Governmental Banks

Dr. Govind Bahadur Thapa (in his article in the annual publication of NRB's 51st issue, 2008) writes that the major cause of the financial crisis in the two giant commercial banks Nepal Bank Limited and Rastriya Banijya Bank no doubt is the inefficiency in the credit management. This is because of the big corporate house of Nepal borrowed the loan more than the project or business value and the large portion of the bank loan had been used to promote their lifestyle & family expenditure. At the time of repayment of loan, they shown various problems and failure in business in payment of debt and demanded the interest, tax and total principle value rebate with the banks and government. In another side, the increasing Maoist insurgency in the country made a wide trouble in recovery process, which in whole created a major problem in recovery of the loan from the defaulters.

Due to the inefficiency of credit department and management in these two banks, the level & the ratio of loans and advances increased more than the recovery. Irresponsibility and unaccountability of the top-level management body, top-level authorities and the officers of the bank, the loan has been issued violating the formal process and rule, which create loan recovery process very hard. The World Bank Report also shows that the bank authorities were also co-operative with the businessman and the individual in issuing debt as per their demand without any provisional approach. As a result, the non-performing loan in these two governmentally owned banks has increased quite large and reached in crisis.

Further *Thapa* states; International Monetary Fund (IMF), NRB and the World Bank (WB) were co-operatively joined their hands to recover the loan and reform the banks. The borrowers who were intentionally not paying the loan were blacklisted. The mortgaged properties were brought into the auction process. NRB sent a proposal to the government to seize the passport of the defaulters. From this, some of the political parties' leaders were also threatened. That's why, government did not paid well attention in NRB's proposal and all the efforts made by the IMF, WB and NRB

been paralyzed. As a result, management of these two banks has been handed to the foreign management team by NRB (Nepal Rastra Bank in 51st years, 2006:12).

2.4.3 NRB Supervision Process & Method

Surendra Man Pradhan (in his article published on the 50th annual issue of NRB, 2007) has expressed his ideas about the NRB laws, directives and its implementation by the commercial banking sector: Prior to the inception of Nepal Rastra Bank Act, 2058, the supervisory role of Nepal Rastra Bank had been governed by section 23 A of Nepal Rastra Bank Act 2012 which had vested NRB with all the authority to inspect and supervise all the banks & financial institutions operating in the country. It had authorized NRB to inspect and supervise any financial institutions at any time it mandatorily binding upon all the directors, office bearers and employees of the bank & financial institutions to make available all the information, reports, and all the documents sought by Nepal Rastra Bank.

Section 22 of the NRB Act, 2058 had also authorized NRB to issue any directives as regards legalization of money, banking, operation, and credit flotation. Similarly, penalty provisions under section 32 and 34 of the same Act had empowered Nepal Rastra Bank to lay down any penalty specified in these sections. To sum up, here it would be better to mention some issues in brief which had contributed significantly in making NRB's supervisory functions ineffective in the past.

Regulatory Fragmentation

The banking sector in Nepal had been operating under several laws and suffering an excessive segmentation that is not conducive to the development of sound competition across the country. Undue political interferences and excessive government involvement in the operation of the banking sector had created adverse effect on the. Development priorities are reflected in many regulations. Even though interest rate spread had been prevalent. Commercial banks have also been obliged to

go for directed lending. Access to banking services in rural areas remains concern of the authorities. Hence, these regulations also constrain effective banking operations.

1. Poor Governance and Transparency Procedures

Good corporate governance principles and transparency practices were almost non-existent in the past resulting into many instances of conflict of interest, insider trading and connected lending. Several government bureaucrats and Nepal Rastra Bank officials, including some involved in banking regulation and supervision, held positions on bank boards as government as government representations. Bank boards had no lending shareholder and most of them lacked professionalism. Cross holding of the bank shares was also major concern. The government and Nepal Rastra Bank in some cases maintain close control over financial institutions activities and management through its ownership.

2. Poor Banking Culture

A good banking culture was almost non-existent. Prudential regulations did not require banks to define credit policy and procedures, and only quite a few banks had established satisfactory internal guidelines. Even if some kinds of financial analysis were made, credits were not disbursed on the basis of creditworthiness. Although there were regulations on capital adequacy, income recognition and loan loss classification and provisioning requirements, they were very much lenient and compliance status was not closely monitored. The legal framework for land records and bankruptcy were also inadequate. Court actions against defaulters used to be delayed and assets liquidations were rarely successful.

3. Limitation on Auditing & Accounting Compliances

Information on operations, performance and status of bank and other financial institutions or overall transparency of the whole financial system were very limited. Publishing of financial statements their performances and audit report etc. were not (and still are not in some cases) very regular. The prevailing weak accounting and auditing practices have also indicated that the timeliness and reliability of financial

data, particularly of NBL, RBB, NIDC and ADBL/N is extremely poor (Nepal Rastra Bank in 50 Years).

2.5 Review of the Journal

How Transparent of our Financial Institutions Are?

Reviewing the materials related to the research study, a report published in The Himalayan Times on 4th February 2009 issue about the reliability of the Commercial banks non-audited and audited financial reports.

Kuber Chalise in his journal on THT tried to disclose some great issues regarding the audited and non-audited reports of commercial banks. *Mr. Chalise's* Study reveals a yawning gap in the profit & loss ratio in the non-audited and audited financial reports. *Chalise* states, as there is a popular perception that financial institutions are transparent than any others, some cookie crumbles have been found on their non-audited and audited reports. There is found some unwanted differences and gaps between the audited and non-audited reports. "Instantly there is a significant 33.49% gap in the non-audited and non-audited accounts of a renowned bank. As per the non-audited report, the bank is in a question to post a profit of Rs. 1278.24 million. But the audited report that published around 6 months later reveals that the profit has raked only Rs. 850.16 million. The difference staged at 33.49%" *Chalise* codes referring Securities Research Center (SRCS) report. Similarly, the report states that one of the commercial bank which is preparing for float initial public offerings, has posted a loss in the non-audited report while the quantum of loss multiplied manifold in its audited one. The bank has shown a loss of Rs. 135.72 million in its non-audited report where the loss has climbed up to a whooping of Rs. 272.08 million beating 100.47% variation in its non-audited and audited report.

Radhesh Pant, the then President of Nepal Bankers Association (NBA) attributed his reason of such deviation due to the fundamentals of the Loan Loss Provision. Further,

he proofed it is due to the reason that at the time of reporting the non-audited report, the bank thinks that loan is either good or entails to a medium risk. But NRB the regulatory body may think it otherwise. And that leads gaping holes in the profit sheet. Chalise writes following Mr. Pant.

According to the NRB provision, all the financial institutions are obliged to publish their non-audited balance sheet immediately after the end of the fiscal year. The move aims to maintain the transparency in the financial players, which in turn helps to control the financial institutions to control the financial institutions. The study report of *Chalise* tries to focus out some of the remarkable issues regarding the financial reports of the commercial banks which in one hand is alerting all the stakeholders and in another hand has made attention to the researcher about the limitations of the secondary information used during the research study.

2.6 Review of the Unpublished Thesis

Shrestha, Sabitri (2003), entitled *Impact and Implementation of NRB guidelines on Commercial Banks (A Study of Nabil Bank Limited and Nepal SBI Bank Limited)*. *Shrestha* in her study mentioned that the new directives issued by the NRB have good impacts in long run more than its bad impacts on the various aspects. She states, "It is seen that the provision has been changed and the increased provisioning amount has decreased profitability of bank". It is because, the loan exposure has been cut down to customers due to the borrowers limits have been brought down by the NRB. It results decrease in interest income. Thus decreasing profitability has pushed lesser dividends to shareholders. As well, change in the single borrowers limits, all the commercial banks have to increase their core capital, which will increase the expenses.

A part from all these bad impacts, NRB directives are successful in long term to protect the banks from bad loan, which will protect the bank from bankruptcy as well as protect the deposits of depositors. Similarly, the accounting policy adopted by NRB will help to win the trust of concerned people such like shareholders, depositors

and employees etc. because of making it transparent, fair and true picture of business. She concludes; though the prudential directives issued by the NRB have cut down the profitability of the banks, the directives are very successful in pushing the banks towards financial prosper. Also she recommend, to offset the decreased profit of the bank, banks should adopt new technology, search other fee based business opportunities and must not depend only on interest income.

Shrestha, Niva (2004), entitled A study on Non Performing Loan and Loan Loss Provisioning of Commercial Banks with reference to NBL, NABIL, SCB. Main objectives of her study are to find out the proportions of non-performing loan, relationship between loan & loan loss provisioning and loan loss provisioning & profitability, factors that affects to accumulate the non-performing loans in selected banks. A brief problem and conclusion with recommendations made in her thesis are as follows:

She has pointed out the problems of commercial banks as "Commercial Banks /financial institutions in Nepal have been facing several policies and guidelines of NRB, political instability, security problem, poor information system, over liquidity caused by the lack of good lending opportunities, increasing non-performing loan etc. In the present Nepalese banks are facing problem of increasing NPA, more amount have to be allocated for loan loss provisioning". She further states, "Ineffective credit policies, political pressure to lend to uncreditworthy borrowers, overvaluation of collateral are the major causes of mounting non-performing assets in government owned banks."

She suggest that resolve the NPAs problems immediate remedial action for the recovering bad debts and hiring Assets Management Company, exploring the new areas of investment, more caution to taken while granting loans, efficient and professional credit appraisal, strictly follow the NRB directives and effective & efficient stringent of NRB and Credit Information Bureau (CIB).

Bhattarai, Shama (2005), entitled *Implementation of Directives issued by NRB: A Comparative Study of Nepal SBI Bank and NB Bank Limited*. Bhattarai in her study aims to find out the applicability and implementation process of NRB directives by the selected banks to examine the norms and the standards laid down by the NRB relating to the Loan Classification and Provisioning, to examine monitoring of implementation of the directives by NRB.

She found that the directives issued by NRB will lead the banks to a strong and healthy financial health. Both the banks will be able to withstand tough economic situations in the future with the adequate capital and provision for losses. She forwards though the directives will bring down the profitability of the bank they, however will help strengthen the bank's financial position, and help win the trust of the shareholders, depositors, and employees by making the business more transparent and fair. Ultimately, the changes in the directives will bring prosperity not only to the shareholders but also to the depositors, the employees and the economy of the country as well.

She concludes with her opinion that the directives issued by the NRB themselves are very strong to monitor and regulate the financial system of Nepal but they will be worthless until & unless they are properly implemented and examined. The directives issued by NRB should not be for the issuing them but a proper home works need to be done to combat the problems associated with the directives. Beside, the directives should not be issued just to meet the international standards rather they should be applicable in the context of the country.

Manandhar, Sunil (2006), entitled *Impact & Implementation of NRB Directives on Commercial Banks in respect to NBL, NABIL and RBB*. In his study report tried to find out the effects of the prudential directives issued by NRB to the CB's and their implementation. He has concluded both the negative and positive facts of NRB directives. He concludes that, NRB directives are successful in making the financial

system healthy and stronger in the long run. These directives have been able to protect the banking sector from bankruptcy. As well NRB directives are not only bringing prosperity to the banks but also to its shareholders, depositors, employees and also to the economy of the country as a whole. As Nepal is looking for entering to the WTO, and the regional economic integration, adaptation of international standards in the banking industry will make it efficient & competitive with the international banks.

Besides all these positive facts, the NRB prudential directives have some negative aspects also. Since Nepal is a developing country and has small market where banking history is not so old, adaptation of the international standards is not suitable and will be hard for compliance of international level norms. Strict disbursement of loan will reduce credit and as a result interest income will be affected. As well higher the portion of loan & advances results higher the level of loan loss provision, which would lead to get less return. As well increase in the operational procedures of the bank will increase the operational cost of the bank. Revision and frequent changes in directives leads to inefficient management.

He concludes, since for every topic there is always positive and negative aspects, one should adopt its positive aspect and well negative aspect should be considered and focused on how to take more benefit from it and for this we have to concentrate on implementation part.

Yadav, Ujjwal (2007), in his thesis entitled *A Case Study on Non Performing Assets- with special reference to Nepal Bank Limited and Rastriya Bank Limited* aims his objectives to specify general reasons of NPA in NBL and RBB and NBL, point out effectiveness of financial reform program in NBL and RBB and recommend to overcome the problems of two banks regarding the NPA's.

The share of RBB and NBL in the assets and liabilities of the banking sector is around 50%, comparative efficiency of both of these banks is not well. He focuses that the situation of deposit mobilization of NBL and RBB was focusing to the quality of loan rather than in the volume of loan. Both the financial institutions are able to reduce the level of huge level of NPL to minimum level. Similarly, after the implementation of the financial sector reform program NBL and RBB are able to earn profit from the 2061/062. Further credit financial indicators of these banks seem irrelevant in comparison to NRB standard. Also, various acts and regulations are enacted for the financial sector reform program but the implementation of policies and directives like directed sector credit is insufficient.

Barahi, Mila (2008), entitled A Comparative Study on NRB Directives & its implementation in Commercial Bank (A Case study of Everest Bank Limited, Nepal Bangladesh Bank and Lumbini Bank Limited) revealed that Everest Bank had risk averse attitude of the management or they have policy of investing low in the risky assets i.e. loan and advances as compared to NBBL and LBL because the loan and advances to total asset ratio of LBL, NBBL and EBL during the study period was appeared to be 52.3%, 47%, and 29.34% respectively. The EBL has higher proportion of the investment in risk free or nominally risky asset like treasury bills, National saving bonds. Similarly, the loans and advances to total deposit ratio of NBBL, LBL and EBL during the study period was found to be 57.63%, 56.35%, and 35.94% respectively. It indicates that EBL has the most consistent and variability during the study period whereas the NBBL has the higher consistent and variability as comparison to other two banks. LBL has the moderate level of consistent and variability.

Total loan of NBBL, LBL and EBL was found to be performing loan. Not only the public sector bank, even private sector bank like NBBL has higher proportion of non-performing loan. However, in recent years NBBL has shown significant decrement in

non-performing asset, which are the result of effective bank credit management and its efforts of recovering bad debts through the recovery of establishment of recovery cell.

2.7 Research Gap

Non-Performing Loan has been a very important issue for the entire banking industry in Nepal. The hundreds of research studies back banking sector but most of the research studies have conducted on the financial performance, dividend policy and in the area of risk and return. Very few studies are related to the Non-Performing Loan and Loan Loss Provisioning of the commercial banks. Going through the material related to the Non-Performing Loan, most of the research studies have found discussing the Non-Performing Loan of the two big government owned banks i.e. Rastriya Banijya Bank and Nepal Bank Limited. It is real fact that these two giant banks carry a huge amount of Non-Performing Loan but the studies done over these banks only couldn't reflect the true picture of overall commercial banks of Nepal. Hence researcher has attempted to fill this research gap by taking reference to Nepal Bank Limited, Nabil Bank Limited, Lumbini Bank Limited, Standard Chartered Bank Limited and Nepal Industrial and Commercial Bank.

Keeping this in mind, researcher of this study entitle "*Non-Performing Loans of Commercial Banks*" has tried to make a comparative analysis of four Nepalese locally promoted banks (including one from government owned) and a venture banks. Primary objective of this study is taken to find out the impacts and implementation procedures of NRB directives on NPL comparatively among the sample bank. This study also aims to provide the present issues, information and scenario regarding NPL in the Nepalese banking industry.

CHAPTER-III

RESEARCH METHODOLOGY

Research Methodology refers to the combination of the elements of task of the overall research study. Research Methodology consists of, research design, population & sample, nature & sources of data.

3.1 Research Design

Research design is the overall framework of the activities to be undertaken for the course of research study. It is a strategy for the research work. It guides about the collection and analysis of data, the research instruments to be employed and the sampling plan to be followed. The research design describes about the general work plan for collection, interpretation, analysis and the evaluation of collected data. It is the core-integrated system that is employed for overall research work.

3.2 Population & Sample

Population & sample are the completely very necessary terms in research work. Population, in research is the entire group of whole items in selected industry. Population may be in finite or infinite. 32 Commercial banks presented in the introduction chapter is the population for this study and is finite.

In every case, study of each and every unit of population could not be carried out. Hence, only selected numbers are carried to study the problem of the whole industry

is known as sample. Out of twenty-three banks, only 5 are selected for the study of problem is sample for this study. These six items are selected in this manner that could help in achieving a comparative analysis. Meaning that, out of twenty-three commercial banks, banks with the higher portion of NPL and the banks with the lower portion of NPL are selected for the comparative study. Therefore, rather than random it may be purposive sampling. Selected five commercial banks are as follows:

- Nepal Bank Limited
- Nabil Bank Limited
- Lumbini Bank Limited
- Standard Chartered Bank Nepal Limited
- Nepal Industrial & Commercial Bank

3.3 Nature & Sources of Data

The research study is primarily based on the already published data i.e. secondary data collected. But during the study, primary data are also referred. This research study specially comprises the secondary data for the overall study and analysis. Necessary secondary data has been collected through the following various sources:

- Annual reports, brochures and newsletters of the selected banks
- Articles published in news papers, journals and souvenirs
- NRB guidelines, acts and laws
- Unpublished thesis and reports
- Bank websites and other related websites

3.4 Period of the Research Study

This study is done with the collection, analysis & evaluation of the five consecutive year's data of five commercial banks viz. Nepal Bank Limited, Lumbini Bank Limited, Nabil Bank Limited, Standard Chartered Bank Limited and Nepal Industrial

& Commercial Bank. Meaning that, this study covers its findings from 2010 July to 2012 July.

3.5 Tools and Techniques of Data Analysis

The necessary data collected from the different sources are presented and analyzed systematically. Data are presented simply and understood able pattern through different charts, diagrams, graphs & tables. For the purpose of analysis of collected data, appropriate mathematical, financial as well as statistical tools have been used where necessary. Data are analyzed through Ratio Analysis: Credit Deposit Ratio, Non-performing loan to total loans & advances, Provision held to non-performing loan, Loan loss provision to total loan & advances. Statistical Analysis: Correlation Analysis, Probable Error, Coefficient of Determination.

3.5.1 Financial Tools

Financial analysis is the process of identifying the financial strength and weakness of a firm by properly establishing relationship between the items of the financial statements. To evaluate the financial condition and performance of the bank, a financial analyst needs some yardsticks. The yardsticks frequently used are the ratios and index relating two pieces of financial data. Analysis and the interpretation of the various ratios should give experienced, skilled analyst and a better understanding of the financial condition and performance of the firm than they would obtain from the analysis of the financial data alone.

3.5.1.1 Credit Deposit Ratio

The core function of the bank is to mobilize its public deposit effectively so that the deposited money of customers is provided security as well increase the profitability of the bank. Credit Deposit Ratio (CDR) is the parameter that reflects the efficiency of bank in term of mobilization of available deposit effectively. Mathematically, Credit Deposit ratio is calculated by dividing total loans and advances by total deposit figure.

Greater the CD ratio implies the greater utilization of total deposits and better earning and vice-versa.

$$\text{Credit Deposit Ratio} = \frac{\text{Total Loan and Advances}}{\text{Total Deposits}}$$

3.5.1.2 NPL to Total Loan & Advances

This ratio shows the quality of debts or assets in the form of loan & advances. The NPL to total loan & advances ratio is the mathematical proportion of NPL to the total loan & advances. Hence lower the ratio is preferred. In real, there is not any standard about this ratio but as per the international standard 5 % is allowed. In the context of Nepal, 10% is acceptable.

$$\text{NPL to Total Loan \& Advances} = \frac{\text{Non-Performing Loan}}{\text{Total Loan and Advances}}$$

3.5.1.3 Provision Held to NPL

Provision held to NPL is the proportion of volume held for the NPL of the bank. Provision for the NPL means the cushioned amount by the bank to safeguard the possible losses in future. Meaning that higher the portion signifies that the banks are safeguards against future contingencies and in another side it may reduce the efficiency of operation as well profit of the bank. Although higher the ratio refers better the financial strength of the bank.

$$\text{Provision Held to NPL} = \frac{\text{Loan Loss Provision}}{\text{Non-Performing Loan}}$$

3.5.1.4 Loan Loss Provision to Total Loan & Advances

Loan loss provision indicates the cushion against the future risk created by the defaulters in the payments of loan & advances. Indirectly, this ratio describes the quality of assets in the form of Total Loan & Advances that a bank is holding. Since, as per the directives issued by NRB high provision should be made for the NPL, the higher volume of provisioned amount implies increasing Non-Performing Loan. Similarly, lower the provisioned amount implies lower amount of NPL and accordingly good quality of loan & advances. So, lower ratio is preferred.

$$\text{Loan Loss Provision to Total Loan \& Advances} = \frac{\text{Loan Loss Provision}}{\text{Total Loan and Advances}}$$

3.5.2 Statistical Tools

Statistical analysis is one of the particular languages, which describes the data and makes possible to talk about the relations and the differences of the variables. Statistical tools are the mathematical techniques used to analyze, communicate and interpret the numerical parts of the data.

3.5.2.1 Correlation Coefficient

Correlation coefficient refers to the degree of relationship existing between the two variables. The value of correlation coefficient determines the associations between the dependent and independent variables. It is the geometric mean of the two regression coefficients. When the change in the value of one variable is accompanied by the change in another variable, then the variables are said to be correlated. Meaning that, increase and decrease in one variable cause increase or decrease in another variable, then such variables are said to be correlated. The value of correlation coefficient is denoted by 'r'. The value of 'r' describes only the degree of relationship but it does not explain about the cause and effects of the relationship.

There are various techniques of calculating the value of correlation coefficient. Among the different techniques, Karl Pearson's coefficient of correlation is widely used. The widely used formula for calculating correlation coefficient is given below-

$$\text{Correlation Coefficient} = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \sqrt{n \sum y^2 - (\sum y)^2}}$$

However the correlation coefficient here in this study is calculated using the software, Microsoft excel and the result so obtained are exact to the result obtained using the above formula. So, unlike other research, the details of the calculation in this research in not given in the appendix.

Following types of correlation coefficient are calculated for this study.

- Correlation coefficient between the Total Loan & Advances and Non-Performing Loan.
- Correlation coefficient between the NPL and Total Loan & Advances.
- Correlation coefficient between Loan Loss Provision and Total NPL.

3.5.2.2 Probable Error

Probable error is the mathematical expression that helps to judge the reliability and significance of the value of coefficient of correlation. P. Er denotes it. If the value of correlation is greater than six times of the value of the Probable Error, then the obtained correlation coefficient is significant. If it is not, then it is said to be insignificant and there is chance of correlation.

$$\text{Probable Error} = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

3.5.2.3 Test of hypothesis

The statement of the relationship between two or more variable is called hypothesis. Hypothesis statement should be able to show the relationship between variables. At the same time they should carry clear implications for testing the stated relations. The research on thesis strongly holds the hypothesis criteria. In this research work, it has been tried to find whether the independent variables have statistically significant relationship with dependent variable or not. The test is based on the data of five years of the sample banks. The hypothesis of this research work is as following;

Hypothesis Test I

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = 0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA with respect to NBL

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3 \neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA with respect to NBL

Hypothesis Test II

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = 0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA with respect to Nabil.

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3 \neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA with respect to Nabil.

Hypothesis Test III

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = 0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA with respect to SCB.

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3 \neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA with respect to SCB.

Hypothesis Test IV

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = 0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA with respect to NICB.

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3 \neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA with respect to NICB.

Hypothesis Test V

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = 0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA with respect to LLB.

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3 \neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA with respect to LLB.

3.5.3 Diagrammatic and Graphical Presentation

Collected data are presented through different charts and diagrams. These are the visual aids that give a bird eye view of a given sets of numerical data. Diagrams and charts are presented here so that the collected data could be read in a simple and readily manner. Lots of Bar Diagrams, Histograms, and Trend Liners are used for the presentation and analysis of the data.

CHAPTER-IV

DATA PRESENTATION AND ANALYSIS

This chapter deals with the analysis and interpretation of the data into the understandable format that are collected for the purpose of the study. The data were tabulated and kept in sequential order according to the purpose of the study. Data collected are analyzed on the basis of financial and statistical tools supported by the diagrams and graphs. Findings, conclusions and the necessary recommendations obtained from the analysis are presented in the next chapter.

4.1 Financial Analysis

Financial analysis is the process of identifying the financial strength and weakness of a firm by properly establishing relationship between the items of the financial statements. Analysis and the interpretation of the various ratios should give experienced, skilled analyst and a better understanding of the financial condition and performance of the firm than they would obtain from the analysis of the financial data alone.

4.1.1 Credit Deposit Ratio

Credit Deposit Ratio is calculated as total loans & advances to total deposit ratio. Banks receive fund as deposits from the public so that to mobilize it in terms of loans & advances to generate the interest as income. It is the ratio that measures the banks efficiency in mobilizing deposit collected from public. In another word, CD ratio is the fundamental parameter to ascertain fund deployment efficiency of commercial banks. Greater CD ratio implies better the mobilization of deposits and vice-versa.

Hence, higher the ratio is preferred. But, very much high CD ratio may result in liquidity crisis of the bank and the bank may not be able to provide their deposited money at time. Usually the CD ratio greater than 80% is considered to be a bit risky.

4.1.2 Non-Performing Loan to Total Loan & Advances

As per the directives issued by the NRB, commercial banks should classify their loan in terms of pass loan, substandard loan, and doubtful loan and loss loan. Hence, the loans falling in the category of substandard, doubtful and the loss loan are considered as non-performing loan. Increase in the NPL results higher volume of loan loss provision and of course deduction in the banks profit. That's why, NPL could not only affect the banking operation but also it has serious implication in the economic performance of the country. This ratio NPL to total loan & advances implies the proportion of the NPL in the bank's loan portfolio. Meaning that, higher the ratio represents higher portion of NPL and vice-versa. Hence, lower the ratio preferred the best. The ratio less or equal to 2 are considered to be satisfactory.

4.1.3 Loan Loss Provision to Loan & Advances

This ratio is often known as loan Loss Ratio. Loan loss provision is the amount cushioned against the future contingencies created by the default of the borrowers in the payment of loans and ensures continual solvency of the banks. As per the directives issued by the NRB, commercial banks should create loan loss provision according to their category to offset the possible future losses. Hence, this ratio implies the portion of the LLP in terms of total loans & advances. Since high provision has to be made for the NPL, higher the ration reflects increasing level of NPL in the total loan portfolio and lower the ratio implies the good quality of loans & advances.

4.1.4 Provision Held to Non-Performing Loan

The ratio provision held to NPL determines proportion of loan loss provision created to offset the possible losses of NPL. The ratio measures up to what extent is the risk inherent in the NPL is covered by the total loan loss provision. Higher the ratio signifies the banks are clearly safeguarded against the future contingencies that may create due to the NPL. In other side it also indicates the more risky assets. Hence, higher the ratio better is the financial strength of the bank.

The following tables represents the status of Total Deposits, Total Loans & Advances, Performing Loan, Non-Performing Loan, Loan Loss Provision, their Ratios followed by their mean value, S.D. and C.V. respectively of the sample banks *viz.* Nepal Bank Limited, Nabil Bank Limited, Standard Chartered Bank Nepal Limited, Nepal Industrial & Commercial Bank Limited and Lumbini Bank Limited and from table 4.2 to table 4.6 for the year 2008 to 2012.

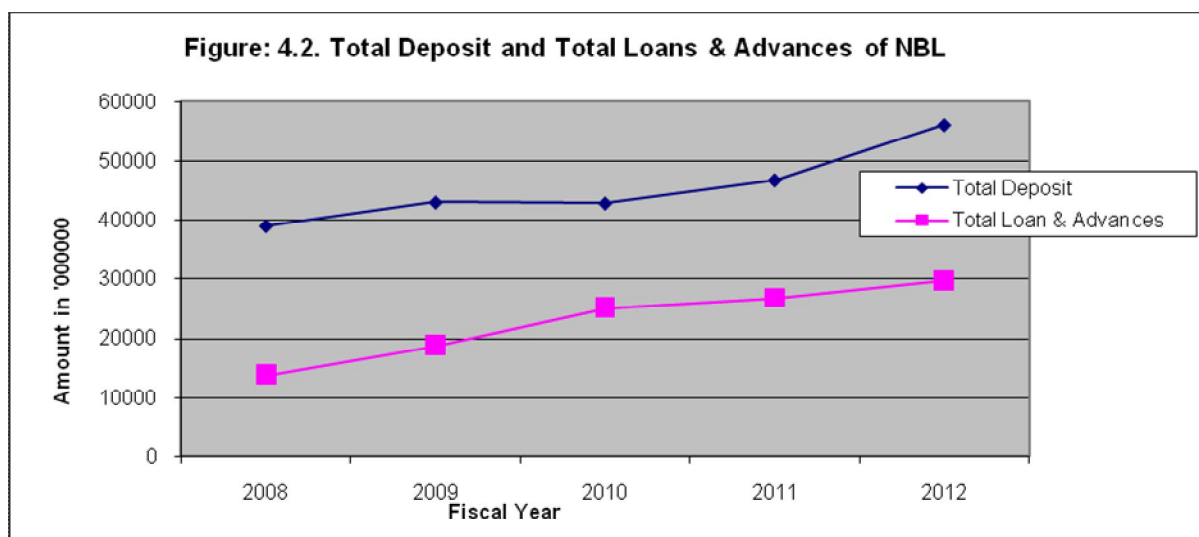
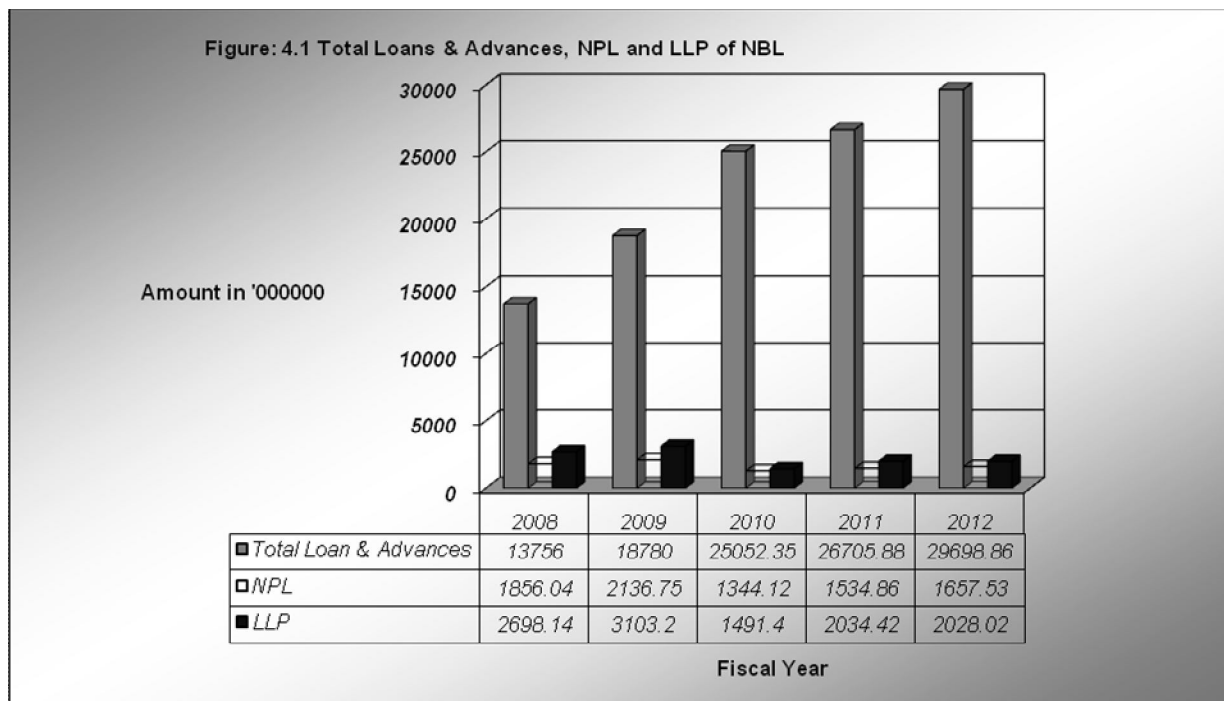
	(in million)								
Year	2008	2009	2010	2011	2012	Mean	S.D.	C.V.	
Total Deposit	39014.00	43045.00	42882.04	46808.44	56052.37				
Total Loans & Advances	13756.00	18780.00	25052.35	26705.88	29698.86				
Performing Loan	11899.96	16643.25	23708.23	25171.03	28041.34				
Non-Performing Loan	1856.04	2136.75	1344.12	1534.86	1657.53				
Substandard Loan	17.24	22.50	450.48	261.97	36.16				
Doubtful Loan	29.85	34.25	16.21	100.64	61.47				
Loss Loan	1808.95	2080.00	877.43	1172.25	1559.90				
Loan Loss Provision	2698.14	3103.20	1491.40	2034.42	2028.02				
LLP for Pass Loan	868.57	996.20	508.80	769.51	428.35				
LLP for Substandard Loan	5.50	8.34	97.06	42.34	9.04				
LLP for Doubtful Loan	15.11	18.36	8.10	50.31	30.73				
LLP for Loss Loan	1808.96	2080.30	877.43	1172.25	1559.90				
Provision Maintained (%)									
Pass Loan	7.30	5.99	2.15	3.06	1.53				
Substandard Loan	31.90	37.07	21.55	16.16	25.00				
Doubtful Loan	50.62	53.61	50.00	50.00	50.00				
Loss Loan	100.00	100.01	100.00	100.00	100.00				
Ratios									
Total L & A to Total Deposits	35.26	43.63	58.42	57.05	52.98	49.47	9.82	19.86	
NPL to Total L & A	13.49	11.38	5.37	5.75	5.58	8.31	3.84	46.18	
LLP to Total L & A	19.61	16.52	5.95	7.62	6.83	11.31	6.30	55.68	
LLP to NPL	145.37	145.23	110.96	132.55	122.35	131.29	14.90	11.35	

Source: Annual Reports

Looking to the table 4.2 and figure 4.1 and 4.2, Bank bears a very high level of deposit and alternatively its total loans and advances is in very lower position (the mean ratio in 5 years come to 49.47%). As well the higher portion of the loans and advances comes to the part of the non-performing loans (it is 13.49% in 2008). This shows banks weak efficiency in making portfolio investment policy. However, reduction in non-performing loan from 13.49% to 5.58% in forwarded years from 2008 is an appreciable part and also is a good sign of banks progress.

On another hand, due to the NRB controlling effectual guidelines, bank is creating provision and this is the positive fact for implementing the NRB norms. NRB's guidelines to create the 1%, 25%, 50% and 100% for differently categorized loans are

quietly and properly implemented by bank. Also, bank's LLP position shows bank is fully complying the NRB norms for the loan loss provision as more than the NRB requirements. But, this could not be a good sense from the business perspective. Had, the fund been utilized for other earning purposes, it might had brought some more profit. Nevertheless, the signs of improvements are seen. The restructured and rescheduled loans which are categorized as substandard still pose a threat to the bank.

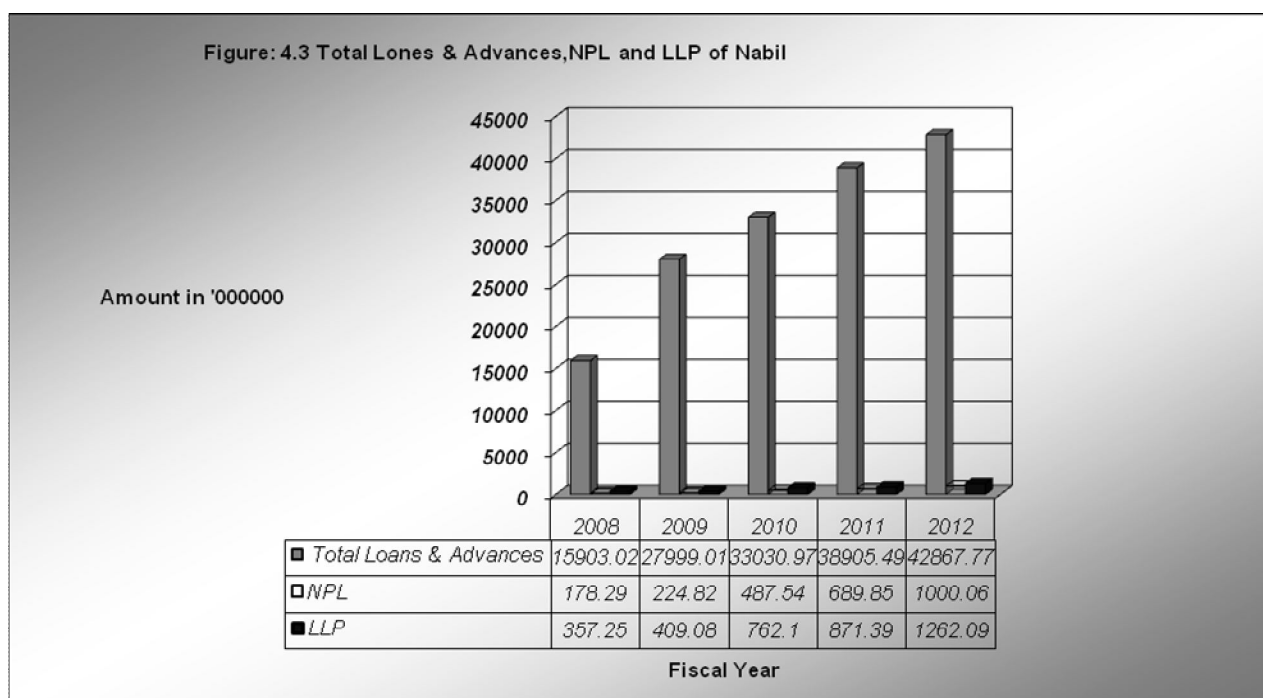


As well 19.86% coefficient of variation on Total Deposit to Total Loan and Advances shows a very higher level of variation on different years. But the reduction on the non-performing loan from 13.49% to 5.58% is highly appreciable fact for the bank. This all means bank should try to promote on the loan and advances as per total deposit it has. Banks current 49.47% average deposit mobilization cannot be considered as good. And also 8.31% average NPL to Total Loan and Advances also reflect banks weak financial situation.

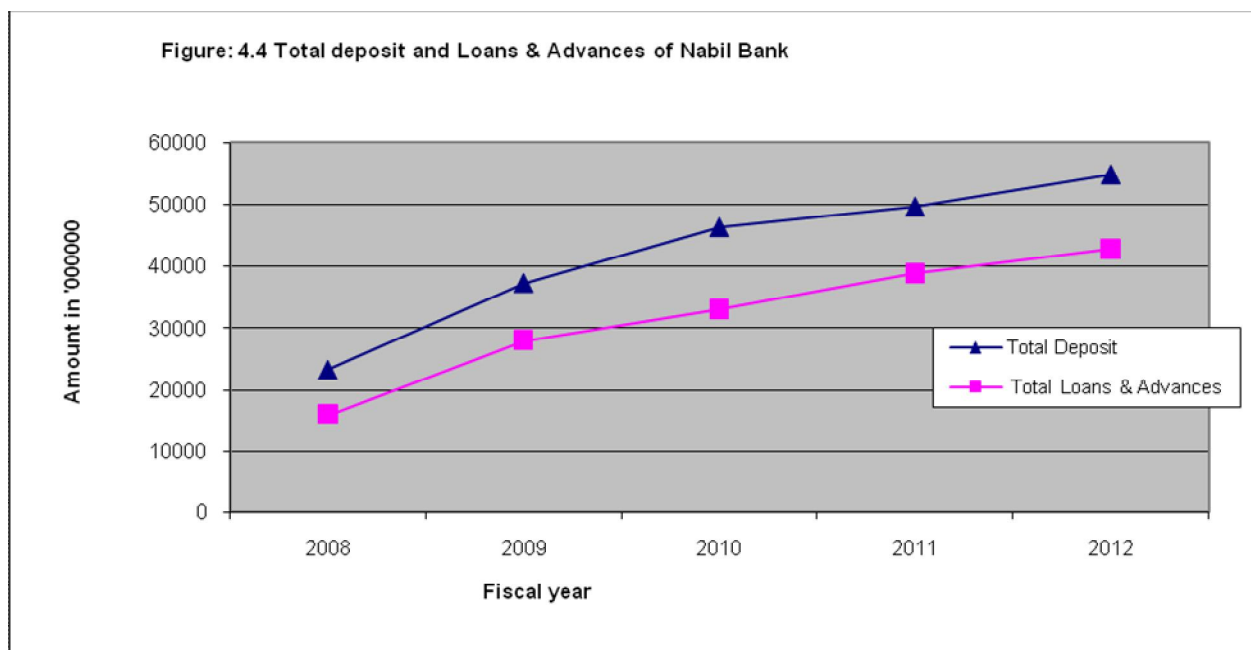
(in million)								
Year	2008	2009	2010	2011	2012	Mean	S.D.	C.V.
Total Deposit	23342.30	37348.26	46410.70	49696.11	54905.68			
Total Loans & Advances	15903.02	27999.01	33030.97	38905.49	42867.77			
Performing Loan	15724.73	27774.19	32543.43	38215.64	41867.71			
Non-Performing Loan	178.29	224.82	487.54	689.85	1000.06			
Substandard Loan	119.70	113.31	60.28	192.36	179.64			
Doubtful Loan	14.47	45.75	22.73	104.66	36.78			
Loss Loan	44.12	65.76	404.53	392.84	783.63			
Loan Loss Provision	357.25	409.08	762.10	871.39	1262.09			
LLP for Pass Loan	255.34	281.64	335.42	384.88	420.43			
LLP for Substandard Loan	56.64	44.07	14.91	45.27	44.91			
LLP for Doubtful Loan	7.12	23.53	11.37	52.33	18.39			
LLP for Loss Loan	38.15	59.84	400.40	388.91	778.35			
Provision Maintained (%)								
Pass Loan	1.62	1.01	1.03	1.01	1.00			
Substandard Loan	47.32	38.89	24.74	23.53	25.00			
Doubtful Loan	49.21	51.43	50.00	50.00	50.00			
Loss Loan	86.47	91.00	98.98	99.00	99.33			
Ratios								
Total L & A to Total Deposit	68.13	74.97	71.17	78.29	78.08	74.13	4.42	5.97
NPL to Total L & A	1.12	0.80	1.48	1.77	2.33	1.50	0.59	39.38
LLP to Total L & A	2.25	1.46	2.31	2.24	2.94	2.24	0.53	23.49
LLP to NPL	200.38	181.96	156.31	126.32	126.20	158.23	33.12	20.93
<i>Source: Annual Reports</i>								

As per the above-presented statistical table of Nabil Bank, we see that Nabil's CD ratio advances come to 74.13% on an average. This means the bank is employing its limited fund as a loan and advances. Similarly, firm shows little amount 1.50% on an average on NPL to Total Loan and Advances refers banks efficiency of making right

investment on loan and advances. As well looking to the average LLP to Total Loan and Advances as 2.24% shows a good level of ratio too. Average LLP to NPL as 158.23% shows bank is fully complying to arrange the loan loss provision on to offset the possible loan losses.



Also, looking to the other parts of data it is shown that the bank is purely implementing the NRB norms and policies regarding NPL in terms of creating loan loss provision for every loan deployed. Accordingly, we see a large sum of money separated for the non-performing loans for the possible losses. But this should also be analyzed that it is cutting the profitable income of bank. However the above presented bar diagram represents banks increasing trend of loan and advances and of non-performing loan too is quite alarming.



Looking to the last part of table, we can see a bit of alarming indicators. The NPL has been increased over the last two years. The variations are in the increasing trend but still the bank seems in safe mod in all aspects. Huge portion of loan is in pass category, fewer loans has been restructured and rescheduled and most of the bank can cover the losses the bank might face in the verse NPL becoming unrecoverable.

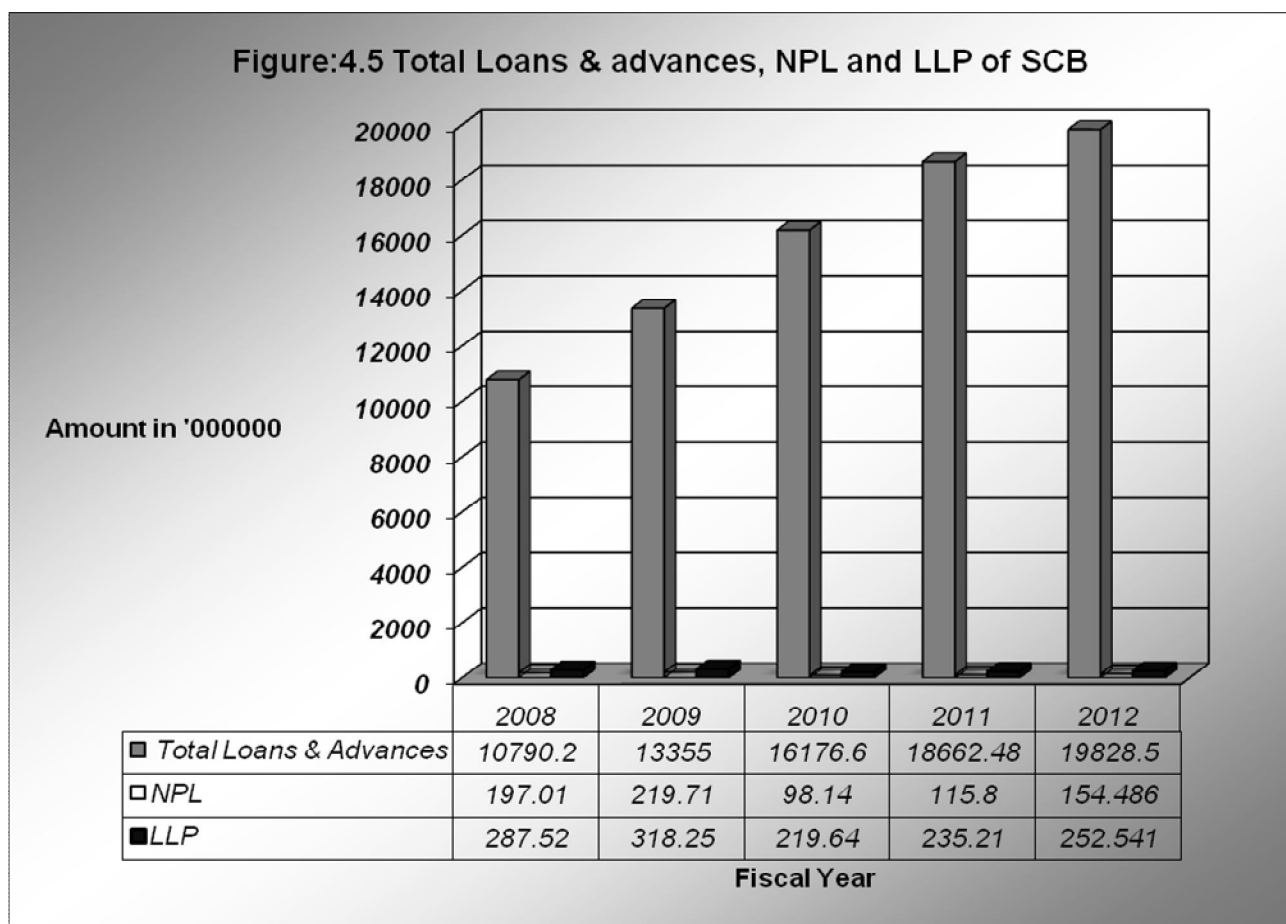
Table 4.4
Total Deposit, Loans & Advances, NPL & LLP of
Standard Chartered Bank Nepal Ltd.

(in million)

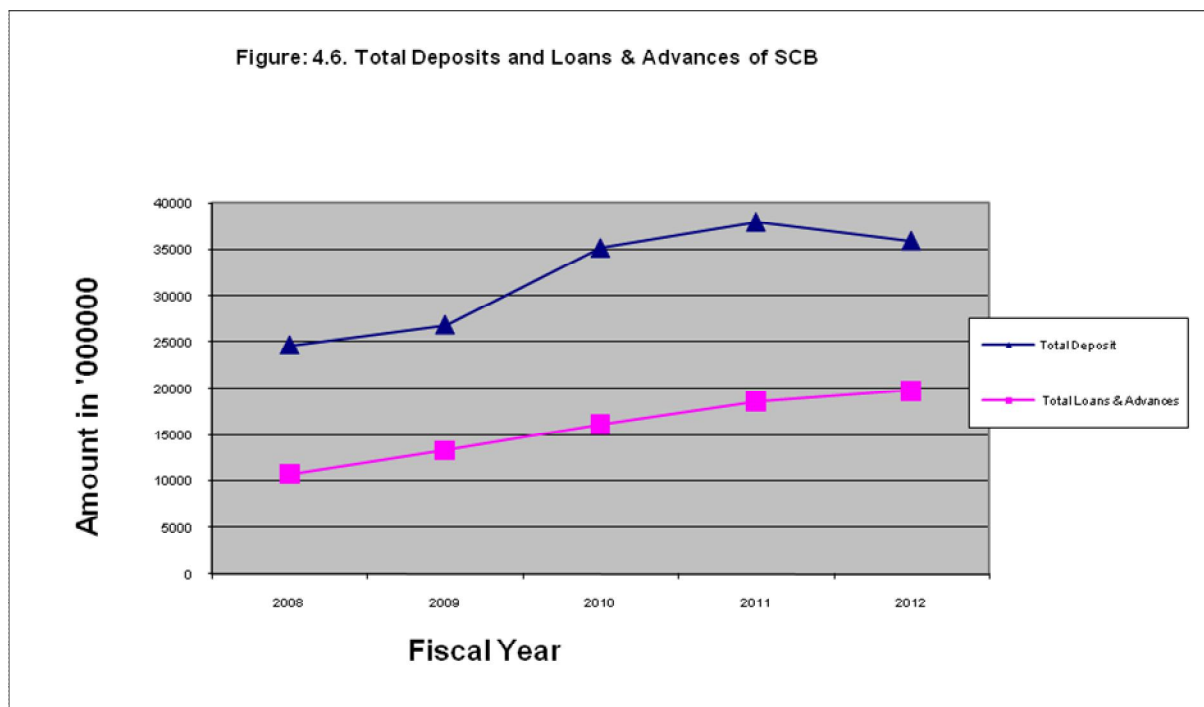
Year	2008	2009	2010	2011	2012	Mean	S.D.	C.V.
Total Deposit	24647.02	26847.00	35182.72	37999.24	35965.63			
Total Loans & Advances	10790.15	13355.00	16176.59	18662.48	19828.51			
Performing Loan	10593.14	13135.29	16078.45	18546.67	19674.02			
Non-Performing Loan	197.01	219.71	98.14	115.80	154.49			
Substandard Loan	16.45	22.36	50.94	85.73	124.44			
Doubtful Loan	66.19	76.55	2.18	3.54	10.71			
Loss Loan	114.37	120.80	45.02	26.54	19.34			
Loan Loss Provision	287.52	318.25	219.64	235.21	252.54			
LLP for Pass Loan	105.93	131.35	160.79	185.47	196.74			
LLP for Substandard Loan	4.12	5.30	12.74	21.43	31.11			
LLP for Doubtful Loan	63.10	60.80	1.09	1.77	5.35			
LLP for Loss Loan	114.37	120.80	45.02	26.54	19.34			
Provision Maintained (%)								
Pass Loan	1.00	1.00	1.00	1.00	1.00			
Substandard Loan	25.05	23.70	25.01	25.00	25.00			
Doubtful Loan	95.33	79.43	50.00	50.00	50.00			
Loss Loan	100.00	100.00	100.00	100.00	100.00			
Ratios								
Total L & A to Total Deposit	43.78	49.74	45.98	49.11	55.13	48.75	4.31	8.84
NPL to Total L & A	1.83	1.65	0.61	0.62	0.78	1.10	0.59	54.01
LLP to Total L & A	2.66	2.38	1.36	1.26	1.27	1.79	0.68	38.05
LLP to NPL	145.94	144.85	223.80	203.11	163.47	176.23	35.53	20.16

Source: Annual Reports

As we go through the above-presented financial table of SCB, we come to the point that SCB has given highest priority in complying the norms and standard given by NRB in terms of loan and advances and NPL. An exact creation of LLP, as per the guidelines prepared by NRB is resulting a higher level of efficiency in every aspect of the bank.



Similarly SCB's NPL to TLA ratio below 5% shows its efficiency in maintaining a good standard loan and advances in investment portfolio and thus eradicating the chances of happening of the bad loans. But the average ratio credit to total deposit ratio to 48.75% represents its inefficiency or might be the reluctance in employing the deposit to the interest earning fields. However, the increasing trend shown on chart is preferably marking the possibility of investment as a loan and advances. But, still it can be said that SCB is not running in its full capacity to give away loans and earn more profit.

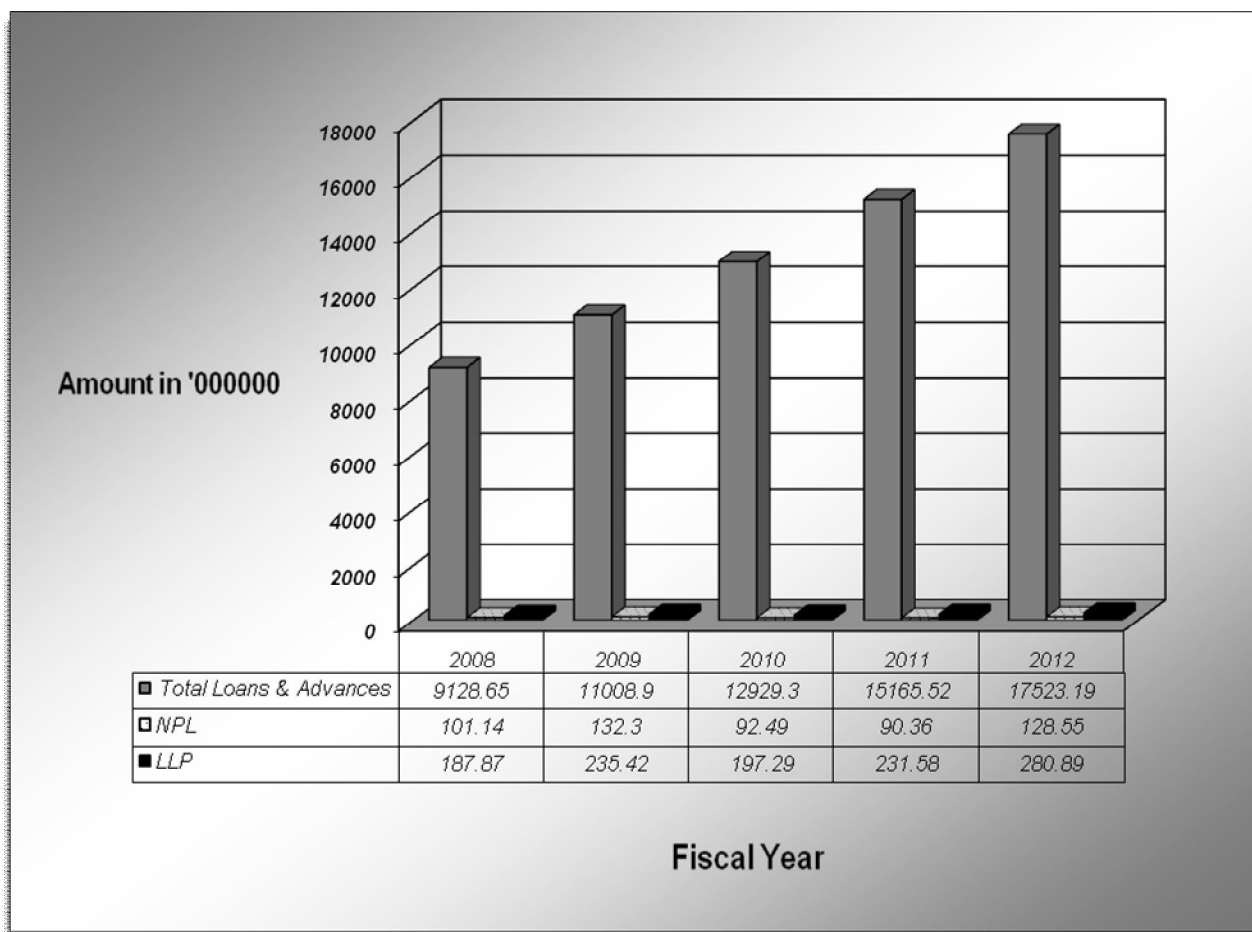


Looking to the LLP part of SCB, it seems that SCB is most conscious in creating the loan loss provisions against possible losses from both the perspectives- NRB norms and profitability of the bank. SCB is separating a good level of LLP for the possible losses in loan and advances. Its mean ratio of LLP to Loan and advances as 1.79% is also marking very fewer amounts in creating the provision. As well, lesser the coefficient of variation is also showing lesser the variability in financial standards.

Table 4.5								
Total Deposit, Loans & Advances, NPL & LLP of								
NIC Bank								
								(in million)
Year	2008	2009	2010	2011	2012	Mean	S.D.	C.V.
Total Deposit	10068.2	12663	15968.9	18394.44	22111.85			
Total Loans & Advances	9128.65	11008.9	12929.3	15165.52	17523.19			
Performing Loan	9027.51	10876.6	12836.81	15075.16	17394.64			
Non-Performing Loan	101.14	132.30	92.49	90.36	128.55			
Substandard Loan	6.13	8.64	18.65	5.67	13.88			
Doubtful Loan	0.93	3.54	19.17	10.56	22.40			
Loss Loan	94.08	120.12	54.67	74.13	92.27			
Loan Loss Provision	187.87	235.42	197.29	231.58	280.89			
LLP for Pass Loan	91.8	110.8	128.37	150.75	173.95			
LLP for Substandard Loan	1.53	2.25	4.66	1.42	3.47			
LLP for Doubtful Loan	0.46	2.25	9.59	5.28	11.20			
LLP for Loss Loan	94.08	120.12	54.67	74.13	92.27			
Provision Maintained (%)								
Pass Loan	1.02	1.02	1.00	1.00	1.00			
Substandard Loan	24.96	26.04	24.99	25.00	25.00			
Doubtful Loan	49.46	63.56	50.03	50.00	50.00			
Loss Loan	100.00	100.00	100.00	100.00	100.00			
Ratios								
Total L & A to Total Deposit	90.67	86.94	80.97	82.45	79.25	84.05	4.67	5.56
NPL to Total L & A	1.11	1.20	0.72	0.60	0.73	0.87	0.27	30.62
LLP to Total L & A	2.06	2.14	1.53	1.53	1.60	1.77	0.30	17.07
LLP to NPL	185.75	177.94	213.31	256.29	218.51	210.36	30.99	14.73
<i>Source: Annual Reports</i>								

As per the table presented above, NIC Bank shows its better efficiency in terms of Loan and advances to interest earnable sectors. On an average, 84.05% of the total deposit of NIC Bank is deployed in the area of loan and advances. Similarly its very negligible ratio in NPL to total loan and advances shows banks most remarkable investment efficiency of eradicating the chances of happening of bad loans.

Also, bank's increasing trend of loan and advances and decreasing trend of non-performing loan from 1.11% to 0.73% in five year summary results a sustainable and successful investment policy.

Figure 4.7 Total Loans & Advances, NPL and LLP of NICB

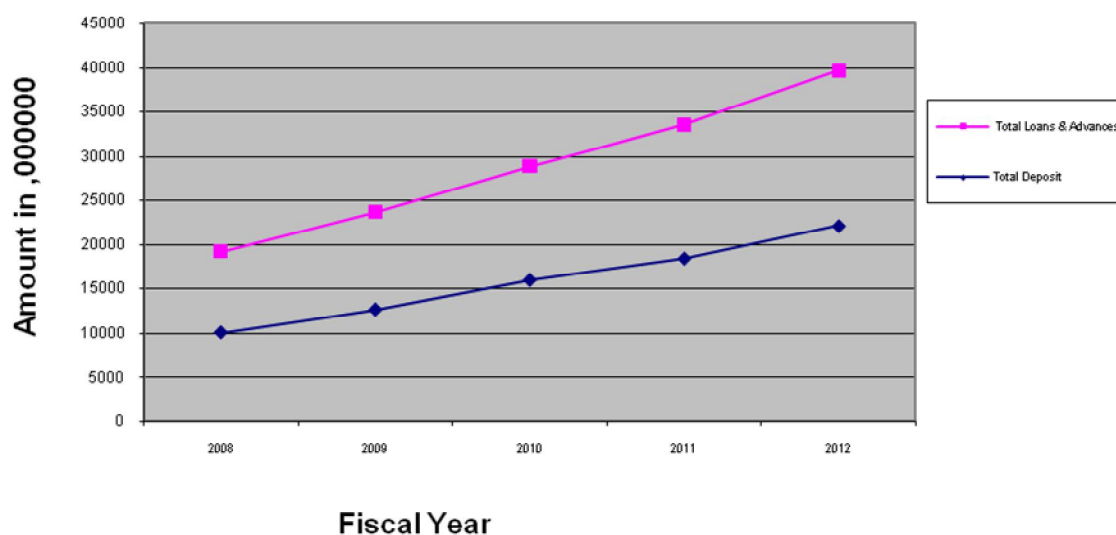
As well, Bank is maintaining necessary level of loan loss provision and fully subscribing the NRB norms and provisions. As per the NRB rule to separate 1%, 25%, 50% and 100 for separately standardized loan categories, NIC Bank is fully implementing the standard and ratios and is the appreciable fact.

Similarly on the other hand, its very lower level of loan loss provision to total loan & advances ratio (1.77% on an average) is referring banks efficiency to funding very lower portion in non-profitable part. Alternatively, all the ratios of the bank are showing a good financial position of the bank. Also bank is holding very small rate of variation in its financial facts, which is also a remarkable part for the sustainability of the banks better financial future.

NIC has the lowest level of variation in its financial records in the review period. This can also be recorded as a good part for the progressive steps of bank. These lower

values in coefficient of variation determine the lowest level of variation in its portfolio in different years and the consistent performance of the bank which in turn reflects committed financial parameters of the bank. The CD ratio of 84.05% seems a bit high but its not very high; it's a good high as the bank's overall performance has remain consistent in the review period and the bank is running in its full capacity utilizing the depositors money which not risky and aggressive too which can be reflected in the average NPL of 0.87% in the review period.

Figure:4.8. Total Deposit and Loans & Advances of NICB



	(in million)							
Year	2008	2009	2010	2011	2012	Mean	S.D.	C.V.
Total Deposit	6024.6	7655	5767.97	6773.00	7668.60			
Total Loans & Advances	4944.5	5828	5492.91	6213.11	6979.19			
Performing Loan	3937.46	4556.01	5139.6327	6153.38	6946.33			
Non-Performing Loan	1007.04	1271.99	353.28	59.73	32.86			
Substandard Loan	42.85	48.89	107.08752	0.48	17.75			
Doubtful Loan	23.42	129.3	24.067377	39.40	0.07			
Loss Loan	940.77	1093.8	222.12274	19.86	15.04			
Loan Loss Provision	1103.81	1615.84	385.65	101.13	88.98			
LLP for Pass Loan	143.52	452.24	51.3995	61.53	69.46			
LLP for Substandard Loan	10.71	12.5	100.14834	0.12	4.44			
LLP for Doubtful Loan	11.71	70.2	11.976314	19.63	0.03			
LLP for Loss Loan	937.87	1080.9	222.12274	19.86	15.04			
Provision Maintained (%)								
Pass Loan	3.64	9.93	1.00	1.00	1.00			
Substandard Loan	24.99	25.57	93.52	25.00	25.00			
Doubtful Loan	50.00	54.29	49.76	49.81	50.00			
Loss Loan	99.69	98.82	100.00	100.00	100.00			
Ratios								
Total L & A to Total Deposit	82.07	76.13	95.23	91.73	91.01	87.24	7.88	9.03
NPL to Total L & A	20.37	21.83	6.43	0.96	0.47	10.01	10.40	103.87
LLP to Total L & A	22.32	27.73	7.02	1.63	1.27	11.99	12.26	102.22
LLP to NPL	109.61	127.03	109.16	169.31	270.76	157.17	68.05	43.30

Source: Annual Reports

The data of Lumbini Bank presented above shows an aggressive level of deposit mobilization by the bank in interest earnable areas. Its overall investment on loan and advances is greater than the 87% of deposit on an average of 5 years which itself describes quite an aggressive level of deposit mobilization. The bank has shown as magical performance by reducing the NPL from 20.37% in 2008 to 0.47% in the final year. The NPL has drastically decreased which can be regarded as a good signal but the variability is higher and LBL needs to stabilize this trend. To conclude the LBL has given a turnaround performance in the track of improvement. Now, Lumbini bank needs to concentrate in increasing its deposit portfolio increasing the lending portfolio thereafter.

Figure:4.9. Total Loans & Advances, NPL and LLP of LBL

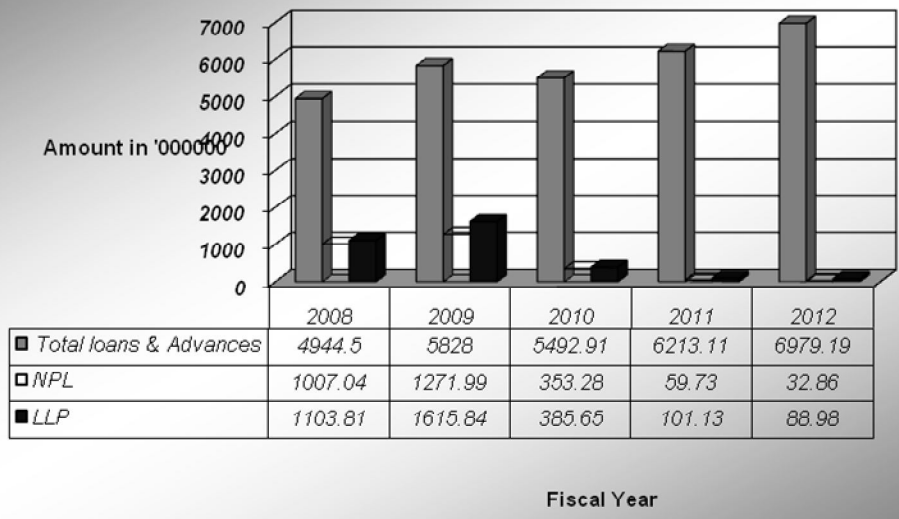
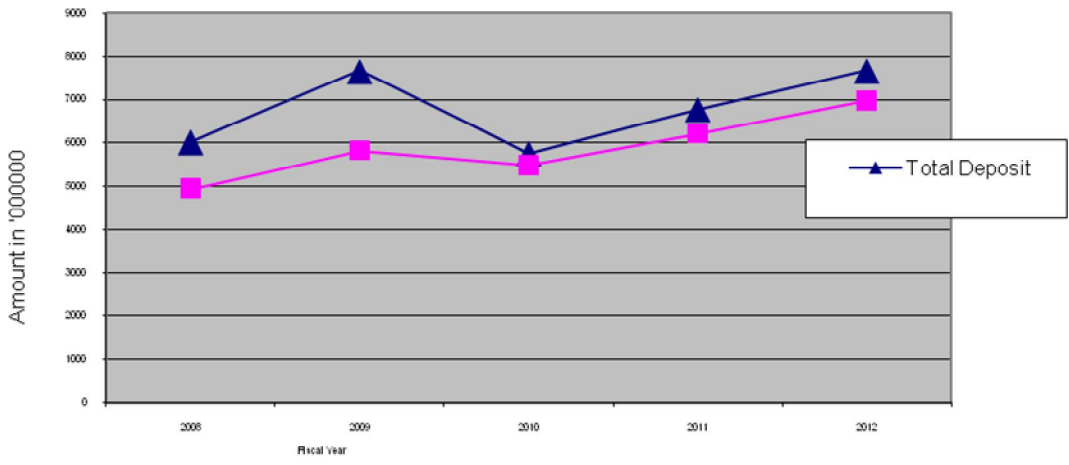


Figure:4.9. Total Deposit and Loans & Advances of LBL



4.2 Statistical Tools

Statistical analysis is one of the particular languages, which describes the data and makes possible to talk about the relations and the differences of the variables. Statistical tools are the mathematical techniques used to analyze, communicate and interpret the numerical parts of the data.

4.2.1 Correlation Coefficient

Correlation coefficient refers to the degree of relationship existing between the two variables. The value of correlation coefficient determines the associations between the dependent and independent variables. When the change in the value of one variable is accompanied by the change in another variable, then the variables are said to be correlated. There are various techniques of calculating the value of correlation coefficient. Among the different techniques, Karl Pearson's coefficient of correlation is widely used which lies between -1 and +1 i.e. $-1 \leq r \leq 1$. It is judged as perfectly positively correlated for +1 and perfectly negatively correlated for -1.

Following types of correlation coefficient are calculated for this study applying the Karl Pearson's techniques.

- Correlation coefficient between the Total Loan & Advances and Non-Performing Loan.
- Correlation coefficient between the Loan Loss Provision and Total Loan & Advances
- Correlation coefficient between Loan Loss Provision and Non-Performing Loan.

3.2.1.1 Correlation Coefficient between the Total Loan & Advances and Non-Performing Loan

The correlation coefficient between Non-Performing Loan and the Loans & advances describes the entire relationship between NPL and Loans & Advances in terms of dependency of NPL in Loans & Advances. This correlation coefficient measures how a unit change in Loans & Advances affects the NPL. Here NPL is the dependent variable and Loans & Advances is the independent variable.

Banks	Corr. Coeff	Result	P. Er	6*P. Er		Result
NBL	-0.626	-vely correlated	0.18354	1.101	$r < 6PE$	Insignificant
NABIL	0.910	+vely correlated	0.05171	0.310	$r > 6PE$	Significant
SCB	-0.653	-vely correlated	0.17295	1.038	$r < 6PE$	Insignificant
NICB	0.125	+vely correlated	0.29692	1.782	$r < 6PE$	Insignificant
LBL	-0.647	+vely correlated	0.17521	1.051	$r < 6PE$	Insignificant

Source: Table 4.2, 4.3, 4.4, 4.5, 4.6 and appendix (1-5)

The above-presented table exhibits the correlation coefficients and the probable error and their meaning of relationship between the NPL and TLA. The table shows NBL and SCB have negative correlation where rest three have the positive one. Nabil has the highest correlation coefficients 0.910, amongst the banks and also its value is greater than the value of 6 times of the Probable Error. Hence the correlation coefficient is said to be significant and reliable. NBL has the lowest correlation coefficients -0.626 and that is less than of its value of the probable error. Hence the correlation coefficients is said to be insignificant and non reliable. Similarly, SCB have its correlation coefficient -0.653 and the value is less than the value of probable error and hence the correlation coefficient of this bank is insignificant and non reliable. Similarly as LBL has insignificant correlation coefficient, there is no dependency of the NPL in its Total loan and advances. On the other hand the NICB's correlation coefficient is still insignificant although it is positively correlated as the value is less than that of six times the probable error. Hence, the NPL is not found to be dependent of total loans and advances with NICB. So, from the calculation it can

be said that there is no dependency between NPL and Total Loans & Advances of NBL, SCB, NICB and LBL whereas the NPL and TLA of Nabil are dependent to each other. Although the NPL arise out of loans and advances but most of the banks NPL under the study are not directly related with the weightage of loans and advances i.e. increment in loans and advances doesn't guarantee in the increment of NPL and vice versa. So, on correlation coefficient perspective, bank must concentrate on making quality lending portfolio without being afraid of NPL.

4.2.1.2 Correlation Coefficient between the Loan Loss Provision and Total Loan & Advances

This correlation coefficient describes about the degree of relationship between Loan Loss Provision and Total Loans & Advances. Hence, LLP is the dependent variable and is assumed to depend upon the independent variable Total Loans & Advances. The main objective of computing correlation coefficient between these two variables is to find out whether the LLP is significantly correlated to loan & advances. How a change in one unit of loans & advances effects the change in LLP is measured by this correlation coefficient. Hence through this comparison, we can find out changes taken place in LLP with every change in loans & advances.

Banks	Corr. Coeff	Result	P. Er	6*P. Er		Result
NBL	-0.710	-vely correlated	0.14942928	0.897	r < 6PE	Insignificant
NABIL	0.907	+vely correlated	0.05369727	0.322	r > 6PE	Significant
SCB	-0.663	-vely correlated	0.16909473	1.015	r < 6PE	Insignificant
NICB	0.801	+vely correlated	0.10806125	0.648	r > 6PE	Significant
LBL	-0.567	-vely correlated	0.20476453	1.229	r < 6PE	Insignificant

Source: Table 4.2, 4.3, 4.4, 4.5, 4.6 and appendix (6-10)

The above presented table exhibits the correlation coefficients and the probable error and their meaning of relationship between the LLP and TLA. The table shows Nabil

and NICB have positive correlation where rest three has the negative one. Nabil has the highest correlation coefficients 0.907, amongst the banks and also its value is greater than the value of 6 times of the Probable Error. Hence the correlation coefficient is said to be significant and reliable. LBL has the lowest correlation coefficients -0.567 and that is less than of its value of the probable error. Hence the correlation coefficients is said to be insignificant and non reliable. Similarly, NBL have its correlation coefficient -0.710 and the value is less than the value of probable error and hence the correlation coefficient of this bank is insignificant and non reliable. Principally, as LBL has the lowest correlation coefficient, it bears the lowest portion of LLP and Nabil holds the highest portion of NPL as it bears higher correlation coefficient. Similarly as SCB has insignificant correlation coefficient, there is no dependency of the LLP in its Total loan and advances. So, from the calculation it can be said that there is no dependency between LLP and Total Loans & Advances of NBL, SCB and LBL whereas the LLP and TLA of Nabil and NICB are dependent to each other. We draw a mix conclusion here. So, NBL, SCB and LBL should take into account that the changes in loans and advances brings about changes in LLP of their bank while other banks are free of LLP while thinking in lending portfolio.

4.2.1.3 Correlation coefficient between Loan Loss Provision and NPL

As we have already discussed that the Loan Loss Provision depends upon the Non-Performing Loan, i.e. higher NPL will possibility result higher level of LLP. This correlation coefficient describes the degree of relationship between LLP & NPL whether they are significantly correlated or not. Here LLP is the dependent variable and NPL is the independent variable. A unit change in NPL remains how long change in LLP is measured by this correlation coefficient.

Banks	Corr. Coeff (r.)	Result	P. Er	6*P. Er		Result
NBL	0.984	+vely correlated	0.009809	0.059	$r > 6PE$	Significant
NABIL	0.994	+vely correlated	0.00346	0.021	$r > 6PE$	Significant
SCB	0.986	+vely correlated	0.008404	0.050	$r > 6PE$	Significant
NICB	0.666	+vely correlated	0.168012	1.008	$r < 6PE$	Insignificant
LBL	0.994	+vely correlated	0.003872	0.023	$r > 6PE$	Significant

Source: Table 4.2, 4.3, 4.4, 4.5, 4.6 and appendix (11-15)

The above-presented table shows the value of correlation coefficient and probable error and the meaning of the relationship between the NPL & LLP of the sample banks. In other words it helps in determining the dependency of the LLP over NPL. As presented, NBL, Nabil, SCB and LBL have highly positive correlation coefficient 0.984, 0.994, 0.986 and 0.994 respectively and their value of correlation coefficient is also greater than the value of six times the probable error. Hence, the correlation coefficient is said to be significant and reliable. Nabil has the highest correlation coefficient that shows there is dependency of the LLP over NPL. Other NBL, SCB, and LBL also results the same. NICB's lowest correlation coefficient also refers it has lowest level of LLP over NPL amongst the sample banks. Alternatively Nabil's highest correlation coefficient refers the greatest level of LLP over NPL amongst the sample bank comparing to others. Principally too, NPL and LLP are highly related with each other. The result of increment or decrement in NPL results in increment in LLP but still the type of NPL whether it is substandard or doubtful or loss has different provision levels. So, in case of NICB the portion of loss NPL is very low and hence it has little LLP than other banks and hence the LLP and NPL are not found to be related with each other. Hence, the relation between NPL and LLP that of NICB is insignificant.

4.2.2 Test of hypothesis

The part of the study is concerned with test of the relationship between dependent and independent variable whether the independent variables have statistically significant relationship with dependent variable or not. The test is based on the F test of LLP which is considered as dependent variable with that of NPL and TLA of 5 years of the 5 commercial banks under study.

4.2.2.1 Hypothesis test-I (With Respect to NBL)

In this test, it has been tried to find whether the independent variable NPL and TLA have statistically significant relationship with dependent variable LLP or not. The test is done on NPL, LLP and TLA figure of NBL over the period study.

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = 0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA.

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3 \neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA

Year	NPL (x_1)	LLP (X_2)	TLA (x_3)	Total
2008	1856.04	2698.14	13756.00	18310.18
2009	2136.75	3103.20	18780.00	24019.95
2010	1344.12	1491.40	25052.35	27887.87
2011	1534.86	2034.42	26705.88	30275.16
2012	1657.53	2028.02	29698.86	33384.41
Total	8529.30	11355.18	113993.09	133877.57

Source: Table no. 4.2

Now,

$$T = \text{Sum of all observations} = 1856.04 + 2698.14 + 13756 + 2136.75 + \dots + 29698.86 \\ = 133877.57$$

$$\text{Correction Factor (CF)} = T^2/N = (133877.57)^2/15 = 1,194,880,250.00$$

TSS= Total Sum of Square

$$= (1856.04)^2 + (2698.14)^2 + (13756)^2 + (2136.75)^2 + \dots + (29698.86)^2 - 1,194,880,250.00$$

$$= \mathbf{1,612,188,496.51}$$

SSC= Sum of square due to column

$$= \frac{(\sum x_1)^2}{n} + \frac{(\sum x_2)^2}{n} + \frac{(\sum x_3)^2}{n} - CF$$

$$= \frac{(8529.30)^2}{5} + \frac{(11355.18)^2}{5} + \frac{(113993.09)^2}{5} - 1,194,880,250.00$$

$$= 14549791.7 + 25788023 + 2598884917 - 1,194,880,250.00$$

$$= \mathbf{1,444,342,477.87}$$

SSE=Sum of Square due to errors

$$= TSS - SSC = 1612188496.51 - 1,444,342,477.87$$

$$= \mathbf{167,846,018.64}$$

ANNOVA Table

Sources of Variation	Degree of Freedom	Sum of Square	Mean Sum of Square	Test Statistics
Due to Column	(3-1)=2	1,444,342,477.87	MSC=1444342478/2 =722,171,239	F=MSC/MSE =51.63
Due to Error	(15-3)=12	167,846,018.64	MSE=167846018.64/12 =13,987,168.22	
Total	(15-1)=14			

Level of Significance (α) = 5% = 0.05

Degree of Freedom (df) = (2, 12)

Critical Value = $F_{0.05}$ for (2, 12) df = 3.89

Decision: Since calculated value of F static is greater than critical value (51.63 > 3.89), H_0 is rejected. Hence we conclude, if we test the data of NBL, there is a

significant relationship between the dependent variable LLP with that of two independent variables NPL and TLA.

4.2.2.2 Hypothesis test-II (With Respect to Nabil)

In this test, it has been tried to find whether the independent variable NPL and TLA have statistically significant relationship with dependent variable LLP or not. The test is done on NPL, LLP and TLA figure of Nabil Bank over the period of study.

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = 0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3 \neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA

Year	LLP (x_1)	NPL (X_2)	TLA (x_3)	Total
2008	357.25	178.29	15903.02	16438.56
2009	409.08	224.82	27999.01	28632.91
2010	762.10	487.54	33030.97	34280.61
2011	871.39	689.85	38905.49	40466.73
2012	1262.09	1000.06	42867.77	45129.92
Total	3661.91	2580.56	158706.26	164948.73

Source: Table no. 4.3

Now, $T = \text{Sum of all observations} = 357.25 + 178.29 + 15903.02 + 409.08 + \dots + 42867.77$
 $= 164948.73$

Correction Factor (CF) = $T^2/N = (164948.73)^2/15 = 1,813,872,235.24$

TSS= Total Sum of Square

$$= (357.25)^2 + (178.29)^2 + (15903.02)^2 + (409.08)^2 + \dots + (42867.77)^2 - 1,813,872,235.24$$

$$= \mathbf{3,670,330,208.67}$$

SSC= Sum of square due to column

$$= \frac{(\sum x_1)^2}{n} + \frac{(\sum x_2)^2}{n} + \frac{(\sum x_3)^2}{n} - CF$$

$$= \frac{(3661.91)^2}{5} + \frac{(2580.56)^2}{5} + \frac{(158716.26)^2}{5} - 1,813,872,235.24$$

$$= 2681916.97 + 1331857.98 + 5037535392.64 - 1,813,872,235.24$$

$$= \mathbf{3,227,676,932.35}$$

SSE=Sum of Square due to errors

$$= TSS - SSC = 3,670,330,208.67 - 3,227,676,932.35$$

$$= \mathbf{442,653,276.32}$$

ANNOVA Table

Sources of Variation	Degree of Freedom	Sum of Square	Mean Sum of Square	Test Statistics
Due to Column	(3-1)=2	3,227,676,932.35	MSC=3,227,676,932.35/2 =1,613,838,466.17	F=MSC/MSE =43.75
Due to Error	(15-3)=12	442,653,276.32	MSE=442,653,276.32/12 =36,887,773.03	
Total	(15-1)=14			

Level of Significance (α) = 5% = 0.05

Degree of Freedom (df) = (2, 12)

Critical Value = $F_{0.05}$ for (2, 12) df = 3.89

Decision: Since calculated value of F static is greater than critical value (43.75 > 3.89), H_0 is rejected. Hence we conclude, if we test the data of Nabil Bank, there is a

significant relationship between the dependent variable LLP with that of two independent NPL and TLA.

4.2.2.3 Hypothesis test-III (With Respect to SCB)

In this test, it has been tried to find whether the independent variable NPL and TLA have statistically significant relationship with dependent variable LLP or not. The test is done on SCB, LLP and TLA figure of SCB over the period of study.

Null Hypothesis (H_0): $\mu_1=\mu_2=\mu_3=0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA

Alternative Hypothesis (H_1): $\mu_1\neq \mu_2\neq \mu_3\neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA

Year	LLP (x1)	NPL (X2)	TLA (x3)	Total
2008	287.52	197.01	10790.20	11274.73
2009	318.25	219.71	13355.00	13892.96
2010	219.64	98.14	16176.60	16494.38
2011	235.21	115.80	18662.48	19013.49
2012	252.54	154.49	19828.50	20235.53
Total	1313.16	785.15	78812.78	80,911.09

Source: Table no. 4.4

Now, $T=\text{Sum of all observations}=287.52+197.01+10790.20+318.25+\dots+19828.50$
 $=80,911.09$

$$\text{Correction Factor (CF)} = T^2/N = (80,911.09)^2/15 = 436,440,299.00$$

TSS= Total Sum of Square

$$= (287.52)^2 + (197.01)^2 + (10790.20)^2 + (318.25)^2 + \dots + (19828.50)^2 - 436,440,299.00$$

$$= \mathbf{861,969,388.02}$$

SSC= Sum of square due to column

$$= \frac{(\sum x_1)^2}{n} + \frac{(\sum x_2)^2}{n} + \frac{(\sum x_3)^2}{n} - \text{CF}$$

$$= \frac{(1313.16)^2}{5} + \frac{(785.15)^2}{5} + \frac{(78812.78)^2}{5} - 436,440,299.00$$

$$= 344877.84 + 123292.10 + 1242290858.27 - 436,440,299.00$$

$$= \mathbf{806,318,729.21}$$

SSE=Sum of Square due to errors

$$= \text{TSS} - \text{SSC} = 861,969,388.02 - 806,318,729.21$$

$$= \mathbf{55,650,658.82}$$

ANNOVA Table

Sources of Variation	Degree of Freedom	Sum of Square	Mean Sum of Square	Test Statistics
Due to Column	(3-1)=2	806,318,729.21	MSC=806,318,729.21/2 =403,159,364.60	F=MSC/MSE =86.94
Due to Error	(15-3)=12	55,650,658.82	MSE=55,650,658.82/12 =4,637,554.90	
Total	(15-1)=14			

Level of Significance (α) = 5% = 0.05

Degree of Freedom (df) = (2, 12)

Critical Value = $F_{0.05}$ for (2, 12) df = 3.89

Decision: Since calculated value of F static is greater than critical value ($86.94 > 3.89$), H_0 is rejected. Hence we conclude, if we test the data of SCB, there is a significant relationship between the dependent variable LLP with that of two independent NPL and TLA.

4.2.2.4 Hypothesis test-III (With Respect to NICB)

In this test, it has been tried to find whether the independent variable NPL and TLA have statistically significant relationship with dependent variable LLP or not. The test is done on SCB, LLP and TLA figure of NICB over the period of study.

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = 0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA.

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3 \neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA.

Year	LLP (x1)	NPL (X2)	TLA (x3)	Total
2008	187.87	101.14	9128.65	9417.66
2009	235.42	132.30	11008.90	11376.62
2010	197.29	92.49	12929.30	13219.08
2011	231.58	90.36	15165.52	15487.46
2012	280.89	128.55	17523.19	17932.63
Total	1133.05	544.84	65755.56	67433.45

Source: Table no. 4.4

$$\begin{aligned} \text{Now, } T &= \text{Sum of all observations} = 187.87 + 101.14 + 9128.65 + 235.42 + \dots + 17523.19 \\ &= 67,433.45 \end{aligned}$$

$$\text{Correction Factor (CF)} = T^2/N = (67,433.45)^2/15 = 303,151,345.26$$

TSS= Total Sum of Square

$$\begin{aligned} &= (187.87)^2 + (101.14)^2 + (9128.65)^2 + (235.42)^2 + \dots + (17523.19)^2 - \\ &303,151,345.26 \\ &= \mathbf{605,921,914.48} \end{aligned}$$

SSC= Sum of square due to column

$$\begin{aligned} &= \frac{(\sum x_1)^2}{n} + \frac{(\sum x_2)^2}{n} + \frac{(\sum x_3)^2}{n} - \text{CF} \\ &= \frac{(1133.05)^2}{5} + \frac{(544.84)^2}{5} + \frac{(65755.56)^2}{5} - 303,151,345.26 \\ &= 256760.46 + 59370.13 + 864758734.18 - 303,151,345.26 \\ &= \mathbf{561,923,519.51} \end{aligned}$$

SSE=Sum of Square due to errors

$$\begin{aligned} &= \text{TSS} - \text{SSC} = 605,921,914.48 - 561,923,519.51 \\ &= \mathbf{43,998,394.97} \end{aligned}$$

ANNOVA Table

Sources of Variation	Degree of Freedom	Sum of Square	Mean Sum of Square	Test Statistics
Due to Column	(3-1)=2	561,923,519.51	MSC=561,923,519.51/2 =280,961,759.75	F=MSC/MSE =76.63
Due to Error	(15-3)=12	43,998,394.97	MSE=43,998,394.97/12 =3,666,532.91	
Total	(15-1)=14			

Level of Significance (α) = 5% = 0.05

Degree of Freedom (df) = (2, 12)

Critical Value = $F_{0.05}$ for (2, 12) df = 3.89

Decision: Since calculated value of F static is greater than critical value (76.63 > 3.89), H_0 is rejected. Hence we conclude, if we test the data of NICB, there is a significant relationship between the dependent variable LLP with that of two independent NPL and TLA.

4.2.2.5 Hypothesis test-III (With Respect to LLB)

In this test, it has been tried to find whether the independent variable NPL and TLA have statistically significant relationship with dependent variable LLP or not. The test is done on SCB, LLP and TLA figure of NICB over the period of study.

Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3 = 0$ i.e. LLP is not significant. In other words, there is no relationship between dependent variable LLP with independent variables NPL and TLA

Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3 \neq 0$ i.e. LLP is significant. In other words, there is a relationship between dependent variable LLP with independent variables NPL and TLA.

Year	LLP (x1)	NPL (X2)	TLA (x3)	Total
2008	1103.81	1007.04	4944.50	7055.35
2009	1615.84	1271.99	5828.00	8715.83
2010	385.65	353.28	5492.91	6231.84
2011	101.13	59.73	6213.11	6373.97
2012	88.98	32.86	6979.19	7101.03
Total	3295.41	2724.90	29457.71	35478.02

Source: Table no. 4.4

Now, $T = \text{Sum of all observations} = 1103.81 + 1007.04 + 4944.50 + 1615.84 + \dots + 6979.19$
 $= 35,478.02$

Correction Factor (CF) = $T^2/N = (35,478.02)^2/15 = 83,912,660.21$

TSS= Total Sum of Square

$= (1103.81)^2 + (1007.04)^2 + (4944.50)^2 + (1615.84)^2 + \dots + (6979.19)^2 - 83,912,660.21$
 $= \mathbf{98,742,641.63}$

SSC= Sum of square due to column

$= \frac{(\sum \square 1)^2}{n} + \frac{(\sum \square 2)^2}{n} + \frac{(\sum \square 3)^2}{n} - CF$
 $= \frac{(3295.41)^2}{5} + \frac{(2724.90)^2}{5} + \frac{(29457.71)^2}{5} - 83,912,660.21$
 $= 2171945.41 + 1485016 + 173551335.69 - 83,912,660.21$
 $= \mathbf{93,295,636.90}$

SSE=Sum of Square due to errors

$= TSS - SSC = 98,742,641.63 - 93,295,636.90$
 $= \mathbf{5,447,004.74}$

ANNOVA Table

Sources of Variation	Degree of Freedom	Sum of Square	Mean Sum of Square	Test Statistics
Due to Column	(3-1)=2	93,295,636.90	MSC=93,295,636.90/2 =46,647,818.45	F=MSC/MSE =102.77
Due to Error	(15-3)=12	5,447,004.74	MSE=5,447,004.74/12 =453,917.06	
Total	(15-1)=14			

Level of Significance (α) = 5% = 0.05

Degree of Freedom (df) = (2, 12)

Critical Value = $F_{0.05}$ for (2, 12) df = 3.89

Decision: Since calculated value of F static is greater than critical value ($102.77 > 3.89$), H_0 is rejected. Hence we conclude, if we test the data of LLB, there is a significant relationship between the dependent variable LLP with that of two independent NPL and TLA.

4.3 Theoretical Analysis of the Implementation of NRB Directives

4.3.1 Implementation Part of the NRB Directives

As stated earlier, in order to streamline the Banking sector, NRB as a central bank of Nepal issues different regulatory and advisory guidelines and directives to the financial institutions in Nepal. These directives, especially issued in favor of banking industry are playing vital role for the development of the sustainable financial market. NRB issues effective new directives and amends the olds timely as per the necessity of financial environment.

Amongst the directives issued for the regulation on the loan and advances especially Non Performing Loans has helped to make the strong financial culture in the banking industry. Here, we are trying to record some implementary facts of the sample banks regarding Non Performing Loans related directives.

As per the new directives issued by the NRB for the banks in commercial banks, Banks should categories their loans and advances portfolio in four categories viz. Pass, Substandard, Doubtful and Loss. Loans and Advances due for 0-3 months-Pass, 3-6 months-Substandard, 6-12 months- Doubtful and 12 months and above-Loss. Also, in addition the overdue basis, loans and advances to be classified on Loss loans on the basis of CIB Blacklisting, Collateral Value, and Misuse of funded loan and Bankruptcy of the Borrower. As well, banks should formulate necessary loan loss provision to avoid the possible losses in future as 1% for Pass, 25% for Substandard, 50% for Doubtful and 100% for Loss Loans. Additionally, if the loan is provided

under the category of priority or deprived sector, then only one fourth of the provisioning required is to be created for LLP. Meaning that, for the Pass loan provided under the priority or deprived sector can be provisioned only by 0.25% of the outstanding loan amount. Similarly, for Substandard it is 6.25% and for Doubtful-12.5% only to be provisioned. Furthermore, if the loan is provided on personal guarantee only, then additionally 20% above normal LLP to be created as LLP on the outstanding loan amount. This means, the required provision under this will 21%, for Substandard 45% and for Doubtful 70% to be provisioned.

Table 4.10

Status of the New Directive in respect to Loans & Advances.

Particulars	Basis of Classification	Loan Category & LLP	Overdue Period
Banks should categorise their Loans and Advances in four categories.	Classification to be made on the basis of ageing of past dues as: Pass Substandard Doubtful Loss	Loans to be classified into four categories and necessary LLP to be formulated as: Pass=1% Substandard=25% Doubtful=50% Loss=100%	The period of the overdue of each category of loan in shorter will be: Pass=0-3 months Substandard=3-6 months Doubtful=6-12 months Loss=1 year and above

Talking on the subject regarding the implementation of NRB directive, all the sample banks has been found satisfactorily implemented the directive as per the table presented above. Simultaneously, all the banks have been created necessary loan loss provisions for the possible losses against the loans. Looking on the financial part of the NBL in 2008, Total loans and advances is Rs. 13756 mios out of which 13.49%

contains the portion of Non Performing Loan which figure has been decreased to 5.58% in 2012. As well, the Non Performing Loan portion of NABIL, SCB and NICB also has been decreased to 2.33%, 0.78% and 0.73% respectively during the study period, which can be regarded as the best part of the directive. Praise worthy performance is also the performance of LBL where the NPL has decreased from 20.37% to 0.47% This could be summarized as the efficiency of management and implementing the NRB directives at all. Hence this can be concluded that due to the NRB regulatory efforts, not only the Non-Performing Loans of the banks has decreased, their income level has also been increased. This is because of the effect of that higher volume of NPL requires higher portion of LLP and lesser NPL requires lesser the amount of LLP and the LLP deducted in the net profit of the bank.

Non-Performing Loan not only deducts the interest earning of the bank but also the creation of loan loss provision pushes to decrease the profit of the bank. As a reason, the operating status of two banks NBL and LBL has been badly affected. At this point, we can say that NRB regulatory forces have helped to increase the profit level of the financial institutions as well. At the present context of Nepal where the banking sector has severely affected by the increasing level of Non-Performing Loan, tightening the policies and provisions is essential to safeguard the banks from the banking crisis and to ensure the banks remain liquid even in the economic downturns.

As mentioned earlier, loan loss provision should be deducted from the net profit of the bank. That means net profit of the bank will come down due to the creation of LLP. However, the impact of the LLP on profitability of the bank is short term. After few periods, when banks have enough provision for loss loans, the profitability of bank will be tuned to pick up. Hence, in long run banks will enjoy the greater cushion against loan disbursed and improves their financial strength leading to increase their profitability. And keeping this in mind, the sample banks have clearly implemented the NRB directives regarding NPL and as a reason banking sector has been flourished even in the failure of the economic condition of the country. In summary, NRB's

rules and regulations has been safeguarding the banking from the economic and financial failure.

4.3.2 Analysis of the Collected Primary Information

During the study period, various questionnaires have been developed and asked with the concerned officials of NRB and commercial Banks randomly. Details of the reply of the respondents have been presented here.

Referring to the NRB officials, their monitoring and inspection role is effective and is working properly so far. As per the view, there is no need to make any changes considering the un-adjustability to banks in their monitoring and inspection role. Regarding the effectiveness of the NRB directives, all the respondents replied that directives to keep the financial institutions healthy and safe. Respondents also replied banks must carry on their business complying meeting the NRB standards, first to make the financing position better and safeguard the risk, second to play the co-operative role with the NRB in making the overall banking sector smarter. This is encouraging part which helps banks and financial institutions strong always.

Regarding to the implementation part of the directives most of the player of commercial banking sector are complying with the NRB norms and standards. Some who are not implementing the regulatory guidelines will automatically show their inefficiency in very short span of time and NRB makes regulatory force to stop them doing so. Hence, in overall the implementation part is satisfactory and the financial institutions have no other option too. And regarding the necessity of NRB directives, NRB official replied it is the proudest matter even in the slowdown economy and presence of financially corrupted different industries, banking sector is safeguarding their business. The major credit of this goes to the NRB making the appropriate standards, regulatory guidelines and effective directives to safe the financial industry.

Similarly, responding to the officials of different commercial banks, most of the banks are satisfied with the NRB guidelines. Regarding to the effectiveness of

monitoring and supervision of NRB, all the respondents have replied better. The commercial banks are happy to comply the NRB standards and monitoring & inspection activity. Regarding the necessity of NRB directives, the directives are much more necessary to protect the depositors deposit, interest and investments, safety of the loan and advances, for the fair and healthy competitive environment and to protect the financial institutions. Replying to the impact of the NRB directives in short run, NRB directives are deducting the profit standards and business but in the long run they are found very effective for the sustainable market of the player. That's why NRB directives are very essential to protect the life of financial institutions.

Answering to the revision of the NRB directives, most of the respondents replied that NRB should revise its policy and standards as per the market structure and changing business environment but to be kept in mind that the negative impact should not be come on. Means revision to be done on the basis of the changing banking environment and necessity faced by the banking organization. All the respondents replied, however the supervision and controlling of NRB looks some tighter, in long run the policies, standards and supervision are very effective to secure the banks, economy and the nations interest.

Gist of the Primary Information

Complying with the NRB norms, the banking sector is financially healthy, stronger and safer in long run. The best part of the directive is they are successful in securing the public deposit and interest, minimizing the credit risk through loan loss provision, protecting the bank from bankruptcy, and maintaining the friendlier healthy competitive environment. NRB directives are not only bringing prosperity to the banking institutions but also to all its stakeholders like shareholders, depositors, employees and overall the economy of the country. They are also helping the bankers in adopting the international standards and making efficient and competitive with the international banks.

4.4 Findings of the Study

Nepal Bank Limited, as a government wing bank, its operating result has been affected by the governmental dynamism, which is not found satisfactory comparing to other banks in Nepal. Its operating efficiency has been paralyzed likely other enterprises equipped by government. Handover of NBL to foreign management has proven some important improvement in respect to the operating culture of this bank. But even comparing to other private sector and joint venture banks present in Nepal, NBL is still showing some loop holes in its operation. Large amount of loans has been restructure and rescheduled as a result of which the LLP has decreased and the written off amount from the provision has shown huge profits in the recent years but there's still the danger of those restructured and rescheduled loans turning loss and doubtful is very high and the same has still pose the bank at huge risk. Average NPL figure 8.31% shows bank's incapability in recovery of its interest and principal amount which is absolutely very higher than the international and NRB standards.

Similarly, average loan loss provision ratio 11.31% shows a huge profitable amount has been freezed for the creation provision against loan. As well being the largest deposit holder bank of the Nepal, NBL is employing only 49.47% average deposit to the interest earnable locations, which shows the banks inefficiency in making loan, and advances portfolio. However, handover of the management to the foreign management team has raked over banks overall financial discrepancies into the lane. Banks a huge sum of nonperforming loan has been recovered, managerial strategies have been formulated, deposit mobilization structure has been revised, all the functions have been systematized and NRB standards have been maintained as per the NRB policies and norms. As a reason, bank has been equipped towards profit in a short span of time. However it should not be forgotten that larger portion of loans has been rescheduled to pass and substandard loans due to which the NPL level of the bank has drastically decreased and the provision maintained for such loans has been written off in profits as result of which the profit level has shown greater

improvements. If these loans again become doubtful and loss loans then it might create problem for the bank to re-establish its image.

Nabil Bank Limited as a joint venture bank, established as a first private sector bank has shown its smartest operating results from the inception. NABIL also aims to be the lowest NPL bank in Nepal whose current average NPL stood only at 2.33% which is less than the international as well NRB standard. Similarly, its average deposit mobilization rate 74.13% with the CV of 5.97 shows banks efficiency in mobilizing the deposit to interest earnings and its stability too.

Similarly average loan loss provision ratio 2.24% reflects presence of large pass loan in its loan portfolio. Looking into the overall financial indicators of the bank, all indicate a smarter growth in every aspect of the financial parameters. The performance of Nabil in the last two years seems to be a little degrading as compared to previous years as the level of NPL has rise and so the LLPs but this is not just the case. If we observe the industry performance, the NPL has gone up due to the result of the real estate loans turning bad. But, still Nabil is strong, still and stable and it cannot be worse than this. Similarly, if observe, we can see that Nabil is not maintaining the prescribed rate of provision as given by NRB standards. But the real figure inside is Nabil has invested in the priority or deprived sector too where the provisioning only be 0.25% of the outstanding loan for pass. Similarly, for Substandard it is 6.25% and for Doubtful-12.5% only to be provisioned.

Standard Chartered Bank Nepal, as the only bank in Nepal with the global representation, shows its try in rendering a best class banking service. SCB's total deposit figure in 2012 stands at Rs. 35965.6 million where the deposit employed towards loans and advances is only 55.13%. Average deposit mobilization into loans and advances is only 48.75%, which figure represents a very smaller amount has been deployed under the loan portfolio. But on the other hand, average Non Performing Loan ratio 1.10% shows the presence of good quality of loans in its loans portfolio,

which is much below not only the NRB standards but with the international standards. Also its average Loan Loss Provision ratio 1.79% reflects the availability of the good quality of loans, which in turn describes that very smaller amount has been cushioned to meet the required standards and thus profitable earning has also increased. But, still the bank can cover up to 176.23% of the loans turning unrecoverable which means there is no problem at all with the bank with respect to NPL and their recoveries too.

NIC Bank Limited as a locally promoted bank shows its extra efficiency in employing its total deposit in loan and advances. Its average deposit mobilization rate is 84.05% that means Rs. 84.05 has been invested in loans and advances from Rs. 100 deposit which is quite aggressive as there is the possibility of facing the problem of liquidity at times. Also average Non Performing Loan ratio only at 0.87% (the lowest among sample banks and probably of the industry too) describes availability of good quality of loans in the loan portfolio although being that aggressive. Continuously, average Loan Loss Provision ratio 1.77% tells a very smaller amount has been deducted from the profit to cushion the possible loan losses as well the coverage percentage of NPL by LLP is 210.36% in average. As well meeting the entire NRB standard, it reflects its seriousness towards the banking operation as per NRB rules. The relationship between NPL and total loans and advances is insignificant that means being that low in NPL the NPL doesn't rely on total loans and advances which is yet another good indicator. Looking at the coefficient of variance of the study period it is the most stable bank maintaining the lowest CV in all cases.

Lumbini Bank Limited, from the locally promoted group showed very weaker position in different financial parameters in the previous year of the study period but it shows the scenario has changed in the later years. Its average deposit mobilization rate is 87.24% where 10.01% of loan is not performing well at average. This reflects bank's inefficiency in recovering of invested amount in average but still the figures in the later years goes on improving splendidly. As well average Loan Loss Provision figure 11.99% shows a very big sum of money has been cushioned against the loan loss provision but the figure of final year is just 1.27% which is a very good

performance. Overall, LBL has given a turnaround performance in overall sectors and the performance is praiseworthy. Fewer loans are restructured and rescheduled and most of the bad loans are found to be recovered or written off. And, thus the coming years shows a great ray hope and seems that gone are the days that people say LBL is weak in financial standings.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Establishment of the Nepal Bank Limited in 1937 AD established a significant evolution in the financial sector of the nation. Nepal Bank helped to set a milestone in the country's financial market. Nepalese financial sector comprises Banking and Non-Banking sector. Banking sector comprises NRB and other commercial Banks where Non-Banking sector comprises other financial and co-operatives and other governmental and non-government financial institutions. At present, 31 commercial banks are playing their banking activities and rest 73 developments banks are operating beyond the nation. Similarly, 78 finance companies, 17 micro credit institutions and other financial intermediaries providing their services in the country. NRB being the central bank of the country and as an agent of government is authorized to supervise, control and promote the country's financial institutions of the country. In last two decades, when the Nepalese financial market is opened for the private sector and joint venture organization, financial sector made a hallmark progress in terms of quality services, quantity of the institutions and number of the service and products.

Banking, more specifically commercial banking sector is the heart of the development of the country's economy. They play a significant role in the smooth functioning of the economy and stable, safe glorious banking environment is crucially important for the entire development of the nation. Keeping this in mind, when government opened the domestic market for private sector, the commercial banks opened in a prominent number to share the economic activities of the country.

NRB as monitoring, supervising and inspecting body of the emir financial institution is authorize to put out the provision, directives and guidelines to the financial players in country. NRB as a government agent to govern the financial industries, used to issue different policies, norms and standards to facilitate, control and to promote the financial industries. NRB always has been practiced to maintain the safety, soundness and integrity of the financial system while promoting the confidence through the implementation of policies and standards that are in line with the international best practices. The main aims of NRB directives are maintain the stability, sustainability, and healthy development of the entire banking and financial system of the country.

This study research entitled “*Non-Performing Loans of Commercial Banks*” mainly aimed to elaborate the impacts and implement part of NRB prudential directives in respect to NPL. To meet the aimed objectives of the study, researcher has tried taken five commercial banks out of total 32 from the different category, history of performance, management and ownership. NBL from government wing bank who holds the largest portion of NPL, second SCB from joint venture groups having very low level of NPL, third NICB and LBL from locally promoted and NICB with the very least level of NPL and LBL with the very high level of NPL and the drastically changing its image. For the findings of the aimed objectives, primary as well as secondary data have been used for entire study. Statistical charts and diagrams have been presented as per the necessity. All the data used for the study have been collected from published annual reports, journals, NRB official papers and from different web based sites. Collected data have been systematically analyzed and presented along with the charts and diagrams using different mathematical, statistical and financial tools. And the findings and recommendations have been prepared on the basis of five years timed data from 2008 to 2012.

5.2 Conclusion

As previously stated, commercial banks are the bridge between the savers and users of money. A bank used to collect the funds from idle locations and helps to mobilize them into the productive areas that push the entire economy of the nation. Hence all the banks helps to encourage the country's economy to rise from collecting the deposit and lending them to the enterprises to meet the necessity of commercial funds and which in turn to helps in progressive economy of the country through employment, production and export. And the difference of paying interest and deposits and earning interest and lending is the income of the bank. Meaning that loans and advances are the major sector of income of the bank called core banking activity as to generate interest earning. But improper lending management can create headache to the banker in the term of nonperforming loan which is the crucial matter for the every financial enterprise. A non-performing loan not only losses the interest earning of the banks but also creation of necessary provision as per NRB standards deducts the profit of the institutions, Nepalese banking industry is also severely affected by the reason of non-performing loans due to the improper credit appraisal system, ineffective credit management, lack of proper valuation of collateral security, miss conduction of borrowers and improper credit monitoring and supervision system.

Nepalese banking industry especially government winged financial institutions like Nepal Bank Limited, Rastriya Banijya Bank, NIDC have been badly affected by the reason of non-performing loans. In the recent years, some other financial institutions from private and joint venture sector are also not exception. Private sector bank like Lumbini Bank Limited, Nepal Bangladesh Bank Limited and Nepal Credit and Commerce Bank are also affected by the reason of NPL. NPL in governmental bank is the reason of poor governance and transparency in procedures, poor banking culture, limitations in auditing and accounting, lack of proper regulatory fragmentation and unnecessary political influences. Also irresponsibility and lack of accountability of the top level management, sanctioning of the loan violating the

necessary formal procedures, borrowers intentional behave not to pay the loaned amount, improper credit appraisal system and not meeting the NRB prudential norms and standards are other reason of NPA.

At present NRB supervision and monitoring system have been tightened, regular follow up and necessary steps for any suspicious and undesirable condition have been formulated by the NRB to prevent the entire banking industry. Timely directives and guidelines have been formulated by NRB to monitor and supervise the banking industry.

5.3 Recommendations

On the basis of the analysis of the collected data and the necessary available parameters and facts of the banks, following recommendations have been made:

- ❖ Nepal Bank Limited as a government-winged commercial bank, it has been seriously found affected by the reason of non-performing loan. To overcome the serious situation, proper credit policy should be formulated, credit appraisal system should be improved and the individual accountability of the officials should be raised in the institution.
- ❖ Due to the huge sum of NPL and the LLP, banks operating profit has been badly hampered. Also, as a largest deposit holder bank in Nepal, NBL should try to maximize its credit to deposit ratio to maximize the profit from current level. NBL is currently holding just less than 50% ratio in its credit to deposit ratio. This means only less than Rs. 50 of Rs. 100 deposit has been deployed on the interest generating area. So, increment in the level of credit to deposit will help to maximize the return of the bank.
- ❖ Now on, disbursement of quality loans should be focused otherwise those loans will also become bad resulting in the increment of NPL. Overall deposit should be deployed towards the interest generating areas to offset the last years operating losses of the bank.

- ❖ Also, bank should develop its policy to strictly adopt the policies, norms and standards given by NRB this will help in successful and efficient operation of the bank.
- ❖ Nabil Bank as a private sector bank in Nepal is showing its tuff level operating status. But in respect to other parameters of the bank, credit to deposit ratio is not well and hence it should try to maximize the level of this ratio to maximize the operating return.
- ❖ The current NPL level of Nabil is greater than 2% and moreover it's on the rising trend. Although it's not as high as compared to domestic and industry trend but still higher international norms. So, the management should try to reduce the NPL from current level.
- ❖ Standard Chartered Bank Nepal, as an only bank in Nepal with the global representation, it is showing quality in its overall services and financially the same. But looking in the part of credit to deposit ratio, its deposit utilization rate seems very lower comparing to the other financial enterprise. Average deposit mobilization into loans and advances is just 48.75%, which figure represents a very smaller amount has been deployed under the loan portfolio. So, further it should try to increase its overall deposit mobilization rate to maximize the operating profit of the bank. And, that won't be a problem for the bank if it focuses on increasing the deposit mobilization rate as the bank has set the excellent track record rather that would increase the earning of the bank.
- ❖ NIC Bank is a purely Nepalese invested bank shows its extra level efficiency in its operation. It's all the financial parameters, loan loss provisioning level, non performing loan status, credit to deposit ratio are looking in perfect level. However, it holds very smaller level of deposit of overall in comparing to the other successful financial institutions. So, it should try to grow in its total deposit level.
- ❖ The average deposit mobilization rate over the last five years of NIC Bank is more the 80% which is considered as the aggressive factor in credit

disbursement. So, NICB should focus on leveling the deposit mobilization rate around 80% which is considered as the moderate rate and thus the bank will not face problem in terms of liquidity.

- ❖ On the other hand, its average NPL level less than 2% is describing its good policy in deploying the deposit and the bank is fully focused to function in its full capacity for earning more profit. So, NIC should focus on collecting more deposit to use the same in lending sector- the lending system of the bank seems perfect as compared to the banks under study.
- ❖ Lumbini Bank had very higher level of NPL in its loan and advances portfolio than the NRB standard but in the final year it has gone down below 2%. A huge sum of money has been employed in loans and advances, presence of bigger level loans might again the failure of banks operation.
- ❖ Its average deposit mobilization rate is 87.24% which is very risky in terms of facing the liquidity and the bank may face problem at the times of paying the deposit holders money.
- ❖ The performance it has shown in the later year shows that it has been improved, the bad loans has been paid and written off. In the final year no loans are restructured or rescheduled and the compulsory provisioning amount has gone down tremendously in the final year. So, now the bank should focus on attracting more deposits as the bank holds very low deposit as compared to others banks under the study or the industry. And, again while lending the deposit holder money; the bank should concentrate on disbursing quality credit so that the bank will not face the problems that it has in the history.
- ❖ All the banks not only under study but the whole industry have to maintain good corporate governance.
- ❖ The banks should provide more training program in business strategy and organizational management to the employees especially of the Credit Department. It helps them become more efficient, judgmental and professional in credit appraisal, monitoring and proper risk management.

- ❖ All the banks should focus on team decisions in the matters related to lending procedures thereby making the control mechanism more accurate and reliable.
- ❖ Principles of lending (Safety, Liquidity, Purpose, Profitability, Spread, Security, National Interest and Security) should be strictly followed in lending procedure to avoid the disbursed loans fall into Non-Performing Loans category.

Bibliography

Books

- Baskota, Suman. (2009). *Research Methodology*. Kathmandu: New Hira Books Enterprises.
- Gupta, S.C. (1982). *Fundamental of statistics*. Mumbai: Himalayan Publishing House.
- Gupta, S.C. & Kapoor, V.K.(1999). *Fundamentals of Statistics*. New Delhi: Sultan Chand & Sons.
- Gupta, S.P. (1969). *Statistical Methods*.New Delhi: Sultan Chand & Sons.
- Sayers, R.S. (1967). *Modern Banking*. London: Oxford University Press.
- Sharma, P.K. & Chaudhary, A.K. (2066). *Statistical Methods*.Kathmandu: Khanal Publication Pvt. Ltd.
- Shrestha, M.S. (2009). *Fundamentals of Banking*. Kathmandu: Buddha Academic Publishers & Distributors Pvt. Ltd.
- Thapa, Kiran & Koirala, Narayan (2062). *Corporate Financial Management*. Kathmandu: Khanal Books and Stationary.
- Wolff, H.K & P. R. Pant (2005). *Social Science Research and Thesis Writing*. Kathmandu: Buddha Academic Enterprises Pvt. Ltd.

Journals/ Reports/ Articles

- Adhakari, M. P. (2008). NPL & Its Management, *News Letter*, V. 4. NRB: 7-15
- Annual Report. (2008-2012). *Nepal Bank Limited*.
- Annual Report. (2008-2012). *Nabil Bank Limited*.
- Annual Report. (2008-2012). *Standard Chartered Bank Nepal limited*.
- Annual Report. (2008-2012). *NIC Bank Limited*.
- Annual Report. (2008-2012). *Lumbini Bank Limited*.
- Chalise, Kuber (2009). Transparency of Financial Institution. *The Himalayan Times* 4th February. (5)
- Chhetri. D.B. (2000), Non-performing Assets: A Need for Rationalization, *Nepal Rastra Bank Samachar*. (P017)
- Dhungana, R. B. (2007). NPL in the Nepalese Financial System & the Role of NRB. 42nd *Souvenir of Rastrya Banijya Bank*. (28-31)
- Pradhan, Surendra Man (2007), NRB Supervision Process & Method, 50th *Annual Publication of NRB*. (45-47)
- Thapa, Dr. Govinda Badadur (2008), Problems of Debt Recovery in the Government, 51st *Annual Publication of NRB*. (17-23)
- Unified Directives (2067). *Nepal Rastra Bank*.
- Unified Directives (2068). *Nepal Rastra Bank*.
- Unified Directives (2069). *Nepal Rastra Bank*.

Unpublished Thesis

- Barahi, Mila (2008). *A Comparative Study on NRB Directives & its implementation in Nepalese Commercial Bank "A Case study of Everest Bank Limited, Nepal Bangladesh Bank and Lumbini Bank Limited)*. Unpublished Master's Thesis, Shankar Dev Campus, Tribhuvan University.

- Bhattarai, Shama (2005). *Implementation of Directives issued by NRB: A Comparative Study of Nepal SBI Bank and NB Bank Limited*. Unpublished Master's Thesis, Shankar Dev Campus, Tribhuvan University.
- Manandhar, Sunil (2006). *Impact & Implementation of NRB Directives on Commercial Banks in respect to NBL, NABIL and RBB*. Unpublished Master's Thesis, Shankar Dev Campus, Tribhuvan University.
- Shrestha, A.K. (2012). *A Study of Non-Performing Assets & Profitability Management of Commercial Banks*. Unpublished Master's Thesis, Post Graduate College, Tribhuvan University.
- Shrestha, Sabitri (2003). *Impact and Implementation of NRB guidelines on Commercial Banks (A Study of Nabil Bank Limited and Nepal SBI Bank Limited)*. Unpublished Master's Thesis, Shankar Dev Campus, Tribhuvan University.
- Tamang, Rusa (2013). *Lending Procedure of Commercial Banks of Nepal*. Unpublished Master's Thesis, Post Graduate College, Tribhuvan University.
- Timsina, Subodh (2012). *Impact of Nepal Rastra Banks's Directives on Loan Policy of Commercial Banks*. Unpublished Master's Thesis, Post Graduate College, Tribhuvan University.
- Yadav, Ujjwal (2007). *A Case Study on Non Performing Assets-with special reference to Nepal Bank Limited and Rastriya Bank Limited*. Unpublished Master's Thesis, Shankar Dev Campus, Tribhuvan University.

Websites

- ❖ www.blog_about_nepali_banks.blogspot.com
- ❖ www.financialdictionary.com
- ❖ www.google.com
- ❖ www.investopedia.com
- ❖ www.loans.com
- ❖ www.lumbinibank.com
- ❖ www.nepalbank.com
- ❖ www.nicbank.com.np
- ❖ www.nrb.org.np
- ❖ www.rrb.org.np
- ❖ www.standerdcharteredbank.com.np

Appendix

1) Simple correlation Analysis between NPL and TLA of NBL

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
2008	1856.04	13756	25531686.24	3444884.482	189227536
2009	2136.75	18780	40128165	4565700.563	352688400
2010	1344.12	25052.35	33673364.68	1806658.574	627620240.5
2011	1534.86	26705.88	40989786.98	2355795.22	713204026.6
2012	1657.53	29698.86	49226751.42	2747405.701	882022285.3
	Σ X=	Σ Y=	Σ XY=	Σ X ² =	Σ Y ² =
n=5	8529.3	113993.09	189549754.3	14920444.54	2764762488

$$\begin{aligned} \text{Coefficient of correlation (r)} &= \frac{n \sum XY - \sum X \cdot \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \cdot \sqrt{n \sum Y^2 - (\sum Y)^2}} \\ &= \frac{5 \times 189549754.3 - 8529.3 \times 113993.09}{\sqrt{5 \times 14920444.54 - (8529.3)^2} \cdot \sqrt{5 \times 2764762488 - (113993.09)^2}} \end{aligned}$$

$$r = -0.62574$$

$$r^2 = 0.392$$

$$\begin{aligned} \text{Probable error of correlation coefficient (P.E.)} &= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} \\ &= 0.18354 \end{aligned}$$

2) Simple correlation Analysis between NPL and TLA of Nabil

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
2008	178.29	15903.02	2835349.436	31787.3241	252906045.1
2009	224.82	27999.01	6294737.428	50544.0324	783944561
2010	487.54	33030.97	16103919.11	237695.2516	1091044979
2011	689.85	38905.49	26838952.28	475893.0225	1513637152
2012	1000.06	42867.77	42870342.07	1000120.004	1837645705
	Σ X=	Σ Y=	Σ XY=	Σ X ² =	Σ Y ² =
n=5	2580.56	158706.26	94943300.32	1796039.634	5479178442

$$\begin{aligned} \text{Coefficient of correlation (r)} &= \frac{n \sum XY - \sum X \cdot \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \cdot \sqrt{n \sum Y^2 - (\sum Y)^2}} \\ &= \frac{5 \times 94943300.32 - 2580.56 \times 158706.26}{\sqrt{5 \times 1796039.634 - (2580.56)^2} \cdot \sqrt{5 \times 5479178442 - (158706.26)^2}} \end{aligned}$$

$$r = 0.91027$$

$$r^2 = 0.829$$

$$\begin{aligned} \text{Probable error of correlation coefficient (P.E.)} &= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} \\ &= 0.05171 \end{aligned}$$

3) Simple correlation Analysis between NPL and TLA of SCB

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
2008	197.01	10790.2	2125777.302	38812.9401	116428416
2009	219.71	13355	2934227.05	48272.4841	178356025
2010	98.14	16176.6	1587571.524	9631.4596	261682387.6
2011	115.8039	18662.48	2161187.968	13410.54326	348288159.8
2012	154.486	19828.5	3063225.651	23865.9242	393169412.3
	$\sum X =$	$\sum Y =$	$\sum XY =$	$\sum X^2 =$	$\sum Y^2 =$
n=5	785.1499	78812.78	11871989.49	133993.3513	1297924401

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

$$= \frac{5 \times 11871989.49 - 785.1499 \times 78812.78}{\sqrt{5 \times 133993.3513 - (785.1499)^2} \sqrt{5 \times 1297924401 - (78812.78)^2}}$$

$$r = -0.65317$$

$$r^2 = 0.427$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.17295$$

4) Simple correlation Analysis between NPL and TLA of NICB

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
2008	101.14	9128.65	923271.661	10229.2996	83332250.82
2009	132.3	11008.9	1456477.47	17503.29	121195879.2
2010	92.49	12929.3	1195830.957	8554.4001	167166798.5
2011	90.36	15165.52	1370356.387	8164.9296	229992996.9
2012	128.55	17523.19	2252606.075	16525.1025	307062187.8
	$\sum X =$	$\sum Y =$	$\sum XY =$	$\sum X^2 =$	$\sum Y^2 =$
n=5	544.84	65755.56	7198542.55	60977.0218	908750113.2

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

$$= \frac{5 \times 7198542.55 - 544.84 \times 65755.56}{\sqrt{5 \times 60977.0218 - (544.84)^2} \sqrt{5 \times 908750113.2 - (65755.56)^2}}$$

$$r = 0.12521$$

$$r^2 = 0.016$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.29692$$

5) Simple correlation Analysis between NPL and TLA of LLB

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
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2008	1007.04	4944.5	4979309.28	1014129.562	24448080.25
2009	1271.99	5828	7413157.72	1617958.56	33965584
2010	353.28	5492.91	1940535.245	124806.7584	30172060.27
2011	59.73	6213.11	371109.0603	3567.6729	38602735.87
2012	32.86	6979.19	229336.1834	1079.7796	48709093.06
	$\sum X=$	$\sum Y=$	$\sum XY=$	$\sum X^2=$	$\sum Y^2=$
n=5	2724.9	29457.71	14933447.49	2761542.333	175897553.4

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

$$= \frac{5 \times 14933447.49 - 2724.9 \times 29457.71}{\sqrt{5 \times 2761542.333 - (2724.9)^2} \sqrt{5 \times 175897553.4 - (29457.71)^2}}$$

$$r = -0.64741$$

$$r^2 = 0.419$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.17521$$

6) Simple correlation Analysis between LLP and TLA of NBL

Year	LLP(X)	TLA (Y)	XY	X ²	Y ²
2008	2698.14	13756	37115613.84	7279959.46	189227536
2009	3103.2	18780	58278096	9629850.24	352688400
2010	1491.4	25052.35	37363074.79	2224273.96	627620240.5
2011	2034.42	26705.88	54330976.39	4138864.736	713204026.6
2012	2028.02	29698.86	60229882.06	4112865.12	882022285.3
	$\sum X=$	$\sum Y=$	$\sum XY=$	$\sum X^2=$	$\sum Y^2=$
n=5	11355.18	113993.09	247317643.1	27385813.52	2764762488

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

$$= \frac{5 \times 247317643.1 - 11355.18 \times 113993.09}{\sqrt{5 \times 27385813.52 - (11355.18)^2} \sqrt{5 \times 2764762488 - (113993.09)^2}}$$

$$r = -0.71037$$

$$r^2 = 0.505$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.14943$$

7) Simple correlation Analysis between LLP and TLA of Nabil

Year	LLP(X)	TLA (Y)	XY	X ²	Y ²
2008	357.25	15903.02	5681353.895	127627.5625	252906045.1
2009	409.08	27999.01	11453835.01	167346.4464	783944561

2010	762.1	33030.97	25172902.24	580796.41	1091044979
2011	871.39	38905.49	33901854.93	759320.5321	1513637152
2012	1262.09	42867.77	54102983.84	1592871.168	1837645705
	$\Sigma X=$	$\Sigma Y=$	$\Sigma XY=$	$\Sigma X^2=$	$\Sigma Y^2=$
n=5	3661.91	158706.26	130312929.9	3227962.119	5479178442

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

$$= \frac{5 \times 130312929.9 - 3661.91 \times 158706.26}{\sqrt{5 \times 3227962.119 - (3661.91)^2} \cdot \sqrt{5 \times 5479178442 - (158706.26)^2}}$$

$$r = 0.9066$$

$$r^2 = 0.822$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.05370$$

8) Simple correlation Analysis between LLP and TLA of SCB

Year	LLP(X)	TLA (Y)	XY	X ²	Y ²
2008	287.52	10790.2	3102398.304	82667.7504	116428416
2009	318.25	13355	4250228.75	101283.0625	178356025
2010	219.64	16176.6	3553028.424	48241.7296	261682387.6
2011	235.21	18662.48	4389601.921	55323.7441	348288159.8
2012	252.54	19828.5	5007489.39	63776.4516	393169412.3
	$\Sigma X=$	$\Sigma Y=$	$\Sigma XY=$	$\Sigma X^2=$	$\Sigma Y^2=$
n=5	1313.16	78812.78	20302746.79	351292.7382	1297924401

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

$$= \frac{5 \times 20302746.79 - 1313.16 \times 78812.78}{\sqrt{5 \times 351292.7382 - (1313.16)^2} \cdot \sqrt{5 \times 1297924401 - (78812.78)^2}}$$

$$r = -0.6629$$

$$r^2 = 0.439$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.16909$$

9) Simple correlation Analysis between LLP and TLA of NICB

Year	LLP(X)	TLA (Y)	XY	X ²	Y ²
2008	187.87	9128.65	1714999.476	35295.1369	83332250.82
2009	235.42	11008.9	2591715.238	55422.5764	121195879.2
2010	197.29	12929.3	2550821.597	38923.3441	167166798.5
2011	231.58	15165.52	3512031.122	53629.2964	229992996.9

2012	280.89	17523.19	4922088.839	78899.1921	307062187.8
	$\sum X=$	$\sum Y=$	$\sum XY=$	$\sum X^2=$	$\sum Y^2=$
n=5	1133.05	65755.56	15291656.27	262169.5459	908750113.2

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

$$= \frac{5 \times 2473176431 - 11355.18 \times 113993.019}{\sqrt{5 \times 2764762488 - (11355.18)^2} \cdot \sqrt{5 \times 2738581352 - (113993.09)^2}}$$

$$r = 0.8011$$

$$r^2 = 0.642$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.10805$$

10) Simple correlation Analysis between NPL and TLA of LLB

Year	LLP(X)	TLA (Y)	XY	X ²	Y ²
2008	1103.81	4944.5	5457788.545	1218396.516	24448080.25
2009	1615.84	5828	9417115.52	2610938.906	33965584
2010	385.65	5492.91	2118340.742	148725.9225	30172060.27
2011	101.13	6213.11	628331.8143	10227.2769	38602735.87
2012	88.98	6979.19	621008.3262	7917.4404	48709093.06
	$\sum X=$	$\sum Y=$	$\sum XY=$	$\sum X^2=$	$\sum Y^2=$
n=5	3295.41	29457.71	18242584.95	3996206.062	175897553.4

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

$$= \frac{5 \times 2473176431 - 11355.18 \times 113993.019}{\sqrt{5 \times 2764762488 - (11355.18)^2} \cdot \sqrt{5 \times 2738581352 - (113993.09)^2}}$$

$$r = -0.5667$$

$$r^2 = 0.321$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.20476$$

11) Simple correlation Analysis between LLP and NPL of NBL

Year	LLP(X)	NPL (Y)	XY	X ²	Y ²
2008	2698.14	1856.04	5007855.766	7279959.46	3444884.482
2009	3103.2	2136.75	6630762.6	9629850.24	4565700.563
2010	1491.4	1344.12	2004620.568	2224273.96	1806658.574
2011	2034.42	1534.86	3122549.881	4138864.736	2355795.22
2012	2028.02	1657.53	3361503.991	4112865.12	2747405.701
	$\sum X=$	$\sum Y=$	$\sum XY=$	$\sum X^2=$	$\sum Y^2=$

n=5	11355.18	8529.3	20127292.81	27385813.52	14920444.54
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Coefficient of correlation (r) =

$$r = \frac{n \sum XY - \sum X \cdot \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \cdot \sqrt{n \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 20127292.81 - 11355.18 \times 8529.3}{\sqrt{5 \times 27385813.52 - (11355.18)^2} \cdot \sqrt{5 \times 14920444.54 - (8529.3)^2}}$$

$$r = 0.9836$$

$$r^2 = 0.967$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.00981$$

12) Simple correlation Analysis between LLP and NPL of Nabil

Year	LLP(X)	NPL (Y)	XY	X ²	Y ²
2008	357.25	178.29	63694.1025	127627.5625	31787.3241
2009	409.08	224.82	91969.3656	167346.4464	50544.0324
2010	762.1	487.54	371554.234	580796.41	237695.2516
2011	871.39	689.85	601128.3915	759320.5321	475893.0225
2012	1262.09	1000.06	1262165.725	1592871.168	1000120.004
	$\sum X =$	$\sum Y =$	$\sum XY =$	$\sum X^2 =$	$\sum Y^2 =$
n=5	3661.91	2580.56	2390511.819	3227962.119	1796039.634

Coefficient of correlation (r) =

$$r = \frac{n \sum XY - \sum X \cdot \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \cdot \sqrt{n \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 2390511.819 - 3661.91 \times 2580.56}{\sqrt{5 \times 3227962.119 - (3661.91)^2} \cdot \sqrt{5 \times 1796039.634 - (2580.56)^2}}$$

$$r = 0.9942$$

$$r^2 = 0.989$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.00346$$

13) Simple correlation Analysis between LLP and NPL of Nabil

Year	LLP(X)	NPL (Y)	XY	X ²	Y ²
2008	287.52	197.01	56644.3152	82667.7504	38812.9401
2009	318.25	219.71	69922.7075	101283.0625	48272.4841
2010	219.64	98.14	21555.4696	48241.7296	9631.4596
2011	235.21	115.8039	27238.23532	55323.7441	13410.54326
2012	252.54	154.486	39013.89444	63776.4516	23865.9242
	$\sum X =$	$\sum Y =$	$\sum XY =$	$\sum X^2 =$	$\sum Y^2 =$
n=5	1313.16	785.1499	214374.6221	351292.7382	133993.3513

Coefficient of correlation (r) =

$$r = \frac{n \sum XY - \sum X \cdot \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \cdot \sqrt{n \sum Y^2 - (\sum Y)^2}}$$

$$r = \frac{5x214374.6221 - 1313.16x785.1499}{\sqrt{5x133993.3513 - (1313.16)^2} \sqrt{5x133993.3513 - (785.1499)^2}}$$

$$r = 0.9860$$

$$r^2 = 0.972$$

$$\begin{aligned} \text{Probable error of correlation coefficient (P.E.)} &= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} \\ &= 0.00841 \end{aligned}$$

14) Simple correlation Analysis between LLP and NPL of NICB

Year	LLP(X)	NPL (Y)	XY	X ²	Y ²
2008	187.87	101.14	19001.1718	35295.1369	10229.2996
2009	235.42	132.3	31146.066	55422.5764	17503.29
2010	197.29	92.49	18247.3521	38923.3441	8554.4001
2011	231.58	90.36	20925.5688	53629.2964	8164.9296
2012	280.89	128.55	36108.4095	78899.1921	16525.1025
	Σ X=	Σ Y=	Σ XY=	Σ X ² =	Σ Y ² =
n=5	1133.05	544.84	125428.5682	262169.5459	60977.0218

$$\begin{aligned} \text{Coefficient of correlation (r)} &= \frac{n \sum XY - \sum X \cdot \sum Y}{\sqrt{n \sum X^2 - (\sum X)^2} \sqrt{n \sum Y^2 - (\sum Y)^2}} \\ &= \frac{5x125428.5682 - 1133.05x544.84}{\sqrt{5x262169.5459 - (1133.05)^2} \sqrt{5x60977.0218 - (544.84)^2}} \end{aligned}$$

$$r = 0.6656$$

$$r^2 = 0.443$$

$$\begin{aligned} \text{Probable error of correlation coefficient (P.E.)} &= 0.6745 \times \frac{1 - r^2}{\sqrt{n}} \\ &= 0.16800 \end{aligned}$$

15) Simple correlation Analysis between LLP and NPL of NICB

Year	LLP(X)	NPL (Y)	XY	X ²	Y ²
2008	1103.81	1007.04	1111580.822	1218396.516	1014129.562
2009	1615.84	1271.99	2055332.322	2610938.906	1617958.56
2010	385.65	353.28	136242.432	148725.9225	124806.7584
2011	101.13	59.73	6040.4949	10227.2769	3567.6729
2012	88.98	32.86	2923.8828	7917.4404	1079.7796
	Σ X=	Σ Y=	Σ XY=	Σ X ² =	Σ Y ² =
n=5	3295.41	2724.9	3312119.954	3996206.062	2761542.333

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

$$r = \frac{5 \times 3312119.954 - 3295.41 \times 2724.9}{\sqrt{5 \times 3996206.062 - (3295.41)^2} \sqrt{5 \times 2761542.333 - (2724.9)^2}}$$

$$r = 0.9936$$

$$r^2 = 0.987$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.00387$$

Appendix

1) Simple correlation Analysis between NPL and TLA of NBL

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
2006	8372.11	16867	141212379	70092225.9	284495689
2007	2262.24	12441	28144527.8	5117729.82	154778481
2008	1856.04	13756	25531686.2	3444884.48	189227536
2009	2136.75	18780	40128165	4565700.56	352688400
2010	966.72	19560.09	18909130.2	934547.558	382597120.8
n=5	∑ X= 15593.9	∑ Y= 81404.1	∑ XY= 253925889	∑ X ² = 84155088.3	∑ Y ² = 1363787227

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

$$= \frac{5 \times 253925889 - 15593.9 \times 81404.1}{\sqrt{5 \times 84155088.3 - (15593.9)^2} \cdot \sqrt{5 \times 1363787227 - (81404.1)^2}}$$

$$(r^2) = 0.49569$$

$$= 0.2457$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.23$$

2) Simple correlation Analysis between NPL and TLA of Nabil Bank

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
2006	144.51	10946.7	1581907.62	20883.1401	119830240.9
2007	182.63	13272.78	2424007.81	33353.7169	176166688.9
2008	178.29	15903.02	2835349.44	31787.3241	252906045.1
2009	224.82	27999.01	6294737.43	50544.0324	783944561
2010	486.28	33030.97	16062300.1	236468.238	1091044979
n=5	∑ X= 1216.53	∑ Y= 101152	∑ XY= 29198302.4	∑ X ² = 373036.452	∑ Y ² = 2423892515

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

$$= \frac{5 \times 29198302.452 - 1216.53 \times 101152}{\sqrt{5 \times 373036.152 - (1216.53)^2} \cdot \sqrt{5 \times 2423892515 - (2423892515)^2}}$$

$$= 0.85056$$

$$(r^2) = 0.72344$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.2262$$

3) Simple correlation Analysis between NPL and TLA of SCB

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
2006	226.31	8420.9	1905733.88	51216.2161	70911556.81
2007	195.93	9206.3	1803790.36	38388.5649	84755959.69
2008	197.01	10790.15	2125767.45	38812.9401	116427337
2009	219.71	13355	2934227.05	48272.4841	178356025
2010	98.14	16176.59	1587570.54	9631.4596	261682064
n=5	$\sum X$ 937.1	$\sum Y=57948.9$	$\sum XY=10357089.3$	$\sum X^2=186321.665$	$\sum Y^2=712132942.6$

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

$$= \frac{5 \times 10357089.3 - 937.1 \times 57498.9}{\sqrt{5 \times 186321.665 - (937.1)^2} \cdot \sqrt{5 \times 712132942.6 - (712132942.6)^2}}$$

$$= -0.7653$$

$$(r^2) = 0.586$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.1228$$

4) Simple correlation Analysis between NPL and TLA of NIC

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
2006	185.43	4909.36	910342.625	34384.2849	24101815.61
2007	179.56	6902.13	1239346.46	32241.7936	47639398.54
2008	101.14	9128.65	923271.661	10229.2996	83332250.82
2009	132.3	11008.9	1456477.47	17503.29	121195879.2
2010	92.49	12929.3	1195830.96	8554.4001	167166798.5
n=5	$\sum X=$ 690.92	$\sum Y=$ 44878.3	$\sum XY=$ 5725269.18	$\sum X^2=$ 102913.068	$\sum Y^2=$ 443436142.7

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

$$\frac{5 \times 5725269.18 - 690.92 \times 44878.3}{\sqrt{5 \times 102913.068 - (690.92)^2} \cdot \sqrt{5 \times 443436142.7 - (44878.3)^2}}$$

$$= -0.8662$$

$$(r^2) = 0.7504$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.0733$$

5) Simple correlation Analysis between NPL and TLA of LBL

Year	NPL(X)	TLA (Y)	XY	X ²	Y ²
2006	561.14	3685.14	2067879.46	314878.1	13580256.82
2007	1339.24	4321.59	5787646.19	1793563.78	18676140.13
2008	1007.04	4944.5	4979309.28	1014129.56	24448080.25
2009	1271.99	5828	7413157.72	1617958.56	33965584
2010	514.58	5681.4	2923534.81	264792.576	32278305.96
n=5	$\sum X =$ 4693.99	$\sum Y =$ 24460.6	$\sum XY =$ 23171527.5	$\sum X^2 =$ 5005322.58	$\sum Y^2 =$ 122948367.2

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

$$\frac{5 \times 23171527.5 - 4693.99 \times 24460.6}{\sqrt{5 \times 5005322.58 - (4693.99)^2} \cdot \sqrt{5 \times 122948367.2 - (24460.6)^2}}$$

$$= 0.1483$$

$$(r^2) = 0.02199$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.2949$$

6) Simple correlation Analysis between LLP and TLA of NBL

Year	LPP(X)	TLA (Y)	XY	X ²	Y ²
2006	8539.22	16867	144031024	72918278.2	284495689
2007	2685.38	12441	33408812.6	7211265.74	154778481
2008	2698.14	13756	37115613.8	7279959.46	189227536
2009	3103.2	18780	58278096	9629850.24	352688400
2010	1945.19	19560.09	38048091.5	3783764.14	382597120.8
n=5	X=18971.1	Y=81404.1	XY=310881638	X ² =100823118	Y ² =1363787227

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

$$\begin{aligned} & \frac{5 \times 310881638 - 18971.1 \times 81404.1}{\sqrt{5 \times 100823118 - (18971.1)^2} \cdot \sqrt{5 \times 1363787227 - (81404.1)^2}} \\ & = 0.0605 \\ (r^2) & = 0.00364 \end{aligned}$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.3006$$

7) Simple correlation Analysis between LLP and TLA of Nabil

Year	LPP(X)	TLA (Y)	XY	X ²	Y ²
2006	360.57	10946.7	3947051.62	130010.725	119830240.9
2007	356.25	13272.78	4728427.88	126914.063	176166688.9
2008	357.25	15903.02	5681353.9	127627.563	252906045.1
2009	409.08	27999.01	11453835	167346.446	783944561
2010	762.11	33030.97	25173232.5	580811.652	1091044979
n=5	X=2245.26	Y=101152	XY=50983900.9	X ² =1132710.45	Y ² =2423892515

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

$$\begin{aligned} & \frac{5 \times 50983900.9 - 2245.26 \times 101152}{\sqrt{5 \times 1132710.45 - (2245.26)^2} \cdot \sqrt{5 \times 2423892515 - (101152)^2}} \\ & = 0.8113 \end{aligned}$$

$$(r^2) = 0.6581$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.1037$$

8) Simple correlation Analysis between LLP and TLA of SCB

Year	LPP(X)	TLA (Y)	XY	X ²	Y ²
2006	277.67	8420.9	2338231.3	77100.6	70911556.8
2007	270.86	9206.3	2493618.42	73365.1	84755959.7
2008	287.52	10790.15	3102383.93	82667.8	116427337
2009	318.25	13355	4250228.75	101283	178356025
2010	219.63	16176.59	3552864.46	48237.3	261682064
n=5	X=1373.93	Y=57948.9	XY=15737326.9	X ² =382654	Y ² =712132943

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

$$= \frac{5 \times 15737326.9 - 1373.93 \times 57948.9}{\sqrt{5 \times 382654 - (382654)^2} \cdot \sqrt{5 \times 712132943 - (57948.9)^2}}$$

$$= -0.4089$$

$$(r^2) = 0.1672$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.2509$$

9) Simple correlation Analysis between LLP and TLA of NICB

Year	LPP(X)	TLA (Y)	XY	X ²	Y ²
2006	197.65	4909.36	970335.004	39065.5	24101815.6
2007	246.15	6902.13	1698959.3	60589.8	47639398.5
2008	187.87	9128.65	1714999.48	35295.1	83332250.8
2009	235.42	11008.9	2591715.24	55422.6	121195879
2010	197.29	12929.3	2550821.6	38923.3	167166798
n=5	1064.38	44878.3	9526830.61	229296	443436143

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

$$\frac{5x9526830.61 - 10643.8x44878.3}{\sqrt{5x229296 - (10643.8)^2}\sqrt{5x443436143 - (44878.3)^2}}$$

$$= -0.08036$$

$$(r^2) = 0.006458$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.2997$$

10) Simple correlation Analysis between LLP and TLA of LBL

Year	LPP(X)	TLA (Y)	XY	X ²	Y ²
2006	517.41	3685.14	1906728.29	267713	13580256.8
2007	1337.6	4321.59	5780558.78	1789174	18676140.1
2008	1103.81	4944.5	5457788.55	1218397	24448080.3
2009	1615.84	5828	9417115.52	2610939	33965584
2010	385.65	5681.4	2191031.91	148726	32278306
n=5	4960.31	24460.6	24753223	6034948	122948367

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

$$\frac{5x24753223 - 4960.31x24460.6}{\sqrt{5x6034948 - (4960.31)^2}\sqrt{5x122948367 - (24460.6)^2}}$$

$$= 0.25449$$

$$(r^2) = 0.0647$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.2828$$

11) Simple correlation Analysis between LLP and NPL of NBL

Year	LPP(X)	NPL (Y)	XY	X ²	Y ²
2006	8539.22	8372.11	71491289.2	72918278.2	70092225.9
2007	2685.38	2262.24	6074974.05	7211265.74	5117729.82
2008	2698.14	1856.04	5007855.77	7279959.46	3444884.48
2009	3103.2	2136.75	6630762.6	9629850.24	4565700.56
2010	1945.19	966.72	1880454.08	3783764.14	934547.558
n=5	X=18971.1	Y=15593.9	XY=91085335.6	X ² =100823118	Y ² =84155088.3

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

$$= \frac{5 \times 91085335.6 - 18971.1 \times 15593.9}{\sqrt{5 \times 100823118 - (18971.1)^2} \cdot \sqrt{5 \times 84155088.3 - (15593.9)^2}}$$

$$= 0.9972$$

$$(r^2) = 0.994$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.0018$$

12) Simple correlation Analysis between LLP and NPL of Nabil

Year	LPP(X)	NPL (Y)	XY	X ²	Y ²
2006	360.57	144.51	52105.9707	130010.725	20883.1401
2007	356.25	182.63	65061.9375	126914.063	33353.7169
2008	357.25	178.29	63694.1025	127627.563	31787.3241
2009	409.08	224.82	91969.3656	167346.446	50544.0324
2010	762.11	486.28	370598.851	580811.652	236468.238
n=5	2245.26	1216.53	643430.227	1132710.45	373036.452

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

$$= \frac{5 \times 643430.227 - 2245.26 \times 1216.53}{\sqrt{5 \times 1132710.45 - (2245.26)^2} \cdot \sqrt{5 \times 373036.452 - (1216.53)^2}}$$

$$= 0.9919$$

$$(r^2) = 0.984$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.0060$$

13) Simple correlation Analysis between LLP and NPL of SCB

Year	LPP(X)	NPL (Y)	XY	X ²	Y ²
2006	277.67	226.31	62839.4977	77100.6289	51216.2161
2007	270.86	195.93	53069.5998	73365.1396	38388.5649
2008	287.52	197.01	56644.3152	82667.7504	38812.9401
2009	318.25	219.71	69922.7075	101283.063	48272.4841
2010	219.63	98.14	21554.4882	48237.3369	9631.4596
n=5	1373.93	937.1	264030.608	382653.918	186321.665

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

$$= \frac{5 \times 264030.608 - 1373.93 \times 937.1}{\sqrt{5 \times 382653.918 - (1373.93)^2} \cdot \sqrt{5 \times 186321.665 - (937.1)^2}}$$

$$= 0.8827$$

$$(r^2) = 0.7792$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.0681$$

14) Simple correlation Analysis between LLP and NPL of NIC

Year	LPP(X)	NPL (Y)	XY	X ²	Y ²
2006	197.65	185.43	36650.2395	39065.5225	34384.2849
2007	246.15	179.56	44198.694	60589.8225	32241.7936
2008	187.87	101.14	19001.1718	35295.1369	10229.2996
2009	235.42	132.3	31146.066	55422.5764	17503.29
2010	197.29	92.49	18247.3521	38923.3441	8554.4001
n=5	1064.38	690.92	149243.523	229296.402	102913.068

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

$$\frac{5 \times 149243.523 - 1064.38 \times 690.92}{\sqrt{5 \times 229296.402 - (1064.38)^2} \sqrt{5 \times 102913.068 - (690.92)^2}}$$

$$(r^2) = 0.4813$$

$$= 0.2317$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.2321$$

15) Simple correlation Analysis between LLP and NPL of LBL

Year	LPP(X)	NPL (Y)	XY	X ²	Y ²
2006	517.41	561.14	290339.447	267713.108	314878.1
2007	1337.6	1339.24	1791367.42	1789173.76	1793563.78
2008	1103.81	1007.04	1111580.82	1218396.52	1014129.56
2009	1615.84	1271.99	2055332.32	2610938.91	1617958.56
2010	385.65	514.58	198447.777	148725.923	264792.576
n=5	4960.31	4693.99	5447067.79	6034948.21	5005322.58

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

$$\frac{5 \times 5447067.79 - 4960.31 \times 4693.99}{\sqrt{5 \times 6034948.21 - (4960.31)^2} \sqrt{5 \times 5005322.58 - (4693.99)^2}}$$

$$= 0.9678$$

$$(r^2) = 0.9367$$

$$\text{Probable error of correlation coefficient (P.E.)} = 0.6745 \times \frac{1 - r^2}{\sqrt{n}}$$

$$= 0.0178$$