

# CHAPTER I

## INTRODUCTION

### 1.1 General Background

Nepal is one among the least developed countries situated between the two physical and economic giants India and P.R China. Since the development of any country depends upon its economic development thus it is vital for a nation like Nepal to embark upon the path of the economic development through the development of all the economic sectors and economic growth as well.

Since Nepal is the developing country it has to face loads of problems while embarking upon the path of the economic developments. She has to make expansion in financial sector since financial market is crucial for the economic growth of the country through Capital formation and its proper utilization. Financial institutions provide capital to develop trade, industry, and business. Banks, finance companies, cooperative societies, insurance companies, stock exchanges helps in the economic development of the country. The banking sector needs to play a vital development role to thrust up the economy by adopting the growth oriented credit policy and building up the financial structure for further and Advances in the crucial sectors of the economy for the upliftment of the national economy. Thus the problem has become serious in the developing countries like Nepal. economic development. Formulation of the sound credit policies and coordination and planed efforts pushes forward the forces of economic growth. Commercial banks should be careful while performing the credit creation function. Credit policy should ensure minimum risk and maximum profit from lending. Nepalese commercial banks lag far behind the responsibility to invest through Loan

The name *bank* derives from the Italian word *banco* "desk/bench", used during the Renaissance by Florentines bankers, who used to make their transactions above a desk covered by a green tablecloth. However, there are traces of banking activity even in ancient times.

The Banks are one of the major financial sectors which perform the financial activities. The major function of the banks is saving and Investment management, which helps in the development of the country. So we could say that bank is the pivotal part of financing, since it involves a process of collecting scattered money and to help its mobilization in different sectors according to the need of customers. Banks helps to develop saving habit of the peoples through offering attractive interest rates and various attractive schemes associated with it, which in-turns help to make other people to invest for their business.

A bank is a commercial or state institution that provides financial services , including issuing money in various forms, receiving deposits of money, lending money and processing transactions and the creating of credit. A commercial bank accepts deposits from customers and in turn makes loans, even in excess of the deposits; a process known as fractional-reserve banking. Some banks (called Banks of issue) issue banknotes as legal tender. Many banks offer ancillary financial services to make additional profit; for example, most banks also rent safe deposit boxes in their branches.

A bank generates a profit from the differential between the level of interest it pays for deposits and other sources of funds, and the level of interest it charges in its lending activities. This difference is referred to as the *spread* between the cost of funds and the loan interest rate. Historically, profitability from lending activities has been cyclic and dependent on the needs and strengths of loan customers. In recent history, investors have demanded a more stable revenue stream and banks have therefore placed more emphasis on transaction fees, primarily loan fees but also including service charges on array of deposit activities and ancillary services (international banking, foreign exchange, insurance, investments, wire transfers, etc.). However, lending activities still provide the bulk of a commercial bank's income.

A bank is a business organization that receives and holds deposits of funds from others makes loans or extends credits and transfer funds by written orders of depositors.(Encyclopedia TWB; 1984)

Banks are the important representatives of financial intermediaries. As the name suggests, financial intermediaries are entities that intermediate between providers and users of financial capital. They are typically multi-faceted, and their activities therefore can be understood from a variety of vantage points. Banks are members of an expensive industry that provides a dazzling variety of financial intermediation services. All the financial institutions have in common is the processing of risk and its subtle complement information. Financial Intermediaries produce information for two kinds of applications :(i) to match trans actors like a marriage broker would and (ii) to manage risks and transform the nature of claims as when a bank produces credit information to control a borrower's credit risk.<sup>1</sup> Source: Greenbaum, Stuart I. and Thakor, Anjan V., 1995, p. 48 - 49.

Commercial banks are the pivotal financial intermediaries, which poses an important place in the frame work of the economy since it formulates capital for the development of industry, trade and business and other resources deficit sectors and then for the overall development of the country.

Beside these contribution commercial banks render numerous service to their customer in view to facilitate their economic and social life. The mobilization of the resources and the investment for production use to various sectors is an important factor.

According to the Commercial Bank Act 1975 AD (2031 BS), “ A commercial bank is one which exchange money, deposits money, accept deposits, grant loans and performs

commercial banking functions which is not a bank meant for co-operative, agriculture, industries or for such specific purpose”

One of the main functions of commercial banks is credit, and it has been the dominating factor for the generation of income for the commercial banks. So there is always a need of good credit management in order to maximize income and to make customers (borrowers) satisfied.

“The mechanism of credit creation is used to expand the business. Fluctuation in the credit facilities granted by banks has an important bearing on the level of economic activity. Expansion of banks credit is followed by increase in production, employment, sales and prices. In a developing economy the banks offer more and more credit and increases the resources of the industries, thereby causing faster economic development. Banks play a decisive role in the industrial development of the country. The credit facilities extended by banks must be uniform and rational; otherwise there will be haphazard development of country. The flow of credit is very much like smooth and uniform throughout the organs of human body, so also credit should flow steadily and evenly through various sectors of the economy. If credit flow is artificially plugged or arrested, it would be irreparable harm to economy just as clotting of our blood vessels would lead to fatal results”.

A good Credit policy ensure maximum amount of investment through loan and advances to all sector with proper utilization. The scope of banks has become so wide that it covers all the financial activities from issue of money to performance of agency services to its customers. In this perspective, a bank can be defined as a financial intermediary who accepts the deposit for the purpose of lending or investment from the public, repayable on demand through cheques, drafts or otherwise and also performs a number of agency services to its clients, on instruction.

## **1.2 Profile of Banks**

There are 28 commercial banks (up to mid July 2010) registered with Nepal Rastra Bank. Out of these pioneer three private commercial bank have been selected for the study and analysis of credit Management of Commercial Banks which are as follow:

1. Nabil Bank Limited
2. Nepal Investment Bank Limited
3. Standard Chartered Bank Limited

### **NABIL BANK LIMITED**

Nepal Arab Bank Ltd (NABIL) was the first joint venture bank established in 1984 AD, joint venture with United Arab Emirates Bank. At present, NB (International) Limited,

Ireland is the foreign partner of the bank. The Nepal Arab Bank Limited has been renamed as Nabil Bank Limited from Jan 1, 2002.

Nabil introduced many innovative products and marketing concepts in the banking sector of Nepal. It has 28 branches until this review period, with head office at Kamaladi, Kathmandu.

Nabil Bank is the first bank to introduce credit card facility in the country. It commenced credit card facilities with the acceptance of master card. Success of Nabil is a milestone in the banking history of Nepal as it paved the way for the establishment of commercial banks and financial institutions.

**The share holding pattern of Nabil Bank Ltd. is as follows:**

- N.B. (International) Limited, Ireland holding 50% of the capital.
- General Public holding 30% of the capital.
- Nepal Industrial Development Corporation (NIDC) holding 10% of the capital.
- Rastriya Beema Sansthan holding 9.67% of the capital.
- Nepal Stock Exchange Limited holding 0.33% of the capital.

*Source: Annual Report of NABIL, 2008/2009*

**NEPAL INVESTMENT BANK**

Nepal Investment Bank Ltd. (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital) was Credit Agricole Indosuez, a subsidiary of one of the largest banking groups in the world.

With the decision of Credit Agricole Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, in April 2002, acquired 50% of the holdings of Credit Agricole Indosuez in Nepal Indosuez Bank. The name of the bank was changed to Nepal Investment Bank Ltd. upon approval of the Bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's Office.

The bank has 31 branches namely at Durbarmarg (head office),

**The shareholding structure comprises of:**

- A group of companies holding 50% of the Capital
- Rastriya Banijya Bank holding 15% of the Capital.

- Rastriya Beema Sansthan holding 15% of the Capital.
- The general public holding 20% of the Capital.

*Source: Annual Report of NIBL, 2008/2009*

## **STANDARD CHARTERED BANK NEPAL LIMITED (SCBN)**

Standard Chartered Bank Nepal Limited has been in operation in Nepal since 1987 when it was initially registered as a joint-venture operation. Today the Bank is an integral part of Standard Chartered Group who has 75% ownership in the company with 25% shares owned by the Nepalese public. The Bank enjoys the status of the largest international bank currently operating in Nepal.

Standard Chartered Group employs almost 60,000 people, representing over 100 nationalities in over 50 countries in the Asia Pacific Region, South Asia, the Middle East, Africa, the United Kingdom and the Americas. This diversity lies at the heart of the Bank's values and supports the Bank's growth as the world increasingly becomes one market.

With strong organic growth supported by strategic alliances and acquisitions and driven by its strengths in the balance and diversity of its business, products, geography and people, Standard Chartered is well positioned in the emerging trade corridors of Asia, Africa and the Middle East.

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 15 points of representation and 13 ATMs across the country and with around 350 local staff, Standard Chartered Bank Nepal Ltd. is in a position to serve its customers through a large domestic network. In addition to which the global network of Standard Chartered Group gives the Bank a unique opportunity to provide truly international banking in Nepal.

The bank has over all 11 branches and several extension counters, with head office at Naya Baneshwor, Kathmandu.

Standard Chartered Bank Nepal Limited offers a full range of banking products and services in Wholesale and Consumer banking, catering to a wide range of customers encompassing individuals, mid-market local corporate, multinationals, large public sector companies, government corporations, airlines, hotels as well as the DO segment comprising of embassies, aid agencies, NGOs and INGOs.

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 in delivering superior services. 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.

The share holding pattern of Standard Chartered Bank Nepal Ltd. Is as follow:

- Standard Chartered Bank Limited, Australia holding 50% of the share capital.
- Standard Chartered Bank Limited, United Kingdom holding 25% of the share capital.
- General Public holding 25% of the share capital.

Source: Annual Report of SCBNL, 2008/2009

### **1.3 Statement Of The Problem**

Credit management is the essence of commercial banking; consequently the formulation and implementation of sound credit policies are among the most important responsibilities of bank directors and management. Well conceived credit policies and careful credit practices are essential if bank is to perform its credit creation function effectively and minimize the risk inherent in any extension of credit. Credit management effects on the company's profitability and liquidity, so it is one of the crucial decisions for the commercial banks.

Basically, the banks in Nepal have been facing the following problems in credit and investment sectors. The provided loan and any investment should be secured for easy recovery not only backed by the fixed collateral securities. Because the money which have been gone out as a loan, is the money deposited in the bank, by the small and big depositors which has to be returned back to the depositors at any time or in a certain period of time. It can be assured by analyzing the borrower's loan request and proposal which is one of the main jobs in the banking.

The commercial banks are also facing the problem of over liquidity due to the lack of lending opportunities.

Commercial banks have to face tough competition due to limited and narrow capital market and investment opportunities. Even the difficult economic environment has reduced the earning capacity of many sectors in the economy, thereby affecting the overall performance of the commercial banks. The volume of nonperforming loans is rising steadily. This has resulted in constraints in the earning capacity of the banks. It has

also reduced the turnover of funds in commercial banking sector thereby failing to generate more business.

The problem faced by the banks can be pointed out as follows:

- How effectively is the credit policy of the chosen bank is being followed?
- How efficiently the banks have utilized their deposit towards loan and advances to generate income?
- Whether the bank has maximum or minimum liquidity?
- What is the volume of total loan occupied by Non-performing loan?
- Is there an adequate loan loss provisioning?

#### **1.4 Objectives of Study**

The basic objective is the comparative analysis and evaluation of the credit management of the commercial banks. The following objectives are also considered in this study:

- To evaluate liquidity, activity, profitability ratios and risk ratios.
- To compare credit policy of concerned banks and discusses the fund mobilization as loan and advances of sample banks.
- To analyze relationship of loan and advance, total investments with total deposits.
- To examine the volume of non-performing loan.
- To examine the adequacy of loan loss provisioning.
- To provide suggestions and recommendations on the basis of findings.

#### **1.5 Significance of the study**

The Thesis report will help the commercial banks to fill up a research gap on the study of credit management.

The suggestions made by this report will help to improve their resource mobilization in the form of credit to generate income.

Beside theses, this study no doubt will have importance to various groups but in particular it is directed towards the certain groups of individuals/institutions, which are as under:

- Has an importance to the shareholders.
- Has an importance to the management bodies of the bank for the evaluation of the performance of the bank.

- Has an importance to the outsiders which the customers, financing agencies, stock exchange etc.
- Has an importance to the government bodies or the policy makers such as the central bank.
- Has an importance to the interested outside parties such as the investors, customers, competitors, personnel of the banks, stockbrokers, dealers and market makers.

## **1.6 Limitation Of The Study**

The study is simply the partial fulfillment of MBS program. The time assigned is very limited it has to be completed within a speculative time. Although the whole study is based upon the secondary data, the data collected from the respective Commercial Banks may not be accurate, it is totally depends on the reliability of the source. This study has reviewed only concerned banks NABIL, NIBL and SCBNL. The whole study is based only on data of five-year period 2004/2005 to 2008/2009.

## **1.7 Organization of the Study**

The study has been carried out to five different stages and procedures as for the need; it has been organized in the following chapters in order to make the study agile.

### **First Chapter**

This chapter mainly deals with the Introduction part of the study. It includes the Country Background, General Back ground, Significance of the Study, Objectives of the Study, Limitation of the Study and Organization of the study.

### **Second Chapter**

This chapter has focus on the Review of Literature which includes review of books, journals, bulletins and annual reports published by the banks and other related authorities, review of related articles and studies and previous thesis as well.

### **Third Chapter**

This chapter includes the interpret parts which are research design, sources of data, analysis of data, population and sampling and tools for analysis which are ratio analysis and statistical tools.

### **Forth Chapter**

This chapter deals with the processing, analysis and interpretation of the data, the presentation and analysis of relevant though define course of research methodology with



the financial and statistical analysis related to Credit and fund mobilization of banks. Major findings of the study are also included in thesis chapter.

### **Fifth Chapter**

This is the last chapter of the study which provides summary and conclusion, suggestions and recommendations for the improvement in the future performance of the sample banks. Finally, an extensive, bibliography and appendices are also presented at the end of the thesis work.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

This unit of the study tries to describe the conceptual framework, concept of commercial bank and credit. Besides these this chapter highlights the literature that is available in concerned subject as to my knowledge, research work, relevant study on this topic and review of thesis work performed previously.

#### **2.1 Conceptual Framework**

##### **2.1.1 History Of Banking In Nepal**

The history of banking in Nepal is not so old. In the past years indigenous individuals, wealthy agriculturist, lenders, merchants and traders conducted some banking activities along with their other business occupation. These activities were fragmented and mostly localized installation of “Kaushi Tosha Khana” as a banking agency during the regime of king Prithivi Narayan Shah could be regarded as first step towards development of the banking in Nepal. But institutional banking transaction started with the establishment of “Tejaratha Adda” around 1877 AD, during the Primeministership of Ronodip Singh to provide credit facilities to public at a very concessional rate of interest. It used to issue loan at 5% interest under sufficient security of gold and silver. It didn't accept any deposit from people. So its limited resources were able to serve only limited people. So the concept of saving was loan existence in Nepal unless the establishment of “Nepal Bank Limited” under Nepal Bank Act in 1937 AD as a first commercial bank of Nepal with 10 million authorized capital. The government owned 51 percent of the shares in the bank and controlled its operations to a large extent. Nepal Bank Limited was headquartered in Kathmandu and had branches in other parts of the country.

Then the government felt the requirement of the central bank and established “Nepal Rastra Bank” in 1956 as the central bank. It played leading role in development of banking in Nepal and its function was to supervise commercial banks and to guide the basic monetary policy of the nation. Its major aims were to regulate the issue of paper money; secure countrywide circulation of Nepalese currency and achieve stability in its exchange rates; mobilize capital for economic development and for trade and industry growth; develop the banking system in the country, thereby ensuring the existence of banking facilities; and maintain the economic interests of the general public. Nepal Rastra Bank also was to oversee foreign exchange rates and foreign exchange reserves.

Prior to the establishment of Nepal Rastra Bank, Kathmandu had little control over its foreign currency holdings. Indian rupees were the prevalent medium of exchange in most parts of the country. Nepalese currency was used mostly in the Kathmandu Valley and the surrounding hill areas. The existence of a dual currency system made it hard for the government to know the status of Indian currency holdings in Nepal. The exchange rates

between Indian and Nepalese rupees were determined in the marketplace. Between 1932 and 1955, the value of 100 Indian rupees varied between Rs71 and Rs177. The government entered the currency market with a form of fixed exchange rate between the two currencies in 1958. An act passed in 1960 sought to regulate foreign exchange transactions. Beginning in the 1960s, the government made special efforts to use Nepalese currency inside the country as a medium of exchange.

It was only after the signing of the 1960 Trade and Transit Treaty with India that Nepal had full access to foreign currencies other than the Indian rupee. Prior to the treaty, all foreign exchange earnings went to the Central Bank of India, and all foreign currency needs were provided by the Indian government. After 1960 Nepal had full access to all foreign currency transactions and directly controlled its exports and imports with countries other than India.

As a result of the treaty, the government had to separate Indian currency (convertible currency because of free convertibility) from other currencies (nonconvertible currency because it was directly controlled by Nepal Rastra Bank). In 1991 government statistics still separated trade with India from trade with other countries. Tables showing international reserves listed convertible and nonconvertible foreign exchange reserves separately.

There were other government banking institutions. Rastriya Banijya Bank (National Commercial Bank), a state-owned commercial bank, was established in 1966. The Land Reform Savings Corporation was established in 1966 to deal with finances related to land reforms. Beside this NIDC was established in 1959 AD and Agriculture Development Bank established in 1976 AD and other development bank and financial institutions were establish and contributing to the economy and banking tradition in Nepal.

Before globalization and financial liberalization, in the mid 1980s, only two commercial banks that are Nepal Bank Limited and Rastriya Banijya Bank were in operation. The liberalization paves the way for the establishment of private banks including the foreign joint ventures. As a result, seventeen commercial banks are in operation. Out of seventeen commercial banks, nine banks were established in joint venture, however, at present there are six joint venture banks, after withdrawal of foreign investment in three banks. Rastriya Banijya Bank is fully owned by the HMG of Nepal, while in case of Nepal Bank Limited, HMG of Nepal is major shareholder. Remaining ten banks are fully owned by Nepalese investors.

In the mid-1980s, three foreign commercial banks opened branches in Nepal. The Nepal Arab Bank was co-owned by the Emirates Bank International Limited (Dubai), the Nepalese government, and the Nepalese public. The Nepal Indosuez Bank was jointly owned by the French Banque Indosuez, Rastriya Banijya Bank, Rastriya Beema Sansthan (National Insurance Corporation), and the Nepalese public. Nepal Grindlays Bank was co-owned by a British firm called Grindlays Bank, local financial interests, and the Nepalese public.

Nepal Arab Bank Ltd (NABIL) was the first joint venture bank established in 1984 AD, joint venture with United Arab Emirates Bank. Then two other banks were established simultaneously Nepal Indoseuz Bank Ltd currently Nepal Investment Bank Ltd with Indoseuz Bank of France and Nepal Grindlays Bank Ltd currently Standard Chartered Bank Ltd with Grindlays Bank of London in 1986 AD. Himalayan Bank Ltd joint ventured with Habib bank of Pakistan and SBI Bank Ltd with State Bank of India were established in 1993 AD. Everest Bank Ltd, joint ventured with Panjab National Bank India(early it was joint ventured with United Bank of India Calcutta) and Nepal Bangladesh Bank Ltd with IFIC Bank of Kathmandu joint venture with SIAM commercial Bank Public Co., Thailand was established in 1995 AD. And Nepal Bank of Ceylon joint ventured with Ceylon bank of Srilanka was established in 1997 AD. Likewise Lumbini Bank Ltd and NIC Bank were established in 1998 AD. Others private commercial banks namely, Kumari Bank Ltd, Machhapuchhre bank Ltd, Laxmi Bank Ltd and Siddratha bank Ltd were established in 1999, 2000, 2001, AD respectively.

Banking system of Nepal has undergone through significant change since liberalization. Free market operation in the area of interest rate, foreign exchange rate and diversified banking products, which are latest development in the banking sector. Though banking System in Nepal is not so multifaceted when compared to that of developed countries; it has definitely grown to become more complex in recent years. Further, Electronic and Internet Banking services offered by the commercial banks indicate adaptation of advanced technologies and it has placed additional supervisory concern and challenges. NRB has recognized and accepted these challenges. Steps are taken to strengthen supervisory capacity by increasing efficient and professional manpower and introducing new technologies.

### **2.1.2 Commercial Bank Concept**

Commercial banks are those financial institutions, which deals in accepting deposits from persons and institutions and giving loans against securities. They provide working capital needs for trade, industry and even agriculture sectors. Moreover commercial banks also provide technical and administrative assistance to industries, trades and business enterprises.

The commercial bank is a financial middleman, obtaining its funds mainly through deposit placed with it and dispensing them through loans. Robert Bartels pg 59

According to the Black's Dictionary " Commercial Bank" means a bank authorized to receive both demand and time deposits, to engage in trust services, to issue letter of credit, to rent time-deposit boxes, and to provide similar services.

Section 2(a) of Commercial Bank Act 2031(1974) has defined that "Commercial Bank" means a bank which operates currency exchanges transactions, accepts deposits, provide loan; performs, dealing, relating to commerce except the banks which have been specified for the co-operative, agriculture, industry of similar other specific objective.

Under the Commercial Bank Act, 2031, B.S., The Commercial Banks are those banks, which provide short term and long term debts whenever necessary for trade and commerce. They accept deposits from public, and grant loans in different forms. They purchase and discount the bill for exchange, promissory notes, and exchange foreign currency.

The main function of commercial bank is the accumulation to the temporarily idle money of general public for trade and commerce. Its main function are accepting deposit and grant loan, exchange, and purchase and discount bill for promissory notes, exchange foreign currency, to provide loan, agency function, overseas trading services, information and other services. Commercial banks have been established to provide a suitable service, according to their customers.

The number of commercial banks remained unchanged at eighteen during the year under review. List of the commercial banks is given below.

## **Major Functions Of Commercial Banks**

### **Functions of commercial banks**

The essential characteristics of the banking business may be described within the framework of a simplified balance sheet. A bank's main liabilities are its capital (including reserves and, often, subordinated debt) and deposits. The latter may be from domestic or foreign sources (corporations and firms, private individuals, other banks, and even governments). They may be repayable on demand (sight deposits or current accounts) or repayable only after the lapse of a period of time (time, term, or fixed deposits and, occasionally, savings deposits). A bank's assets include cash (which may be held in the form of credit balances with other banks, usually with a central bank but also, in varying degrees, with correspondent banks); liquid assets (money at call and short notice, day-to-day money, short-term government paper such as treasury bills and notes, and commercial bills of exchange, all of which can be converted readily into cash without risk of substantial loss); investments or securities (substantially medium-term and longer term government securities—sometimes including those of local authorities such as states, provinces, or municipalities—and, in certain countries, participations and shares in industrial concerns); loans and advances made to customers of all kinds, though primarily to trade and industry (in an increasing number of countries, these include term loans and also mortgage loans); and, finally, the bank's premises, furniture, and fittings (written down, as a rule, to quite nominal figures).

All bank balance sheets must include an item that relates to contingent liabilities (*e.g.*, bills of exchange “accepted” or endorsed by the bank), exactly balanced by an item on the other side of the balance sheet representing the customer's obligation to indemnify the bank (which may also be supported by a form of security taken by the bank over its customer's assets). Most banks of any size stand prepared to provide acceptance credits (also called bankers' acceptances); when a bank accepts a bill, it lends its name and

reputation to the transaction in question and, in this way, ensures that the paper will be more readily discounted.

## **Deposits**

The bulk of the resources employed by a modern bank consists of borrowed money (that is, deposits), which is lent out as profitably as is consistent with safety. Insofar as an increase in deposits provides a bank with additional cash (which is an asset), the increase in cash supplements its loanable resources and permits a more than proportionate increase in its loans.

An increase in deposits may arise in two ways. (1) When a bank makes a loan, it may transfer the sum to a current account, thus directly creating a new deposit; or it may arrange a line of credit for the borrower upon which he will be permitted to draw checks, which, when deposited by third parties, likewise create new deposits. (2) An enlargement of government expenditure financed by the central bank may occasion a growth in deposits, since claims on the government that are equivalent to cash will be paid into the commercial banks as deposits. In the first instance, with the increase in bank deposits goes a related increase in the potential liability to pay out cash; in the second case, the increase in deposits with the commercial banks is accompanied by a corresponding increase in commercial bank holdings of money claims that are equivalent to cash.

Taking one bank in isolation, an increase in its loans may result in a direct increase in deposits. This may occur either as a result of a transfer to a current account (as above) or a transfer to another customer of the same bank. Once again, there is an increase in the potential liability to pay out cash. On the other hand, if there has been an increase in loans by another bank (including an increase in central bank loans to the government), this may give rise to increased deposits with the first bank, matched by a corresponding claim to cash (or its equivalent). For these reasons a bank can generally expect that, if there is an increase in deposits, there will also be some net acquisition of cash or of claims for receipt of cash. It is in this way that an increase in deposits usually provides the basis for further bank lending.

Except in countries where banks are small and insecure, banks as a whole can usually depend on their current account debits being largely offset by credits to current accounts, though from time to time an individual bank may experience marked fluctuations in its deposit totals, and all banks in a country may be subject to seasonal variations. Even when deposits are repayable on demand, there is usually a degree of inertia in the deposit structure that prevents sharp fluctuations; if money is accepted contractually for a fixed term or if notice must be given before its repayment, this inertia will be greater. On the other hand, if a significant proportion of total deposits derives from foreign sources, there is likely to be an element of volatility arising from international conditions.

In banking, confidence on the part of the depositors is the true basis of stability. Confidence is steadier if there exists a central bank to act as a “lender of last resort.”

Another means of maintaining confidence employed in some countries is deposit insurance, which protects the small depositor against loss in the event of a bank failure. Such protection was the declared purpose of the “nationalization” of bank deposits in Argentina between 1946 and 1957; banks receiving deposits acted merely as agents of the government-owned and government-controlled central bank, all deposits being guaranteed by the state.

### **Reserves**

Since the banker undertakes to provide depositors with cash on demand or upon prior notice, it is necessary to hold a cash reserve and to maintain a “safe” ratio of cash to deposits. The safe ratio is determined largely through experience. It may be established by convention (as it was for many years in England) or by statute (as in the United States and elsewhere). If a minimum cash ratio is required by law, a portion of a bank's assets is in effect frozen and not available to meet sudden demands for cash from the bank's customers. In order to provide more flexibility, required ratios are frequently based on the average of cash holdings over a specified period, such as a week or a month. In addition to holding part of the bank's assets in cash, a banker will hold a proportion of the remainder in assets that can quickly be converted into cash without significant loss. No banker can safely ignore the necessity of maintaining adequate reserves of liquid assets; some prefer to limit the sum of loans and investments to a certain percentage of deposits, not allowing their loan–deposit ratio to run for any length of time at too high a level.

Unless a bank held cash covering 100 percent of its demand deposits, it could not meet the claims of depositors if they were all to exercise in full and at the same time their rights to demand cash. If that were a common phenomenon, deposit banking could not long survive. For the most part, the public is prepared to leave its surplus funds on deposit with the banks, confident that they will be repaid if needed. But there may be times when unexpected demands for cash exceed what might reasonably have been anticipated; therefore, a bank must not only hold part of its assets in cash but also must keep a proportion of the remainder in assets that can be quickly converted into cash without significant loss. Indeed, in theory, even its less liquid assets should be self-liquidating within a reasonable time.

A bank may mobilize its assets in several ways. It may demand repayment of loans, immediately or at short notice; it may sell securities; or it may borrow from the central bank, using paper representing investments or loans as security. Banks do not precipitately call in loans or sell marketable assets, because this would disrupt the delicate debtor–creditor relationships and increase any loss of confidence, probably resulting in a run on the banks. Ready cash may be obtainable in this way only at a very high price. Banks must either maintain their cash reserves and other liquid assets at a high level or have access to a “lender of last resort,” such as a central bank, able and willing to provide cash against the security of eligible assets. In a number of countries, the commercial banks have at times been required to maintain a minimum liquid assets ratio. But central banks impose such requirements less as a means of maintaining appropriate

levels of commercial bank liquidity than as a technique for influencing directly the lending potential of the banks (see below).

Among the assets of commercial banks, investments are less liquid than money-market assets such as call money and treasury bills. By maintaining an appropriate spread of maturities, however, it is possible to ensure that a proportion of a bank's investments is regularly approaching redemption, thereby producing a steady flow of liquidity and in that way constituting a secondary liquid assets reserve. Some banks, particularly in the United States and Canada, have at times favoured the “dumbbell” distribution of maturities, a significant proportion of the total portfolio being held in long-dated maturities with a high yield, a small proportion in the middle ranges, and another significant proportion in short-dated maturities. Following redemption, the banks usually reinvest all or most of the proceeds in longer-term maturities that in due course become increasingly short-term. Interest-rate expectations frequently modify the shape of a maturity distribution, and, in times of great uncertainty with regard to interest rates, banks will tend to hold the bulk of their securities at short term, and something like a T-distribution may then be preferred (mainly shorts, supported by small amounts of medium to longer dated paper). Investments and money-market assets merge into each other. The dividing line is arbitrary, but there is an essential difference: the liquidity of investments depends primarily on marketability (though sometimes it also depends on the readiness of the government or its agent to exchange its own securities for cash); the liquidity of money-market assets, on the other hand, depends partly on marketability but mainly on the willingness of the central bank to purchase them or accept them as collateral for a loan. This is why money-market assets are more liquid than investments.

Commercial banks are directly related with the people and institutions. The commercial bank is an important bank. Its functions are very attractive for people. Although these banks are truly inspired with the objective of gaining profit, these commercial banks are also established, to accelerate common people's economic welfare and facility, to make available loan to the agriculture, industry, and commerce and to provide the banking services to public and the state. In Nepal, the commercial banks perform the following functions:

- They collect scattered idle money from the individual and institutions as deposit.
- They issue loans to individual and institutions under sufficient security and possibility of return.
- They function as an agent on behalf of customers. A commercial bank undertakes the payment of subscription, insurance premium, rents etc. and collections of the cheques, bills, interest, salaries, and dividends on behalf of customer. They arrange to remit money from place to place by means of cheques, drafts, wire transfer etc. they take small amount of commission for these services.
- They perform general utility function. It includes issue of traveler's cheque, exchange of credit information, foreign-currency exchange transaction, and safe custody of



valuable metals, jewels and documents and provides economic and commercial suggestions, etc.

## 2.2 Credit Concept

Transaction between two parties in which one (the creditor or lender) supplies money, goods, services, or securities in return for a promised future payment by the other (the debtor or borrower). Such transactions normally include the payment of interest to the lender. Credit may be extended by public or private institutions to finance business activities, agricultural operations, consumer expenditures, or government projects.

Most modern credit is extended through specialized financial institutions, of which commercial banks are the oldest and most important. In present-day industrial economies, the banks are able to extend and increase the supply of credit by the creation of new deposits for their loan customers.

The lender must judge each loan he makes on the basis of the character of the borrower (his intention to repay), his capacity to repay (based on his potential for earning income), and his collateral (property pledged in case of default on the loan). The terms of credit transactions may be publicly regulated to prevent abuses by customers and lenders as well as to channel credit into particular sectors of the economy.

Credit administration involves the creation and management of risk assets. The process of lending takes into consideration about the people and system required for the evaluation and approval of loan request, negotiation of terms, documentation, disbursement, administration of outstanding loans and workouts, knowledge of the process and awareness of its strength and weakness and important in setting objectives and goals for lending activities and for allocating available funds to various lending functions such as commercial, installment and mortgage portfolios. (Johnson, E., commercial Bank's Management, New York, The Dryden Press, 1940, P.132)

Credit is the amount of money lent by the creditor (bank) to the borrower(customers) either on the basis of security or without security. Sum of money lent by bank is the credit.(oxford Advance learners Dictionary, Calcutta, Oxford University Press, 1992, P.279 )

Credit and advances is an important item on the asset side of the balance sheet of a commercial bank. Bank earns interest on credit and advances, which is one of the major source of income for banks. Bank prepare credit portfolio, otherwise it will not only add bad debts but also affect profitability adversely. (*Varshney, N.P. and Swaroop, G., Banking Law and Practice for C.A.I.I.B., New Delhi, Sultan Chand and Sons, 1994, P.6*)

Banks generally grants credit on four ways (*Chhabra, T.N., and Taneja, P.L., Law and Practice of Banking, Delhi, J.C. Kaur to Dhanpati Rai and Dons, 1991, P.4*)

1. Overdraft
2. Cash credit
3. Direct credit

#### 4. Discounting of bills

### **Types of credit**

#### **1. Overdraft**

An instant extension of credit from a lending institution. More precisely a draft for more than the balance in the account on which the draft is drawn. A bank may honor an overdraft, depending on the importance of the customer and on prior arrangements (if any) to cover overdrafts.

#### **2. Cash credit**

Cash Credit is a short-term cash loan to a company. A bank provides this type of funding, but only after the required security is given to secure the loan. Once a security for repayment has been given, the business that receives the loan can continuously draw from the bank up to a certain specified amount. This type of financing is similar to a line of credit.

#### **3. Direct credit**

##### **i) Term credit**

Term credit are medium and long term credits which are given for purchase of assets, like land , building, machinery and equipment. The amount of term credits are fixed primarily in relation to the total costs of the projects.

##### **ii) Working capital credit**

A credit whose purpose is to finance everyday operations of a company.

##### **iii) Priority or Deprived Sector Credit**

With a view to giving freedom to commercial banks in the selection of their credit portfolio, the NRB has taken a decision to gradually phase out the priority sector-lending program. The priority sector-lending ratio was reduced to 2% for 2008/09. It will not be compulsory for commercial banks to provide loans to the priority sectors from 2007/2008 onwards. Compared to Rs. 14.70 billion in 2004/05, priority sector credit remained at 13 billion in 2008/2009.

##### **iv) Hire Purchase Financing (Installment Credit)**

Hire purchase credits are characterized by periodic repayment of Principal and interest over the maturity of credit.

##### **v) Housing credit (Real Estate Credit )**

Commercial banks also extend housing credit to their customers who have regular income or can earn revenue from housing project itself.

#### **vi) Project Credit**

Project credit is granted to the customers as per project viability. The borrowers have to invest certain proportion to the project from their equity and the rest will be financed as project credit.

#### **vii) Consortium Credit**

Two or more institution may consent to grant credit facility to the project of which is baptized as consortium credit. It reduces the risk of project among them. Financiers bank equal (or likely) charge on the project's assets.

#### **viii) Credit Cards and Revolving Lines of Credit**

Banks are increasingly utilizing charge cards and revolving lines of credit to make unsecured consumer credit. Revolving lines credit lowers the cost of making credit since operating and processing cost are reduced.

Charge cards and credit lines tied to demand deposit accounts are the most common revolving credit agreements. It can be further divided into credit cards, automatic overdrafts lines and large credit lines.

#### **ix) Off-Balance Sheet Transaction**

In fact, bank guarantee and letter of credit refer to off balance sheet transaction of financial institution. It is also known as contingent liability. Contingent liability pinpoints the liability, which may or may not arise during the happening of certain event.

#### **x) Bank Guarantee**

It is used for the sake of the customers in favor of the other party (beneficiary) up to the approval limit. Generally, a certain percent amount is taken as margin from the customer and the customer's margin account is credited.

#### **xi) Letter of Credit (L/C)**

LC are a means by which non-payment risk in the use of commercial draft may be further reduced by substituting the credit worthiness of a bank for that of the purchaser when, because of the excessive credit risk factors both in the buyer and in his environment, the buyer bank will for a fee, guarantee payment in the form of LC.

### **4. Discounting of Bills**

It is the main function of commercial banks. Discounting of bill means made payment of bill, which are issued by commercial banks as well as central banks, NRB, before their expiration date or matured time. Therefore, payment should be less than the total amount because of their uncertainty.

### **Principles of Credit Policy**

The income and profit of the bank depends upon its credit procedure, credit policy and investment of its fund in different securities. The greater the credits created by the bank, the higher will the profitability. A sound lending and investment policy is not only pre-

requisite for bank's profitability but also crucially significant for the promotion of commercial savings of a backward country like Nepal.

Some necessities for sound lending and investment policies which most of the banks must consider can be explained as under:

### **1. Principle of Liquidity**

Liquidity means the whole money stock in the economy. In the case of Nepal, the money in the accounts of current, saving and fixed period and the money in margin account refers to liquidity. The liquid property means cash stock of the commercial banks the amount of short term, current account and short-term government and business security and the treasury bills.

A bank should not forget the principle of liquidity while it is following its investment policy. The commercial banks are considered to be as financial mediators. The commercial banks have liability to the deposits and they immediately should give it in time when the depositors asked. For the purpose, the banks should keep adequate liquid funds. And also they should gain the profit by utilizing the deposits as a loan and advances. If the bank can't return the deposit at the time of demand it may lose the customers and their trust. If adequate liquid fund is kept, they can return the deposit at the will of the depositors but such bank can't run for long time. In the same way, if they invest the whole deposit loan and advances, they can't give it at the time of demand by the depositors, so the commercial bank should try to move the liquidity and profit together. It is a great challenge for the managers of the banks.

The commercial bank should attract deposits because a deposit is called raw materials for the banking, without which a bank can't operate. It is important thing in which sector the amount of deposit is to be invested. The interest is not given for the amount of current account. But as it has to give payment immediately plenty of liquidity is necessary for it. From the view point of the property, loan and advances are more income generating sectors but they are less liquid able. The amount won't be recovered in the time of want. Similarly keeping more cash in a bank is very liquid able, but doesn't generate income to the bank. The quantity of liquidity is less for investment so maintenance of coordination between the property and the liquidity by keeping some parts of its own property as a liquid property to provide loan, and to invest it is the success of the commercial banks. The central banks pay attention to this reality to give direction on liquidity to the commercial banks.

### **2. Principle of Profitability**

The objective of the commercial banks is to earn profit. The bank should follow the objective by focusing it on the sectors in which it can earn much profit. The bank should not keep its means and materials inactive. It should keep on investing the means and materials in appropriate and safe area. The banks can gain much profit from the safe and long-term investment. But there is less liquidity in such investment. It may loss the investment in the sector where profit is not gained. Where much risk is there, is much

profit. But sometimes it may create a situation where the bank would face the great economic loss, by loss of the investment in such a risky sector. So profit and liquidity are two opposite principles. If bank pays its attention only on profit, the liquidity becomes less, if it pays attention to the liquidity, it can't be a long term investment and the bank doesn't get enough profit. So it should maintain a balance between these two. The profit of a bank is the interest rate and the bank charge. So the bank should always try to apply an appropriate investment policy in such sectors from which it can earn.

### **3. Principle of Safety**

A bank should pay special attention on safety. If the invested area is not safe enough the bank may occur loss whether it is huge or small. The bank should be sensible while investing in unsafe sector for gaining much by accepting the security of low quality. To invest large loans against fewer securities by receiving commission, to invest in new places without enough care, observation and to flow the long term loan although with these various reason will make unsafe of the bank's investment. So it should invest in safe sector where the property taken as the security has the value enough towards the loss on investment. Therefore the banks should follow the principle of safety, should flow the short term loans and invest in a profitable sector. In such circumstances there will be minor possibility of loss. The secured security means the securities of the inland and foreign, company's shares, debentures and government bonds etc.

### **4. Principle of Diversification**

The bank should not follow the policy of investment only in one or two sectors further it should invest it in the various sectors. The bank by studying and analyzing the different sectors where there is possibility of earning more through small investment should extend its investment. Investing in many sectors helps keep it in balance. Some sectors may have huge profit whereas the others may have low profit or even loss, so by embracing the diversification policy on its investment, on the basis of gold, silver, diamond, development bond, share of company, debentures, goods, import and export bills and other appropriate securities, the bank have moved head of their investment policy. The bank always gets success in their working capacity from such investment. And the bank becomes successful in its goal achievement.

### **5. Principle of Marketability**

A bank should adopt the principle of marketability in investment policy. In a certain way, the bank moves its investment or flows loan against security. To invest the money, the bank should follow the policy of taking the security of high quality as far as possible. Are the goods taken as securities saleable or not in the market? Can the loan be recovered by selling the security or not? The bank should adopt the investment policy by much attention regarding the different aspects; however, it should study the market and evaluate the goods that have been taken as the security. The bank should not invest the money by taking such securities which are not saleable in the market and though they are sold but not fetch the reasonable price, and there is no value of such things.

## **6. Principle of National Interest**

A bank, while it applies its investment policy should give importance to the principle of national interest; however an application of such policy will not earn much profit. Any organization, institution and individual should not forget the liability towards the society. The objective of the bank to gain profit should not go against the national interest and the bank should follow the rules and regulation as well as the policy, directions, instruction given by the Nepal Rastra Bank.

## **7. Principle of Price Stability**

Security of the property which are taken by the bank must be durable otherwise there is the possibility of amount of bank to be sunk in future. But it can't be said that the price stability of any property will always remains the same. Yet, if the property taken as the security keeps the price stable it will be easy for the bank to recover its loan. Sometimes if the price of the securities goes high, it will be beneficial to the bank. But, there will be few possibility that it will always go high. If there is conditions where the securities will not be sold or if it is sold and the proceeds of sale are not equal to recover the loan, the bank suffers from loss. Therefore the bank should make investment by keeping the securities that keep the price stable, should flow the investment also create such situation which keeps the bank free from the fear of losing its loan.

## **8. Principle of Tax immunity**

As far as possible, a bank should make investment in such sectors which is entitled to the immunity. By increasing the investment to tax immunized sectors the bank can achieve its goal. The tax immunized areas likely treasury bills, national bond development bonds, etc are notable. Example, if it is invested in the priority declared sectors, facility can be achieved. Therefore, the bank should make investment in the areas where facility of tax immunity can be received.

## **Lending criteria or criteria of creditworthiness**

### **1. Character:**

Those mental qualities and action of debtor which impel him to pay his debts; that sense of obligation to fulfill the payment promise; sometimes summarized as “willingness to pay”

For this analysis, generally the following documents are needed:

- Memorandum and Articles of Association
- Registration certification
- Tax registration certificate(Renewed)
- Resolution to borrow
- Authorization-person authorizing to deal with the bank
- Reference of other lenders with whom the applicant has dealt in the past or Bank A/C statement of the customer.

**2. Capacity:**

Those means and faculties which provide the funds with which payment is made; resources possessed or incoming; the “ability to pay”

Even well-founded credit approval may subsequently be reserved by change in the debtor’s ability to fulfill his credit promise. Changes in his employment, earning capacity or indebtedness mitigate against the integrity of his promise and produce an unexpected specific risk.

**3. Capital:**

Those possessions or equities from which payment might be expected when character and capacity become lacking; that from which payment may be taken under duress, if necessary.

Capital, as viewed in the appraisal of creditworthiness, represents a residual or cushion of equities available for the payment of debt if other means of payment fail.

**4. Collateral:**

Special forms of capital which are usually negotiable or readily represented by conveyance of claim or title; specific security offered for credibility of the credit promise.

The banks commonly look to collateral in their transactions, taking securities, negotiable instruments, post-dated checks, and chattel and real estate mortgages as pledges.

**5. Conditions:**

Those circumstances external and usually beyond the control of debtors which nevertheless affect their paying behavior

**6. Country:**

Those conditions of foreign and international character, reflecting cultural and political circumstances, which may further qualify creditworthiness as determined by other factors.

**Steps involved in Lending**

Before issuing of loan commercial banks follow up certain procedures for providing loans. In spite of several technical aids, such as ratio analysis of financial statements, cash flow statements available to the modern banker, the ability to make a correct loan decision very much depends on the shrewd and critical judgment, common sense, perceptive intelligence and discriminating sense of the lending banker. However the usual steps involved in lending are as follow:

**1. Loan Application:**

When a customer needs loan they ask for loan procedure in the bank according to the type of loan which may be a corporate loan or a retail loan. A loan application or a proposal is made if the customer finds all the process and information is reasonable. For corporate loan, it becomes necessary to consult loan officer. Loan officer can also contact to big account holder possessing business organization and ask if they are in need of loan.

## **2. Initial interview with the customer ascertaining the following few criteria:**

- The character, capacity and integrity of the borrower.
- Prospects of his proposal- whether it will succeed or fail.
- Repayment capacity of the borrower including a consideration of the source of repayment.
- The collateral that being offered as security must be investigated as to the following:
  - Whether it is easily marketable
  - Value of the security at present
  - Whether the value is likely to be stable or it is the security such that its value fluctuates considerably and
  - In case of default in payment, it is easily transferable?

## **3. Credit investigation of the customer**

For credit investigation of the customer, the banker looks for:

- Past history of the account.
- Reports from other bankers and people in the same line of business in the case of new customer.
- Search of documents like memorandum of articles, registration papers, annual report available with the Registrar of Joint Stock companies.
- A visit to customer's place of business.
- Analysis of balance sheet and profit and loss account and funds flow analysis in the case of existing companies.
- In case of new companies or new projects which includes the following:
  - Examination of technical feasibility.
  - Whether the project is economically viable.
  - The competence of the managerial personnel to successfully complete and run the project.
- Examination of the cash budgets to ensure the repayment programs.
- 

## **Document that are usually required for providing loans through commercial banks**

### **1. Personal loan**

- Registered charge (mortgage) over the fixed assets.
- Demand Promissory Note
- Undertaking to repay loan and/ or personal guarantee.

### **2. Loans to company/ firms**

- Personal guarantee of promoters/ shareholders.
- Corporate guarantee of the concerned company/ firm.
- General Letter of Hypothecation- Where stocks and/ or machinery are hypothecated and/ or in the case of Working Capital Loan.



- Registered charge (mortgage) over the fixed assets.
- Demand Promissory Note.

### **3. Loans against cash (account) pledge**

- Deed of Pledge of Cash/ Cash equivalent.
- Demand Promissory Note.
- Personal guarantee and/ or undertaking to repay loan.

### **4. Loans against pledge of shares**

- Deed of Pledge of Shares.
- Demand Promissory Note.
- Personal guarantee and/ or undertaking to repay loan.

### **5. Loan against pledge of Saving Bonds**

- Deed of Pledge of Saving Bonds.
- Demand Promissory Note.
- Personal guarantee and/ or undertaking to repay loan.

### **6. Loan against security of authorization to deduct own or third party's account**

- Deed of Authorization to Deduct Account.
- Undertaking to repay loans and/ or personal guarantee.
- Letter of Set Off.
- Demand Promissory Note.

**Note :** Proposed fixed assets security has to be valued by Bank's valuer before accepting such fixed assets as Bank's security.

In all the cases Credit Facility Offer Letter of the Bank has to be duly signed and returned by the client. Furthermore, required documents may vary on case to case basis.

### **The usual credit Appraisal Practice**

In every bank they have their investment policy. Within which, they have a strong guidelines for the staffs working in credit/investment division. To guide such staffs for maintaining discipline, the management issues an internal directive called "Ten commandments".

### **The Ten Commandments of Credit Policy Guide**

For smooth and system running of an organization and to make honest the employees in the organization, there are good non-law rules within the system which are strictly followed by the credit personnel as known Ten Commandments:

1. You shall place a high priority on the quality of bank's credit exposure. New relationship must meet bank's credit criteria and existing portfolio should be under

- continuing review to improve risk position. Bank's preference is for regulating amortizing and self liquidating loans geared to borrower's ability to repay.
2. You shall constantly be mindful of bank's urgent need for earning from bank's existing and new credit exposure. Every profit opportunity should be explored and negotiation skills fully employed. Innovative employment of the bank's resources to increase return on assets must be encouraged.
  3. You shall be constantly alert for profitable new business opportunities that increase the size of bank's customer base. You must not under any circumstances rest on bank's existing base of customers nor direct all bank's efforts on their behalf. Growth through enlargement of bank's base is far more attractive in the long run. In our search for new customers, the stress should be on desirable ongoing relationship rather than on marginal performers.
  4. Risk dispersion is basic to sound credit principles and policies. You should be careful about large and undue concentration of credit by industry, 'one obligor' or any risk factors bearing on group of borrowers. However, bank must not diversify itself into an unwanted or unnecessary problem just for the sake of diversification.
  5. You shall constantly be aware of the expenses burden in bank's credit operation. Is there a less costly means of accomplishing the bank's mission? What can be done to improve the cost efficiency of bank's credit operation? Increase in customer base must be weighed against cost in terms of expenses, time and service.
  6. Lending decisions must consciously focus on optimizing the use of the bank's capital funds. The benefits so gained must be quantifiable, adequate and lasting, both for the bank and the borrower.
  7. You shall use every effort to reduce and contain the size of bank's criticized loan portfolio. This is time killer and the very root of bank's losses.
  8. Credit 'quality' is heavily impact by the structure of the credit. The risks of trouble along the line are increased materially as bank erodes basic protections which are designed to enable a timely and comfortable payback within the borrower's ability.
  9. You shall Endeavour to improve both the bank's external and internal communications to limit unnecessary time and effort amongst the bank's customers and associates. Clear, concise and summary type communication should be emphasized and utilized where necessary.
  10. You shall Endeavour to make a contribution to all matters that involve your approval, concurrence or other action. On the other hand, you shall not lend your name merely to see it in print. You shall avoid all temptations which can jeopardize or compromise the bank's risk assets.

## **Guidelines**

Every bank and financial institution has a guidelines or a credit policy guide for appropriate use of credit system within the organization. The policy is prepared by the individual bank and financial institution based on the country's financial policy and the central bank's directives. After preparation of the policy the approval from the central bank should be taken. All the credit facilities from such banks and financial institutions have been providing on the basis of the above said policy. But the system of individual bank and financial institution is different. A credit policy guide of one bank focuses on one factor then another bank's credit policy guide focuses on the another factor. Principally, it should not have much more deviation between the organizations, which is the major issue in credit systems in Nepalese banking. If it has more deviation between the banks then the standard of credit system and appraisal, risk measurement, monitoring and controlling is also a vast different.

## **Credit Risk Management**

### **1. Credit Risk Management Policy**

Notwithstanding structural changes that have taken place in business line of the banks, the core business – gathering deposits and extending credit – still represents the heart of banking. Nevertheless, disintermediation halted this core business, as both deposits and loans have lost to competing instruments, such as Certificate of Deposits, commercial Papers, Bonds, Mutual Funds etc. In addition, by separating the origination of credit from its funding and securitization presents banks with the opportunity to remove credit, liquidity and interest rate risks embedded in their balance sheets.

Credit risk is the most common cause of bank failures, causing virtually all regulatory environments to prescribe minimum standards for credit risk management. The basis of sound credit risk management is the identification of the existing and potential risks inherent in lending activities. Specific credit risk management measures typically include three kinds of policies like reduce credit risk, asset classification, and loss provisioning.

Yes, of course, liquidity risk has also the almost same degree of bank failures. Liquidity risk management lies at the heart of confidence in the banking system. The importance of liquidity transcends the individual institution, since a liquidity shortfall at a single institution can have system-wide repercussions. Banks transform the term of their liabilities to have different maturities on the asset side of the balance sheet. At the same time, banks must be able to meet their commitments (such as deposits) at the point at which they come due. The contractual inflow and outflow of funds will not necessarily be reflected in actual plans and may vary in different times. A bank may therefore, experience liquidity mismatches, making its liquidity policies and liquidity risk management in its business strategy.

The assessment of a credit risk management function should consider loans and all other extensions of credit (on and off balance sheet) to ensure that the following factors are considered:

- The level, distribution and severity of classified assets,

- The level and composition of none accruing, non performing, renegotiated, rolledover, and reduced rate assets,
- The adequacy of valuation reserves,
- Management's ability to administer and collect problem assets,
- Undue concentrations of credit,
- The adequacy and effectiveness of, and adherence to, lending policies and credit administration procedures,
- The adequacy and effectiveness of a bank's process for identifying and monitoring initial and changing levels of risk, or risk associated with approved credit exposure.

## 2. Credit Portfolio Management

The portfolio risk in turn comprises intrinsic risk and concentration risk. While intrinsic risk is inherent in certain type of lending like credit card etc., the portfolio risk refers to risk exposure due to disproportionate concentration of loans to specific industries, sectors, regions or types. Lenders also take on interest rate and liquidity risks. The symptoms of liquidity crisis in any bank can be traced to excessive credit risk, manifested in heavy loan losses. The credit risk of a bank's portfolio depends on two sets of factors – external and internal. The external factors are the state of the economy, natural calamities, nationwide strike, Government's policy, business cycles, sector/industry recession etc. The banks can, however, influence the adverse effects of these factors on their performance (earnings, NPA and loan losses) through safe and sound lending policies and attitude towards risk taking (diversified credit portfolio, careful credit analysis, loan syndication, consortium, etc.). Managerial philosophy, loan policy – high propensity to assume risk or granting of loans with high probability of default, loan volume – high ratio of loan to total assets, loan mix, lax procedures and unsound prevention strategies and un experienced credit officers are the internal factors influencing credit risk. Bank supervisors place considerable importance for formal policies laid down by the board of directors and diligently implemented by management. This emphasis is most critical with regard to the bank's lending function which stipulates that a bank must adopt a sound system for managing credit risk. A lending policy should contain an outline of the scope and allocation of bank's credit facilities and manner in which a credit portfolio is managed, i.e. how loans are originated, serviced, supervised and collected. A good lending policy is not overly restrictive, but allows for the presentation of loans to the board that officers believe are worthy of consideration but which do not fall within the parameters of written guidelines. Flexibility must exist to allow for fast reaction and early adaptation to changing conditions in a banks earning assets mix and market environment.

Considering that form the basis for sound lending policies include the following:

- i. **Limit on total outstanding loans:** A limit on the total loan portfolio is usually expressed relative to deposits, capital or total assets. In setting such a limit, factors such as credit demand, the volatility of deposits and credit risks should be considered.

**ii. Geographic limits:** This limit is usually a dilemma. If a bank lacks understanding of its diverse markets and does not have quality management, geographic diversification may become a reason for bad loan problems. On the other hand, the imposition of strict geographical limits can also create problems, particularly in the case of regions with narrow economies. In any case, a bank's business market should be clearly delineated and commensurate with its market knowledge, managerial and staff experience. Bank's officers should be fully aware of specific geographical limitations for lending purposes, an aspect that is particularly relevant for new banks.

**iii. Credit concentrations:** A lending policy should stimulate portfolio diversification and strike a balance between maximum yield and minimum risk. Concentration limits usually refer to the maximum permitted exposure to a single client, connected group and sector of economic activities. This is especially important for small, regionally oriented or specialized banks. A lending policy should also require that all concentrations be reviewed and reported on a frequent basis.

**iv. Distribution by category:** Limitations based on aggregate percentage of total loans in commercial, real estate, consumer or other credit categories are common. Policies related to such limitations should allow for deviations that are approved by the board.

**v. Types of loans:** A lending policy should specify the types of loans and other credit instruments that the bank intends to offer to clients and should provide guidelines for specific loans. Decisions about types of credit instruments should be based on the expertise of lending officers, the deposit structure of the bank and anticipated credit demand. Types of credit that have resulted in an abnormal loss should be controlled by senior management or avoided completely.

**vi. Maturities:** A lending policy should establish the maximum maturity for each type of credit and loans should be granted with a realistic repayment schedule. Maturity scheduling should be determined in relation to the anticipated source of repayment, the purpose of the loan and the useful life of the collateral.

**vii. Loan pricing:** Rates of various loan types must be sufficient to cover the costs of funds, loan supervision, administration (including general overhead) and probable losses. At the same time, they should provide the reasonable margin of profit. Rates should be periodically reviewed and adjusted to reflect changes in costs or competitive factors. Rate differentials may be deliberately maintained either to encourage some types of borrowers to seek credit elsewhere or to attract a specific type of borrower. Guidelines for other relevant procedures, such as the determination of fees on commitments or penalty interest rates are also an element of pricing policy.

**viii. Lending authority:** Lending authority is often determined by the size of the bank. In smaller banks, it is typically centralized. In order to avoid delays in the lending process, larger banks tend to decentralize according to geographical area, lending products and types of customer. A lending policy should establish limits for all ending officers. If policies are clearly established and enforced, individual limitations may be

somewhat higher than would normally be expected, depending on the officer's experience and tenure with the bank. Lending limits could also be based on group authority which would allow a committee to approve larger loans. Reporting procedures and the frequency of committee meetings should be specified.

**ix. Appraisal process:** A lending policy should outline where the responsibility for appraisal lies and should define formal, standard appraisal procedures, including reference to reappraisals of renewals or extensions. Acceptable types and limits on the amount of appraisal should be outlined for each type of credit facility. Circumstances requiring appraisals by qualified independent appraisers should also be described. The ratio of the amount of the loan to the appraised value of both the project and collateral, as well as the method of valuation and differences among various types of lending instruments should be detailed. A lending policy should also contain a schedule of down payment requirements, where applicable.

**x. Maximum ratio of loan amount to the market value of pledged securities:** A lending policy should set forth margin requirements for all types of securities that are accepted as collateral. Margin requirements should be related to the marketability of securities. A lending policy should also assign responsibility and establish a timetable for periodic pricing of collateral.

**xi. Recognition:** A bank should recognize a loan, whether original or purchased, in its balance sheet. This should occur as soon as the bank becomes the party to the contractual provisions that apply to the loan. A bank should initially carry the loan at cost.

**xii. Impairment:** A bank should identify and recognize the impairment of a loan or a collectively assessed group of loans. This should be done whenever it is neither probable nor assured that a bank will be able to collect the amounts due according to the contractual terms of a loan agreement. Impairment can be recognized by reducing the carrying amount of the loan to its estimated realizable value through an allowance or charge-off, or by attributing charges to an income statement during the period in which the impairment occurs.

**xiii. Collections:** A lending policy should define delinquent obligations of all types and specify the appropriate reports to be submitted to the board. These reports should include sufficient detail to allow for the determination of the risk factor, loss potential and alternative courses of action. The policy should require a follow-up collection procedure that is systematic and progressively stronger. Guidelines should be established to ensure that all accounts are presented to and reviewed by the board.

**xiv. Financial information:** The safe extension of credit depends on complete and accurate information regarding every detail of the borrower's credit standing. A possible exception to this rule is the case in which a loan was originally approved with readily marketable collateral to be used as the source of repayment. A lending policy should define the financial statement requirements for business and individuals at various borrowing levels and should include appropriate guidelines for audited, non-audited,

interim, cash flow and other statements. It should include external credit checks required at the time of periodic updates. If the loan maturity is longer than one year, the policy should require that the bank's officers prepare financial projections with the horizon equivalent to the loan maturity, to ensure that the loan can be repaid from cash flow. The assumptions for the projections should be clearly outlined. All requirements should be defined in such a manner that any negative credit data would clearly violate the bank's lending policy.

Finally, a lending policy should be supplemented with other written guidelines for specific departments of the bank. Written policies and procedures that are approved and enforced in various departments should be referenced in a bank's general lending policy. The absence of written policies, guidelines and procedures is a major deficiency and a sign that a board of directors is not properly executing its fiduciary responsibilities

### **3. Credit Risk Evaluation:**

All extensions of credit must be supported by a complete analysis of the proposed credit. A comprehensive and accurate appraisal of risk in every credit exposure of the bank is mandatory. No credit proposal can be put up for approval unless there has been a complete written analysis.

#### **Objectives:**

The objectives of having written documentation of an analytical nature to credit extensions are:

- To ensure a thorough analysis of all new borrowers.
- To ensure a periodic (at least, once a year) critical review of ongoing borrowing relationships including all aspects of the credit risk, overall profitability to the bank and marketing potential.
- To ensure proper and close evaluation of facility increases and/or significant modifications in existing credit arrangements.
- To facilitate and systemize the credit approval process by providing permanent signed record of approval together with the basis for the decision made.

#### **Steps in Analysis:**

The credit analyst should follow at least the following five distinct and logical steps to arrive at conclusions and make appropriate recommendations with regard to a proposed credit: Source: Credit Policy Guide, NABIL Bank Ltd., p. 41.

##### **i. Historical Analysis:**

The purpose of the historical analysis is to evaluate the past performance of the management of the borrowing entity. The analyst determines the major risk factors and evaluates how these risks have been mitigated in the past. It identifies the factors in the borrower's present condition and the past performance which foreshadow difficulties, or

indicate likelihood of success, in the ability to repay the requested facility at a future time. The two major tools for historical analysis are financial analysis and business risk analysis. The financial analysis is the quantitative toll and the business risk analysis is the qualitative.

**ii. Forecast:**

Having analyzed management's past performance, the nature of the risks involved and how these were mitigated, the analyst should proceed to make a reasonable forecast of the probable future performance of the entity, whether through cash generated in the future operations or conversion of assets. The findings of the financial and business risk analysis will form the basis of forecast in light of the relevant business environment at present and during the foreseeable future. While forecasting, the analyst should highlight to what extent the inherent risks involved in the proposed lending situation are mitigated and indicates how the unmitigated risks can be covered.

**iii. Pricing:**

Every credit facility generates some income for the bank in the form of interest earned and other fees. The funds the bank lends are generally deposited by the depositors or borrowed from other financial institutions. They, therefore have a cost. The analyst must determine the Return on Investment (ROI) of a facility to see if it meets the normal standards.

**iv. Protection Against Loss:**

The analyst must then consider the bank's position in a distress situation. Liquidation analysis would be carried out to ascertain the bank's ability to recover the outstanding. If liquidation analysis indicates insufficient cover, the analyst may recommend increase in or additional collateral.

**v. Debt Structure and Control:**

The analysis process should conclude with an assessment of the borrower's credit worthiness. If the analyst feels that the proposed facility may be extended, he/she should give a proposal for structuring the facility, given the borrower's assets and/or projected cash flow, so that it gives the bank adequate protection against loss and control of the relationship.

#### **4. Loan Loss Provisioning Policy**

Classification of assets can provide a basis for determining an adequate level of provisions for possible loan losses. In determining an adequate reserve, credit history, collateral and all other significant factors that affect the collectability of the loan portfolio should be considered. These include the quality of credit policies and procedures, prior loss experiences, loan growth, quality and depth of management in the lending area, loan collection and recovery practices, changes in national and local economic and business conditions, and general economic trends. The asset value assessments should be



performed systematically, consistently over time, and inconformity with objective criteria. They have to be supported by adequate documentation.

In many countries, in particular those with fragile economies, regulators have established mandatory levels of provisions that are related to asset classification. The mandatory level of provision is normally determined by certain statistics. In countries, where the legal framework for debt recovery is highly developed like USA, have demonstrated approximately 10% of sub-standard assets eventually deteriorate into loss. And, it is approximately 50% of doubtful and 100% of loss classification. In developing countries, where the legal frameworks and traditions for debt collection is less effective, provisions in the range of 20-25% of substandard assets. In Nepal, it is 25% for substandard assets, 50% for doubtful and 100% for loss assets. Sources: Nepal Rastra Bank, Directive to the banks, 2002; and Hennie van Greuning, Sonja Brajovic Bratanovic, 1999, Page 155.

The level of necessary loan loss provisions necessarily include the degree of subjectivity. Management discretion, however, should occur in accordance with established policies and procedures. The following aspects have to be included in analysis of adequacy of the overall allowance for losses:

- A survey of the bank's existing provisioning policy and the methodology used to carry it out. In particular the value attributed to collateral and its legal/operational enforceability have to be considered.
- An overview of risk grading (asset classification) procedures and the review process including the time allotted for review.
- Any current factors that are likely to cause losses associated with a bank's portfolio and that differ from the historical experience of loss. These may include changes in a bank's economic and business conditions or in its clients, external factors, or alterations of bank procedures since the last review.
- A trend analysis over a longer period of time, which serves to highlight any increases in overdue loans and the impact of such increases.
- An opinion of the adequacy of the current policy and, on the basis of the loans reviewed, extrapolation of additional provisions necessary to bring the bank's total loan-loss provisions to a level in line with International Accounting Standard (IAS).

## **5. Non-performing Loan Portfolio**

Non-performing loans are those not generating income. Loans are normally considered to be non performing when principal or interest on them is due and left unpaid 90 days or more (this period may vary by jurisdiction). It is an international standard. The introduction of asset classification that entails provisioning requirements is costly to the banking sector. The delinquency period for non-performing assets is therefore typically introduced at 180 days and then tightened to 90 days after a period of time.

The non-performing loan portfolio is an indication of the quality of the total portfolio and ultimately of a bank's lending decisions. Another such indicator is the bank's collection ratio.

When assessed within the context of non-performing loans, the aggregate level of provisions indicates the capacity of a bank to effectively accommodate credit risk. The analysis of a non-performing loan portfolio should cover a number of aspects, like:

- Aging of past due loans, including principal and interest, by more than 30, 90, 180 and 360 days. These classifications can be broken down by type of customer and branch of economic activity to determine overall trends and whether or not all customers are affected equally.
- Reasons for the deterioration of the loan portfolio quality, which can help identify possible measures that can be undertaken by the bank to reverse a given trend.
- A list of non-performing loans, including all relevant details should be assessed on a case to case basis to determine if the situation is reversible, exactly that can be done to improve repayment capacity, and whether or not work out and collection plans have been used.
- Provision level should be considered to determine the bank's capacity to withstand loan defaults.
- The impact of profit and loss account should be considered to determine exactly how the bank would be affected by the deterioration of asset quality.

## **6. Credit Portfolio Quality Review**

A loan portfolio reflects a bank's market position and demand, its business and risk strategy and its credit extension capabilities. When feasible, the loan portfolio review should normally include a random sampling of loans so that approximately 70% of the total loan amount and 30% of the number of loans covered. It should also consider at least 75% of the total loan amount and 50% of the number of all foreign currency loans and of all loans with maturities greater than one year. Additionally, a detailed credit portfolio review should include the following:

- all loans to borrowers with aggregate exposure larger than 5% of the bank's capital
- all loans to shareholders and connected parties
- all loans for which the interest or repayment terms have been rescheduled or otherwise altered since the granting of the loan
- all loans for which cash payment of interest and/or principal is more than 30 days past due, including those for which interest has been capitalized or rolled over
- all loans classified as substandard, doubtful, or loss.

In each of these cases, a loan review should consider documentation in the borrower's file and involve a discussion of the borrower's business, near-term prospects and credit history with the responsible credit officer.

For each of the loans reviewed, a summary file should be made showing the following:

- borrower's name and line of business
- use of proceeds
- date of credit granted
- loan maturity date, amount, currency, and pricing

- principal source of repayment
- the nature and value of collateral/security
- total outstanding liabilities, including loan principal and interest due and all other real and contingent liabilities, in cases where the bank is absorbing the credit risk
- delinquency or non-performance, if any
- description of monitoring activities undertaken for the loan
- financial information including current financial statements and other pertinent information
- specific provisions that are required and available

When the total amount due exceeds 5% of a bank's capital, the analysis should also consider the borrower's business plans for the future and the potential consequences for debt service capacity and principal repayment.

Interbank deposits are also the most important category of assets for which a bank observes the credit risk. It may account for a significant percentage of a bank's balance sheet, particularly in countries that lack convertibility but allow their citizens and economic agents to maintain foreign currency deposits.

Interbank deposits can be treated just like any other credit risk exposures from the point of view of a credit risk management.

The transactions that incur credit exposure like off-balance sheet commitments should also be reviewed. The adequacy of credit risk analysis procedures should be made as an assessment and the supervision and administration of off-balance-sheet credit instruments, such as letter of credits and guarantees. An off-balance-sheet portfolio review should be carried out with the same principles and in a manner similar to a loan portfolio review.

A good picture of a bank's business profile and business priorities can usually be provided by an analysis of the aggregate loan portfolio and its characteristics as well as the type of credit risk that the bank is ready to take. The analysis should include the below mentioned points:

- a summary of the major loan types, including details of the number of customers, average maturity, and the average interest rate earned
- distribution of the loan portfolio, including various perspectives on the number of loans and total amounts, for example, according to currency, short-term (less than one year) and long-term (more than one year) maturities, industrial and/or other pertinent economic sectors, state owned and private borrowers, and corporate and retail lending
- loans with government or other guarantees
- loans by risk classification
- non-performing loans

For a comprehensive assessment of the portfolio of characteristics of the aggregate loan portfolio, an analyst can use various tools including to whom, what and for how long the bank has lent. This profile highlights the target customer segments that pose an acceptable risk to a bank. The figure also traces the shift of target customer profiles from public sector enterprises toward the private sector. A bank can lend out its various

products in response to market demand. Changes in a bank's target customers apparently affect the distribution of its lending products. Changes in maturity structure may be influenced by shifts in customers and lending products, as well as by a bank's risk factors and macroeconomic trends.

### **2.3 Review of Relevant NRB Directives**

NRB issues various directives relating banking regulation and prudential norms. Among various directives issued in 2001 directive No. 2 is relating to credit classification and provisioning.

#### **Directive Relating To Credit Classification And Provisioning (Directive No 2)**

Effective F/Y 2058/59 (2001/2002), banks shall classify outstanding loan and advances on the basis of aging of principal amount into the following 4 categories.

##### **Pass**

Loans and advances whose principal amount are not past due and past due for a period up-to 3 months shall be included in this category. These are classified and defined as performing loan.

##### **Substandard**

All loans and advances that are past due for a period of 3 months to 6 months shall be included in this category.

##### **Doubtful**

All loans and advances which are past due for a period of 6 months to 1 year shall be included in this category

##### **Loss**

All loans and advances which are past due for a period of more than 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 included in this category.

Loans and advances falling in the category of Sub-standard, Doubtful, and Loss are classified and defined as Non-Performing Loan.

**Table No. 1**

<b>Time Table of Credit Classification</b>				
<b>Classification</b>	<b>For F/Y 2005/06 2062/63</b>	<b>For F/Y 2006/07 2063/64</b>	<b>For F/Y 2007/08 2064/65</b>	<b>For F/Y 2008/09 Onwards 2065/66</b>
<b>Pass</b>	Loans not past due and past due up to 3 months.	Loans not past due and past due up to 3 months.	Loans not past due and past due up to 3 months.	Loans not past due and past due up to 3 months.
<b>Sub-Standard</b>	Loans & advances past due for a period of over 3 months to 1 year.	Loans & advances past due for a period of over 3 months to 1 year.	Loans & advances past due for a period of over 3 months to 9 months.	Loans & advances past due for a period of over 3 months to 6 months.
<b>Doubtful</b>	Loans & advances past due for a period of over 1 year to 3 years.	Loans & advances past due for a period of over 1 year to 3 years.	Loans & advances past due for a period of over 9 months to 2 year.	Loans & advances past due for a period of over 6 months to 1 year.
<b>Loss</b>	Loans & advances past due for a period of over 3 years.	Loans & advances past due for a period of over 3 years.	Loans & advances past due for a period of over 2 years.	Loans & advances past due for a period of over 1 years.

The respect overdue periods of pass, Sub-standard and Doubtful loans shall be considered for higher classification from the next day of date of expiry of the overdue period provided for each class.

#### **Additional arrangement in respect of Pass Credit**

Loans and advances fully secured by gold, silver, fixed deposit receipt and HMG securities shall be included under “Pass” category. However, where collateral of fixed deposit receipt of HMG securities or NRB Bonds is placed as security against loan for other purposes, such loan has to be classified on the basis of ageing. Loans against FDRs or other banks shall also qualify for inclusion under pass credit.

#### **Additional arrangement in respect of “Loss” credit**

Even if the credit is not past due, loans having any or all of the following discrepancies shall be classified as “Loss”

- a) No security at all or security that is not in accordance with borrower’s agreement with the bank.

- b) The borrower has been declared bankrupt.
- c) The borrower is absconding or cannot be found.
- d) Purchase or discounted bills are not realized within 90 days from the due date.
- e) The credit has not be used for the purpose originally intended.
- f) Owing to non-recovery, initiation as to auctioning of the collateral has passed six months and if the recovery process is under litigation.
- g) Loans provided to borrowers included in the blacklist and where the credit information Bureau blacklists the borrower.

Note: Bills purchased/Discounted are to be classified into Loss Loan where they are not realized within 90 days from due date. This is departure from the normal classification rules applicable to other credits. Accordingly, it Bills would have only two classification viz. Pass and Loss.

**Additional arrangement in respect of Term credit.**In respect of term credit, the classification shall be made against the entire outstanding loan on the basis of the past period of overdue installment.

Loan loss provisioning

The loan loss provisioning, on the basis of the outstanding loans and advances and bills purchased classified as per this directives, shall be provided as follows:

S.No.	Classification of Credit	Loan Loss Provision
1.	Pass	1%
2.	Substandard	25%
3.	Doubtful	50%
4.	Loss	100%

Loan loss provision set aside for performing credit is defined as “ General Loan Loss Provision” and Loan Loss provision set aside for Non Performing loan is defined as “ Specific Loan Loss provision”.

Where the banks provide for loan loss provisioning in excess of the proportion as required under the derectives of NRB, the whole amount of such additional provisioning may be included in General Credit Loss Provision under the supplementary capital.

**Additional Provisioning in case of Personal Guarantee Credits**

Where the credit is extended only against personal guarantee, a statement of the assets, equivalent to personal guarantee amount not claimable by any other shall be obtained. Such credit shall be classified as per above and where the credits fall under the category of Pass, Substandard and doubtful, in addition to the normal loan loss provision applicable for the category, an additional provision by **20- percentage point** shall be provided. Classification of such loans and advances shall be prepared separately. Hence

the loan loss provision required against the personal guarantee credit will be 21%, 45%, and 70% for pass, substandard and Doubtful category respectively.

### **Rescheduling and Restructuring of Credit**

In respect of loans and advances falling under the category of Substandard, Doubtful or Loss, banks may reschedule or restructure such credits only upon receipt of a written plan of action from the borrower citing the following reason:

- a) The internal and external causes contributing to deterioration of the quality of credit.
- b) The reduced degree of risk inherent to the borrower/enterprise determined by analyzing its balance sheet and profit and loss account in order to estimate recent cash flows and to project future ones, in addition to estimate recent cash flows and to project future ones, in addition to assessing market conditions.
- c) Evidence of existing of adequate loan documentation.
- d) An evaluation of the borrower/enterprise's management with particular emphasis on efficiency, commitment and high standards of business ethics.

### **Loan Loss Provisioning in respect of Reschedule, Restructured or Swapped Credit**

- a) Except for priority sector, in respect of all types of reschedule or restructures or swapped credit, if such credit falls under pass category according to NRB directives, loan loss provisioning shall be provided at minimum 12.5%
- b) In case of rescheduling or restructuring, or swapping of insured or guaranteed priority sector credit, the loan loss provisioning shall be provided at one fourth of the percentage mentioned in clause (a).
- c) In respect of swapped credits, the bank accepting the credits in swapping has to provide loan loss provision classifying the credit under the same classification as were existing. The bank accepting the credit in swapping shall obtain certification from the concerned bank of financial institution as to the existing classification.

### **Provisioning Against Priority Sector Credit**

Full provisioning as per normal loan loss provisioning shall be made against the uninsured priority and deprived sector credits. However, in respect of insured credits the requisite provisioning shall be 25% of percentage normal loan loss provisioning. The required provisioning in the case of insured priority /deprived sector credit is as follows:

S.No.	Classification of Credit	Loan Loss Provision
1.	Pass	0.25%
2.	Substandard	5%
3.	Doubtful	12%
4.	Loss	25%

In case of rescheduling or restructuring, or swapping of insured or guaranteed priority sector credit, the proportion of loan loss provision would be 3.125%(being 25% of 12.5%)

**An Overview of Nepali Banking** *(By The World Bank) (Excerpted from the executive summary of Nepal Financial Sector Study Report,, the World Bank. The report is, according to the bank, the result of work carried out over a series of mission.)*

Although financial institutions have proliferated, the Nepali people have not yet reaped the potential gains of the government’s efforts to liberalize and reform the financial sector, says a report that the World Bank released. There are four main reasons for this: excessive government involvement in the sector, a weak central bank, a poor banking environment, and a lack of adequate banking services for the poor.

#### **Excessive Government Ownership**

At the heart of virtually all the problems in the financial sector in Nepal is the overwhelming dominance of the government. It owns the largest commercial bank (RBB), is the biggest shareholder in the second largest one (NBL), and holds significant shares in virtually all the joint-venture banks (all joint venture banks are 50 percent Nepali owned with shares generally being held by Nepal Rastra Bank (NRB), NBL, RBB or the Employees Provident Fund). As in many countries, government ownership has led to poor internal governance, weak management, fragile financial health, and an unhealthy politicization of these state-owned institutions. There is thus an urgent need for the government to divest its ownership of most of these financial institutions and replace the public sector with “fit and proper” private owners and operators.

#### **A Weak Central Bank**

Poor supervision by the central bank, Nepal Rastra Bank, is in part to blame for the severe problems of the two largest commercial banks and for the general deterioration in the system. However, the central bank is in no position to adequately discharge its responsibilities. It is handicapped by a lack of autonomy, an inadequate and outdated legal framework, and an excessive number of poorly trained and unproductive staff – as well as being in need of radical restructuring. The weak and outdated legal framework is among the main sources of the central bank’s ineffectiveness. Adopted in 1955, the Nepal Rastra Bank Act was designed for a central bank operating in a government controlled economy – and supervising government-owned banks – and is ill suited to the



development of a complex, modern central bank and banking system. The act bestowed too little power on the central bank for effectively managing monetary policy, improving the financial infrastructure, strengthening and improving financial markets and their supervision, and facilitating the growth of the financial sector. Parliament recently approved a modern central bank law, however, while came into effect in January 2002. This new Act will largely address all of these concerns – if the Act is meaningfully enforced.

### **Poor Banking Environment**

Outdated and inappropriate laws similarly lead to weakness throughout the Nepali financial system. Other problems also plague the banking environment, including weak corporate governance, lack of competition, the absence of a sound banking culture, and asymmetries in information.

### **Weak and Fragmented Legal Framework**

The Commercial Banking Act (1974) has critical gaps in coverage and needs to be replaced with a new law covering all deposit taking institutions in Nepal (a new draft Banking and Financial Institutions Act is currently under consideration). Other parts of the legal framework for the financial sector also need to be strengthened or amended, including the Financial Intermediary Act (1998), Company Law, and Insolvency and Liquidation Laws. Enforcement too needs to be strengthened. Anecdotal evidence suggests that court action against defaulters tends to be excessively delayed, and asset liquidation has rarely been successful. Without strengthened laws and proper enforcement, any intervention in the financial sector is unlikely to have a meaningful and long-lasting impact.

Another problem is the proliferation of laws and regulations applying to specific institutions rather than generalized banking functions. For example, neither of the two largest development banks is governed by the Development Banks Act; instead, both operate under their own institution-specific legislation. Such institution-specific laws and regulations have created a fragmented legal environment and, as a result, a fragmented financial system, thereby stifling competition. So at the same time that the legal framework is strengthened, it also needs to be rationalized and simplified.

### **Weak Corporate Governance**

Corporate governance is extremely weak in Nepal. There are no clear rules of engagement between a company's management, its board, its shareholders, and other stakeholders. Aggravating this situation are weak systems, poor procedures, and information asymmetry. Accounting and auditing traditions are also weak. Many banks cannot provide financial statements, and at times the accounts that banks do provide are un-audited – even though banks and finance companies are required to be audited annually by external auditors selected at general assemblies. The three largest banks – Rastriya Banijya Bank, Nepal Bank Limited, and the Agricultural Development Bank of Nepal, accounting for almost 60 percent of commercial banking assets – do not maintain up-to-date, externally audited financial data. One of them, Rastriya Banijya Bank, has

produced no externally audited accounts or annual report for around seven years. The central bank serves as a poor role model for the system that it purports to supervise and regulate; it too fails to maintain good, up-to-date, externally audited accounts.

### **Lack of Competition**

Although Nepal's financial system has grown rapidly over the past decade, it still lacks the competitive environment critical for ensuring that financial intermediation benefits borrowers, depositors, other users of financial services, and shareholders. The lack of competition reflected the fragmentation of the system, but it also stems from the dominance of the two large (but inefficient) government-established commercial banks, which accounts for more than half the commercial banking system's assets. The result is that the Nepali people have enjoyed only marginal benefits from the liberalization of the financial sector.

### **Poor Banking Culture**

The elements of a good banking culture are almost nonexistent in Nepal, whether among banks or among their customers. Banks find it difficult to make informed lending decisions because many of their private sector clients fail to maintain good financial information on their activities or are unwilling to reveal their true financial position. As a result, firm level data are largely unreliable, and banks are forced to reconstruct firm accounts from client estimates. Even when banks can undertake a proper financial analysis, they often extend credit on the basis of collateral rather than creditworthiness. Lenders always request primary collateral, and request secondary collateral or guarantees if needed. Nonetheless, they assess the value of the collateral only informally and do not re-evaluate it regularly.

The Credit Information Bureau maintains a blacklist of customers to whom banks cannot extend credit. The bureau, however, established jointly by the central bank and the Bankers Association, is hindered in its operations by the inability or reluctance of the two largest banks to provide it with data. The apparent lack of follow-up by these banks when a customer defaults, results in a downward spiral or poor banking behavior.

Another part of the problem lies in the implementation/enforcement of the prudential regulations. To date, only a small number of banks have established satisfactory internal guidelines.

These lending problems, which affect the largest financial institutions in Nepal, have important ramifications for the entire financial sector. The market leaders maintain high real interest rates and margin spreads to cover high operating costs and large losses, while private banks are able to earn substantial profits by hiding behind these high prices. As a result, private banks have not been forced to compete for more customers or to expand their activities outside a few main cities. They merely offer much better service at the prices set by the large banks.

### **Information Asymmetry and Lack of Financial Sophistication**

The public has limited knowledge of the financial position of banks, creating a situation of severe moral hazard. The general public is financially unsophisticated and most people have little access to financial information. When financial institutions accounts and annual statements are disclosed, they are neither timely nor reliable – even if audited. Moreover, accounting and auditing practices in Nepal do not conform to international standards. Consider these striking illustrations of the poor public knowledge sector issues. After public announcements were made that management teams were being placed in Nepal Bank Limited, the bank's stock price doubled – despite the general knowledge that the bank had a negative net worth. Depositors also continued to place funds in both Nepal Bank Limited and Rastriya Banijya Bank after a KPMG Barents Group consultancy report disclosed their extremely poor financial health and highly negative capital base. Also implicit in these examples is the banking public's belief that, although Nepal has no deposit insurance scheme, the government will provide a safety net in the event of a banking failure.

### **Corruption**

Given all these factors – poor supervision, a weak legal environment, poor corporate governance, lax accounting and auditing standards, and an underdeveloped banking culture – it is no surprise that corruption has been a big contributor to the poor financial health of many of the financial institutions in Nepal. Fraud, self-dealing, insider dealing, and improper evaluation of collateral have been among the reported abuses. Such actions have taken resources from the poor and given them to the rich. Stemming corruption will require putting in place transparent systems, checks and balances at every level, and a system of continuous monitoring within and between financial institutions.

### **Inadequate Banking Services for the Poor**

Given the large number of poor people in Nepal, it is also no surprise that the government has emphasized the social dimensions of banking. Notwithstanding this, most of the policies aimed at benefiting the poor (directed credit, branch opening policies) are too broad, and they create considerable operating disincentives within the financial system while achieving a minimal or even negative impact on their intended target audience. These policies need to be more sharply focused to minimize their negative effects and enhance their benefits for poor and rural communities. At the same time, the delivery mechanisms for development banking need to be reformed, to work through, and with, private partners wherever possible. The current system of publicly owned development banks and state-dominated micro-finance institutions has failed to produce the intended results – while creating large contingent liabilities for the government.

In a NRB Economic Report on a topic “**Commercial Banking**”<sup>13</sup> of which some of the pivotal points has been excerpted which are as follows:

## **Assets/liabilities of Commercial Banks**

Assets/ liabilities of commercial banks increased by 28.6 percent in the review year amounting to Rs 705.9 billion as in mid-July 2009 compared to a growth of 24.9 percent in the previous year. The primary issue of shares by some of the companies and expansion in deposit mobilization and credit flow driven by remittance inflows, contributed to such a growth in assets/liabilities of commercial banks. As a result, the ratio of assets/liabilities of commercial banks to GDP has reached to 73.5 percent compared to 67.1 percent in the previous year.

Among the total liability, public deposit has occupied a dominant share followed by other liabilities. The share of public deposit on liabilities reached to 77.9 percent in the

- a. According to directive, any commercial bank to open a branch in Kathmandu valley requires to open at least one branch outside the Kathmandu Valley.
- b. For the name of particular districts included in Hills and Terai region, see the Quarterly Economic Bulletin, Vol 43 , No. 3&4, Table 38, Mid July 2009.
- c. Excluding one hundred bank branches of ADB/N involved in non-banking transactions.

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review year from 76.8 percent in the previous year. Similarly, the share of other liabilities of commercial banks to total liabilities slightly declined to 21.9 percent in the review year compared to 22.8 percent in the previous year.

In the review year, other liabilities of commercial banks increased by 23.5 percent compared to a growth of 22.8 percent in the previous year. This growth is mainly due to the increase in general reserve (278.5 percent) followed by paid-up capital (28.3 percent) through issuance of bonus and right shares by existing banks.

## **Loans and Advances**

In the uses side, loans and advances of commercial banks occupies a major share in the total assets. It increased by 23.4 percent in the review year compared to a growth of 23.5 percent in the previous year. However, the share of loans and advances in total assets declined to 73.5 percent from 76.5 percent in the previous year.

Of the credit aggregates, the credit to the private sector has occupied a major share. Such a credit stands at 45.1 percent of gross domestic product and 61.3 percent of total assets and liabilities of commercial banks as in mid-July 2009. Compared to a growth of 26.9 percent in the previous year, private sector credit grew by 28.5 percent in the review year amounting to Rs 432.7 billion as in mid-July 2009 on account of a higher credit demand in the private sector.

The total holding of government securities by commercial banks marginally declined by 0.2 percent to Rs 71.9 billion as in mid-July 2009 from a growth of 9.5 percent in the previous year. Similarly, commercial banks' claims on non-financial government enterprises declined by 9.8 percent in the review year against a growth of 10.4 percent in the previous year. Such a decline in commercial banks' claim on nonfinancial government enterprises is attributed to the partial repayment of loan by Nepal Oil Corporation, National Trading Ltd, Nepal Food Corporation and Nepal Airlines Corporation.

Claims on financial institutions increased by Rs 3.1 billion in the review year compared to an increase of Rs 1.3 billion in the previous year on account of a substantial growth of claims on non-government financial institutions. An increase in short-term investment to development banks and finance companies by commercial banks contributed to such increase in the claims on financial institutions.

Liquid funds of commercial banks increased by 47 percent in the review year compared to a growth of 21.7 percent in the previous year. An increase in foreign assets of commercial banks owing to an elevated level of remittance inflows and capital expansion contributed to raise the growth of liquid funds of commercial banks.

Of the components of liquid funds, balance held abroad registered a growth of 29.9 percent in the review year compared to a growth of 21.1 percent in the previous year. But, the growth of commercial banks' cash in hand slowed down to 18.7 percent in the review year compared to a growth by 71.9 percent in the previous year. Contrary to a growth of 5.6 percent last year, deposits of commercial banks with the NRB increased by 92.2 percent in the review year.

### **Non-performing Loans**

After the execution of financial sector reform program, the ratio of non-performing loan (NPL) is improving. The NPL ratio, which was 6.3 percent at mid-July 2008, declined to 3.6 percent as of mid-July 2009. The ratio of NPL to the total loan of three government-owned commercial banks has been improving after the adoption of financial sector reform program. For instance, the NPL of Nepal Bank Limited (NBL) has sharply decreased from 49.6 percent in the mid-July 2005, to 12.4 percent last year, and further to 5.4 percent as of mid-July 2009. The NPL of these banks improved on account of the stern measures taken to recover bad loan along with the credit write-off of Rs 27.7 billion while undergoing the restructuring process.

Though the share of non-performing loan is falling, the recovery of the written-off loan is still challenging. Besides the government owned NBL, Rastriya Banijya Bank Limited (RBBL) and ADB/N, other commercial banks like Nepal Bangladesh Bank Ltd. and Lumbini Bank Ltd. run by private sector also have relatively high ratio of NPL.

**Non-Performing Loans of the Commercial Banks  
(in percentage of total loans and advances as at mid-July)**

**Table No. 2**

<b>Commercial Banks</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Nabil Bank Ltd.	1.3	1.3	1.1	0.7	0.8
Nepal Investment Bank Ltd.	2.7	2.3	2.4	1.1	0.6
Standard Chartered Bank, Nepal Ltd.	2.7	2.1	1.8	0.9	0.7
<b>Total</b>	6.7	5.7	5.3	2.7	2.1

**Based on un audited balance sheet of mid-July 2009**

**Profitability**

In the review year, the net profit of the commercial banks (based on unaudited balance sheet of the respective commercial banks) increased by 36.4 percent amounting to Rs 15.1 billion from a net profit of Rs 11.1 billion in the previous year. Among the 26 commercial banks, no bank went into net operating loss in the review year. The net profit of government-owned three banks namely NBL, RBBL and ADB/N stood at Rs 1.0 billion, Rs. 2.0 billion, and Rs. 1.2 billion respectively in mid-July 2009 compared to *Banking, Financial Market and Financial Sector Reform Programme 59* respective profit of Rs. 845.2 million, Rs. 1.0 billion, and Rs. 1.6 billion in mid July-2008.

**Sectorwise and Securitywise Credit Flows**

In 2008/09, outstanding credit of commercial banks increased by 31.1 percent amounting to Rs 401.8 billion compared to a growth of 32.2 percent in the previous year. The outstanding commercial banks' credit to agriculture sector has been in decreasing order since 2007. It decreased by 3.6 percent in the review year and had not seen any growth in the previous year. The outstanding credit to production sector increased by 17.3 percent and stood at Rs 87.9 billion in mid-July 2009 compared to a growth of 20.1 percent to Rs 74.9 billion in mid-July 2008. Among the different components of production sector credit, the share of food production comprises 20.3 percent followed by iron and steel based industries with 15.2 percent share. The credit to the food production increased by Rs 2.5 billion in the review year which had increased by the same amount in the previous year as well. However, the credit to construction, machinery and electrical tool, and services industries grew at a lower rate in the review year compared to the previous year.

## **Priority Sector and Deprived Sector Lending of Commercial Banks**

With a view to provide freedom to commercial banks in the selection of their loan portfolio, NRB phased out the priority sector-lending program since 2007/08. However, the NRB has continued deprived sector lending program in order to outreach credit access to the marginalized, backward, minorities, dalit, scheduled caste and deprived people. Compared to the commercial banks' outstanding disbursements of Rs 7.7 billion under this program in 2007/08, such disbursement increased by 76.6 percent to Rs.13.6 billion in 2008/09. Out of the total outstanding credit to the deprived sector, direct credit has stood Rs 3.5 billion and indirect credit through other institutions stood at Rs 10.1 billion as in mid-July 2009.

### **2.4 Review of Articles and Journals**

**Mr. Binam Raj Ghimire** In his article (2006) titled “*Credit Sector Reform and NRB*”

He has tried to highlight the effects of change or amendment in NRB directives regarding loan classification and loan loss provisioning. “Although the circumstances leading to financial problem or crisis in many Nepali banks differ in many respects, what is common across most of the bank is the increased size of non-performing assets (NPAs). To resolve the problem of the losses or likely losses of this nature facing the industry, NRB has, as the central bank, amended several old directives and issued many new circulars in the recent years.

As opined by him, since majority of the loans of most of the commercial banks of the country at present falls under substandard, doubtful, and even loss categories, loan loss provisioning now compared to previous arrangements would be dramatically higher. The new classification and provisioning norms are very lendable as they help to strengthen banks finally. He added that we also must remember that the old system remained in force from 1991 to 2005, which was probably the most volatile decade of the business operation of the country. He has indicated that loan loss provisioning as a percentage of total credit of April 12, 2005 us 5.2% but as April 13 2006, it has jumped to 18.39%. if only private banks are considered, it is 2.12% of April 2005 where as it is 6.30% as of April 13 2006. The total increment in LLP is Rs. 11,328.11 million and the total increment in credits is only Rs. 7,976.70. he has also stated that tightening provisioning requirements on NPL is essential to ensure that banks remain liquid even during economic downturns.

In conclusion he has mentioned that in the recent years, NRB has worked for management and reform of the credit of the financial institution more seriously and NRB has adopted reforms aimed not just at dealing with problem banks but also at strengthening banking supervision to reduce the likelihood of future crisis. “ All prudential directives of NRB in connection of Credit sector reform have been made revised on after April 2005. To adapt to such changes there can be some difficulties and

for a better and harmonized reform NRB should continue to be supportive, proactive, and also participative to take opinions of bankers for a change in regulation policy taking place in the future.

**Mr.Chhettri** In the article (2000) entitled “*Non performing assets: A need for rationalization,*” has attempted to provide connect with the term NPA and its potential sources, implication on NPA in financial sector in the South East Asian Region. He had also given possible measures to contain NPA. Loans and advances of financial institutions are meant to be serviced either part of principal of the interest of the amount borrowed in stipulated time as agreed by the parties at the time of loan settlement. Since the date becomes pas dues, the loan becomes non-performing asset. The book of the account with lending institution should be effectively operated by means of real transaction effected on the part of the debtor in order to remain loan performing

As stated by the writer, the definition on NPA differs from country to country. In some of the developing countries of Asia Pacific Economic Cooperation (APEC) forum, a loan is classified as non-performing only after it has been arrears for at least 6 months. Similarly, it is after three months in India. Loans, thus, defaulted are classified into different categories having their differing implication on the asset management of financial institution. He also stated that NPA are classified according to international practice into 3 categories namely substandard, doubtful and loss depending upon the temporal position of loan default. Thus, the degree of NPA assets depends solely on the length of time the asset has been in the form on non-obliged by the loan taker. The more time it has elapsed the worse condition of asset is being perceived and such assets are treated accordingly. As per Chhetri’s view, failure of business for which loan was used, defective and below standard credit appraisal system credit program sponsor by Government, slowdown in economy/recession, diversion of fund is some of the factors leading to accumulation of NPA.

He further said that there is serious implication of NPA on financial institution. He further added that the liability of credit institution does not limit to the amount declared as NPA but extent to extra amount that required for provisioning depends upon the level of NPA and their quality. As per his view, rising level of NPA create a psyche of worse environment especially in the financial sector. He mentioned that by reviving the activities of the financial institution like waiving interest, rescheduling the loan, writing off the loan, appointing private recovery agent, taking help of tribunals and law of land etc. NPA can be reduced.

Finally, he concluded that financial institutions are the best with the burden of mounting level of NPA in developing countries. Such assets are income flow of the financial institution while claiming additional resources in the form of provisioning thereby hindering gainful investment. Rising level of NPA cannot be taken as stimulus but the vigilance demanded to solve the problem like this, eventually will generate vigor to gear



up the banking and financial activities in more active way contributing to energizing growth

In the article of New Business Age entitled “*Entrepreneur – Friendly Credit Policy*” has reviewed the present credit policy with main focus of the credit decision being based on the collateral. He argues that only collateral should not be considered as the basis of the credit decision.

At the time when Nepalese banking industry is confronting with the increasing NPA, it might seem unwise and untimely to suggest that commercial banks extend loan to the potential entrepreneurs without collateral. It is not that they must ignore the collateral altogether while making credit decision. Collateral may be one of the important elements of the credit decisions. But this should not be a pre-condition for any credit decision. Lesson should be learned from the past experience of this credit policy that collateral alone does not ensure quality of credit decision. The fluctuation and stagnancy in the real estate business has further reinforces this view. More important, Nepalese bankers must themselves have to have entrepreneurship spirit which means, they should not hesitate to take educated risk by giving more weight to the entrepreneurship dimension of the credit proposals while making credit decision. The ability of lending is identifying and investing a distinct competitive advantage in the crowded market. However it's essential that any government rules and regulations that inhibit the promotion of entrepreneurship in the country must be abolished.

Entrepreneurship development is one of the important conditions for the economic growth of a country. There must be the sprout of entrepreneurship activities in the country for rapid economic growth and progress. However it doesn't happen automatically. We must create necessary conditions and environment where people with skill, knowledge, and hunger to make money by starting their own business can get easy access to capital.

**Mr Pradhan**, in the article (2001) “**NPA: some suggestions to tackle them**” found saying that unless the growth in NPA is kept in control, it has the potential to cause systematic crisis. He has mentioned that a dream of globalization led to huge investment, which unfortunately could not be utilized properly due to hesitant liberalization policies. Large corporate misused the credits and delayed payments and contributed indirectly for enhancing NPA ratio. He further argues that lack of vision in appraisal of proposal while loan sanctioning, reviewing or enhancing credit limits, absence of risk management policy of financing, concentrating of credit in few group of parties and sector, lack of coordination among various financiers, lack of initiatives to take timely action against willful defaulters, indecision on existing out of bad loans for fear of investigating agencies like special police, public accounts committee of the parliament have also

contributed in whatsoever measures to the worsening situation on NPA front. He further pointed out that most crucial reason for the increase in the NPA is the shabby and defaulter friendly legal system. Suggesting the remedy of NPA he adds that administrative system should be strengthened, legal reforms should be made, and assets Reconstruction Company should be formed)

## 2.6 Review of Thesis

**Rejina Shrestha** has submitted a thesis (2000) named *A study of industrial credit provided by NIDC*.

*Her research objectives are:*

- ) To study the financial assistance provided by NIDC in different industrial sectors.
- ) To study the attitudes of industrialists in regard to the performance of NIDC.
- ) To give suggestions to improve the role of NIDC.

Major Findings:

- ) One of the most important policy taken by NIDC is it invests its fund to the industries in security oriented rather than industrial development oriented.
- ) It seems that NIDC lack definite, systematic, and clear-cut long term financing policy.
- ) Repayment and follow up activities followed by NIDC are not efficient, as not taken side by side.

**Niva Shrestha** has conducted thesis (2002) research on the topic *A study on Non-performing Loan and Loan Loss provisioning of Commercial Bank with the special reference to Nepal Bank Ltd., NBL Bank Ltd and Standard chartered Bank Ltd*.

She has set some objectives on behalf of her study which are mentioned below:

- a) To find out the proportion of Non-performing loan in the selected commercial banks.
- b) To find out the factors leading to accumulation of Non-performing loan in commercial banks.

- c) To study and analyzed the guidelines and provision pertaining to the loan classification and provisioning.
- d) To find out the relationship between loan and loan loss provisioning in the selected commercial banks.
- e) To study the impact of loan loss provisioning on the profitability of the commercial banks.

After study, she conducted that ineffective credit policy, political pressure to lend to un creditworthy borrowers, overvaluation of collateral are the major causes of mounting non-performing loan in government owned banks like NBL. Other factors leading to accumulate of NPL are weak loan sanctioning process, ineffective credit monitoring and supervision system, economic slowdown, borrower's misconducts etc.

She also concluded that continual review and classification of loans enable banks to monitor quality of their portfolio and to make the remedial action to counter deterioration in credit quality. The present loan classification and provisioning directive seems more stringent than the previous one. As a result more provision has to be apportioned lending to lesser profitability but this kind of negative impact is only for short period.

Finally, she recommended that adequate provisioning strengthens the financial health of the banks and makes them able to face any kind of future contingencies. In addition to this establishing recovery cell, hiring assets Management Company are also measure to resolve the problem of NPL.

She also concluded that all banks to take preventive measures before the loan goes to default. All the banks are recommended to have an information system to gather all possible information and activities about its borrowers so that necessary precaution can be taken in time.

**Mr. Kimananda Aryal** *has submitted a thesis (2003) named A evaluation of credit Investment and Recovery of Financial Public Enterprise in Nepal. A case study of ADB/N.*

His research statement of problem was; because of high interest rate of non-institutional sources, people are unable to pay their credit at fixed time. These institutions compel them to transfer their property to the money lender resulting himself or herself as a landless person. ADB/N is one of the major financial institutions supporting for the people for the different purpose like agro, industries, tea, coffee, livestock farming etc. ADB/N provides credit for individual and cooperatives sector to all region of the country. Credit outstanding amount is increasing day by day but the collection amount is not good. However, ADB/N has increased its effort to collect its credit. It is said that those people who really need do not receive sufficient amount of credit from ADB/N. So Mr. Aryal chose this bank to analyze the credit disbursement and recovery pattern of ADB/N.

The major findings of the research were as follows:

- a) Actual credit disbursement, collection and outstanding are increasing in decreasing rate.
- b) Yearly increase in credit disbursement is higher than that of collection.
- c) Positive co-relation between credit disbursement and collection that is 0.996.
- d) Targeted credit collection and disbursement fixed by planning and project department is not significantly different than the actual.
- e) Most of the customers are unaware of the policy of the bank.

**Recommendations:**

- a) The borrower should be informed about the credit, its use and its payment procedures and schedule.
- b) Greater attention should be given to increase the credit collection and to collect old outstanding amount of credit and renewal of it.
- c) To accelerate the collection, credit should be followed continuously in a regular interval of time.
- d) The behavior of the person should be strictly supervised in granting credit in proper investment proposal because of most of the bad credit disbursement is due to weak decision of the personnel.

**Prabhat Rijal (2003)**, has conducted a thesis entitled on ***Impact and Implementation of NRB Guidelines (Directives on Commercial Banks – A study of NABIL Bank Limited and Nepal SBI Bank Limited)***. His research objectives are

- ) To study the impact of NRB guidelines in both the banks.
- ) Are NRB guidelines implemented in both the banks, if so what were the difficulties faced by *both the banks*.

Major Findings:

- ) NRB guidelines have been fully implemented by both the banks.
- ) Both of the banks need to increase its supplementary capital as per NRB guidelines.

Both of the banks need to look after liquidity and not only profitability

**Kalpana Khaniya**, has conducted a thesis (2005) research on ***Investment Portfolio analysis of Joint Venture Banks***.

The specified objectives of the research were as follows:

- a) To analyze the risk return ratios of commercial banks.
- b) To evaluate the financial performance of joint venture banks.
- c) To provide the suggestive package based on the analysis of data.
- d) To study existing investment policies taken by NABIL in various sectors.
- e) To study portfolio structure of Nepal Bank Ltd. In investment as compared to other joint venture banks.
- f) Preference given by NABIL Bank Ltd. For investment between,
  - Loan investment
  - Investment in real fixed assets
  - Investment in financial assets

The major findings of the research were as follows:

- a) SCBN and HBL have better position in industry average whereas NBBL and NBBL have low position.
- b) While considering mean return on total assets, all banks SCBN, HBL and NBBL have good performance except EBL.
- c) SCBN and EBL have mobilized their funds in investment title is higher than the standard ratio, whereas NABIL banks invested funds is slightly below than standard ratio.
- d) NABIL, SCBN and HBL were investing low amount of deposits on loan and advances, which is lower than industry average, and NBBL and EBL have invested a high amount of deposit to loan and advances, which is higher than industry average.
- e) While considering investment portfolio, the industry average investment on government securities is 84%, NABIL has invested above industry average. Among the JVBs, EBL, SCBN has highest amount in the same title.
- f) Similarly, looking at EPS, SCBN has highest EPS and EBL has the lowest EPS. NABIL is almost equal and HBL has above mean EPS in comparison to industry average.
- g) There is negative correlation between investment in government securities and portfolio return of JVBs. Likewise, there is negative correlation between loan and advances in private sector and portfolio return of five JVBs in Nepal.

***Santosh K.C: has conducted a thesis (Dec 2008) research on Credit Management of Nepal Industrial & Commercial Bank Ltd.***

In the present context, the commercial banks have groomed up well providing their customers with effective, reliable, and prompt services. These banks are becoming popular and are covering wide area of Nepalese economy. The banks with the help of its prompt and reliable services are the need of the people and people are more inclined to these banks than they use to be in the past for the government owned banks. The main objective of this study is to analyze, examine, and interpret the financial position and the effectiveness of credit policies and the management of NICBL, with the help of ratio analysis and other financial tools.

The objectives of the study can be summarized as follow:

- i) to analyze the financial strengths and weaknesses of the bank.
- ii) to evaluate financial position of the banks.
- iii) to evaluate the credit management and its policies.
- iv) to make relevant suggestions and recommendation for further research.
- v) to forecast the trend of total deposit, total investment, risk assets, net profit, loan loss provisions and R interest income by using trend analysis.

#### **Research Gap:**

The time assigned is very limited it has to be completed within a tentative time. From the analysis made during the period of the concerned sample thesis certain conclusion has been derived some of the major finding of the research as below:

- Rejina Shrestha : she study the attitudes of industrialists in regard to the performance of NIDC.
- Niva Shrestha: she conducted thesis to study and analyzed the guidelines and provision partaking to the loan classification and provisioning.
- Kimananda Aryal: his research statement of problem was actual credit disbursement is higher than that of collection.
- Prabhat Rijal : in his research he study the impact of NRB guidelines in banks.
- Kalpana Khaniya : has conducted a thesis to evaluate the financial performance of joint venture banks.
- Santosh K.C: has analyse the financial strengths and weakness of bank.

Above mention thesis report help me to fill up a research gap on the study of credit management. Besides theses, I am tried to highlight slightly different some of major finding of the study as below:

- On average of 5 years of review period, cash and bank balance to total deposit ration of NABIL NIBL and SCBNL.
- The main ratio of cash and bank balance to current asset ratio of concerned banks.
- The mean loan loss provision to loan and advances ratio of concerned banks.
- The credit risk ratio or non performing loan to total loan and advances ratio of NABIL , NIBL and SCBNL.
- The mean ratio of total interest earned to total loan and advances of NABIL NIBL and SCBNL.

In conclusion, I have mentioned that all banks to take prevention measures before the loan go to default. All the banks are recommended to have an information system to gather all possible information and activities about its borrowers so that necessary precaution can be taken in time.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

Research is the process of systematic and in-depth study of any particular subject or to investigation, backed by collection, compilation, presentation, and interpretation of relevant data and information.

Methodology is a set of methods used in a particular area of activity. As it is compulsory task to do these study so each and every student must perform it?

#### **3.1 Research Design**

Research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

Research design is the plan, structure, and strategy of investigation conceived so as to obtain answer to research question and to control variance. It includes is the overall scheme or program of research. It includes on outline of what the investigator will do from writing the hypothesis and their operational implications to final analysis of data. The structure of research is more specific. It is the outline, the scheme, and the paradigm of operations of the variables. Strategy includes the methods to be used to gather and analysis the data. In other words, strategy implies how the problems encountered in the research will be tracked.

#### **3.2 Sources of Data**

Basically this study will include the secondary data relating to the Investment and policies regarding the credit of the commercial Banks. Primary data will also be used where secondary data are inadequate.

This study include secondary data relating to “Credit ” e.g. deposit, loan and advances, and profit/loss that have been collected from profit and loss account, balance sheet of related banks, annual report of auditors. Other relating data are obtained directly from related authorized persons of concerned banks, regulating authorities i.e. ministry of Finance, NRB budget speech, NRB published books, banks bulletin, Annual report of Security exchange board of Nepal, newspaper, previous studies . According to the need and objective of the study, all the secondary data will be observed, processed and tabulated in time series.

#### **3.3 Analysis of Data**

To achieve the objective of this study some statistical and accounting tools have been used. The data extracted from financial statement and other available information are



processed and tabulated in various tables and charts under different heading according to their nature. These data are then used for required calculations like ratio analysis, growth ratio and accounting tools are used to examine the financial strengths and weakness of the bank. Similarly, some statistical tools like graph, percentage coefficient of correlation, regression analysis and the method of least square linear trend are also used in this study. Statistical results help to achieve the objective of the study.

### **3.4 Population And Sample**

The whole group which is to represent is called population, more precisely, the totality or aggregate of all individuals with the specified characteristic is a population (Universe). When some of the elements are selected with the intention of finding out something about the population from which they are taken, that group of elements is referred as a sample and the process of selection is called sampling. Simply, speaking the methods of selecting a portion of the universe with a view to draw conclusion about the universe under study is known as sampling.

The entire number of Commercial Banks will be population for the study. There are 18 commercial Banks including Agriculture Development Bank, by the year 2006. Study of the whole population may not be possible due to various difficulties so the pioneer three commercial banks have been chosen for the study.

### **3.5 Tools for Analysis**

To compare these commercial banks, these following accounting and statistical tools are used for financial analysis.

#### **3.5.1 Financial Ratio Analysis**

The relationship between two accounting figures, expressed mathematically, is known as financial ratio(or simply ratio.) I.M Pandey, Financial Management, Eight Edition, Vikash Publishing House Pvt, Ltd., New Delhi, 2000, p 109.

Financial ratio analysis is designed to determine the relative strengths and weakness of business operations. It also provide framework for financial planning and control. Financial managers need the information provided by analysis both to evaluate the firm's past performance and to map future plans. Financial statement analysis involves a study of relationship between income statement and balance sheet accounts, how these relationship changes overtime and how a particular firm compares with other firms in its industry. (Comparative ratio analysis)

The usefulness of ratios depends upon the ingenuity and the experience of the financial analyst who employs them. By themselves, financial ratios are fairly meaningless they must be analyzed in comparative basis. Comparison covers the leading clues in evaluating changes and trends in the first financial conditions and profitability. This comparison may be historical, but it may include an analysis of the future based upon

projected financial statement”. James C. Van Horne and John M.W. Achowicz, “ Fundamentals of Financial management Ninth Edition (New Delhi Prentice hall of India P. Ltd) p148

The qualitative judgment has been done regarding financial performance of the firm with the help of ratio analysis. In this study, following ratio are calculated and analyzed.

## **A. Liquidity Ratio**

The purpose of this ratio is to test the solvency position for the payment of short-term liabilities. Solvency position or liquidity denotes ability for payment of short-term liabilities.

Banking image is dependent upon its liquidity position. It should be able to provide demanded cash by its customer as and when necessary. Banking industry has its survival in its ability to create credit creation ability is dependent upon its liquidity ratio. The liquidity ratio of banking industry depends upon the banking habit of the people. Where banking practices is more pre relevant, the low current ratio doesn't necessarily increases its liquidity risk. But, in the economy like ours, here the banking habit of the people is low and the banking industry is just developing, the low liquidity ratio certainly increases the liquidity risk.

The following ratio is evaluated under liquidity ratio.

### **i) .Current Ratio**

The current ratio measures the extent to which the claims of short-term creditors are covered by short-term assets. Current ratio can be computed as:

$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Current assets include normally those assets of a firm which could be converted into cash within one year period of time. These assets of firm includes cash, bank balance, and investment in treasury bills, discount, overdrafts, short term advance loans, and foreign currency loan, bills for collections, customer acceptance, stock receivable and prepaid expenses. Similarly, current liabilities includes those liabilities of a firm which are paid within one year period of time, like current payments, cash margins, current deposits, saving deposits, interbank reconciliation account, bills payable, provision for overdrafts, dividend payable, and provision for taxation.

Less or more than standard ratio is not preferable. If less than standard ratio, it shows the solvency position is not better and vice versa. Generally a current ratio of 2:1 is considered satisfactory.

**ii) Cash and Bank balance of total deposit ratio**

This ratio is computed by dividing cash and bank balance by total deposit. This is computed as,

$$\frac{\text{Cash and Bank Balance}}{\text{Total Deposit}}$$

Cash and bank balance includes cash in hand foreign cash in hand; cheques and other cash items balance with domestic bank and foreign bank. The total deposit consists of current deposits and the fixed deposits, money at calls and short notice and other deposits.

**iii) Cash and bank balance to current assets ratio**

The ratio is computed by dividing cash and bank balance by current assets. Higher ratio shows the bank's ability to meet its demand for cash. It can be computed as,

$$\frac{\text{Cash and Bank Balance}}{\text{Current Assets}}$$

**iv) Loan and advances to current assets ratio**

It shows the relationship between loan and advances to current assets or shows the capacity of a bank to purchase discount bill and loan, cash credit and overdraft facility to its customer. It can be computed as,

$$\frac{\text{Loan and Advances}}{\text{Current Assets}}$$

Loan and advances represent local and foreign bills discounted and purchased and loan, cash credit and overdraft in local currency as well as inconvertible foreign currency.

**B. Assets management ratios (Activity Ratio)**

A set of ratios which measures how effectively a firm is managing its assets and whether or not the level of those assets is properly related to the level of operations as measured by sales. So this ratio is also called efficiency ratio or turnover ratio. Because they indicate the speed with which the assets are converted or turn into sales. These ratios are very important for a concern to judge how well facilities at the disposal of the concern uses or to measure the effectiveness with which a concern uses its resources at its disposal. A proper balance generally reflects that assets are merged well. This ratio involves a relation between sales.

**i) Loan and advances to total deposit ratio**

This ratio is calculated to find out, how successful the bank is utilizing their total deposition loan and advances for profit generation purpose. Higher the ratio implies the better utilization of loan and advances out of total deposit. This is calculated as,

$$\frac{\text{Loan and Advances}}{\text{Total Deposit}}$$

**ii) Total investment to total deposit ratio**

Investment is one of the major component of credit created to earn profit. This implies the utilization of firm's deposit on investment in government securities and shares, debenture of other companies and bank. This ratio can be calculated as,

$$\frac{\text{Total Investment}}{\text{Total Deposit}}$$

The numerator Total Investment consists of investment on government securities, investment on debentures, share in other companies and other investment.

**iii) Loan and advances to total working fund ratio**

Loan and advances is the major component in working fund (total assets), which includes the ability of bank to channelize its deposit in the form of loan and advances to earn high return. This can be calculated by dividing loan and advances by total working fund. This can be stated as

$$\frac{\text{Loan and Advances}}{\text{Total Working Fund}}$$

**C. Profitability Ratio**

Profitability ratio is one of the main indicators to analyze the financial performance of the firm. Profitability ratios are calculated to enlighten the end result of business activities, which is the major criterion of the overall efficiency of the business concern. It measures the operating efficiency of the company.

Profitability ratio measures the degree of success in achieving desired level of the firm's profit. Profitability also indicates public acceptance of the product and shows the firm can produce competitively. The ratio can be computed on the basis of either sales or investment.

In this study, this ratio has been computed on the basis of investment so it is also known as return on investment ratio. Profitability ratio of a firm should always be higher. Profitability position of the firm can be presented through the following different ways.

**i) Return on loan and advance ratio**

Return on loan and advance ratio indicates how efficiently the bank has utilized its resources in form of loan and advances. This ratio is calculated by dividing net profit (loss) by total amount of loan and advances. This can be calculated as,

$$\frac{\text{Net Profit(loss)}}{\text{Loan and Advances}}$$

**ii) Return on total working fund ratio (ROA)**

This ratio shows the overall profitability of all working fund i.e. total assets, it is also known as Return on Assets (ROA). A firm has to earn satisfactory return on assets of working fund in order to long-term service. This ratio is calculated by dividing net profit (loss) by total working fund. It can be calculated as,

$$\frac{\text{Net Profit(loss)}}{\text{Total Working Fund}}$$

**iii) Total interest earned to Total Loan and Advances Ratio**

Total interest earned to Total Loan and Advances Ratio measures the income as interest from total loan and advances. Interest income could be increased by embracing good issuing and recovery credit policy. High return shows the soundness of credit policy.

$$\frac{\text{Total interest earned}}{\text{Total Loan and Advances}}$$

**D. Risk Ratios**

Risk means uncertainty, which lies in the banking transaction of credit management. It increases effectiveness and profitability of the bank. These ratios indicate the amount of risk associated with the various harming operations, which ultimately influence the bank's credit and investment policy. Following two ratios are evaluated.

### **i) Liquidity risk Ratio**

This ratio measures the level of risk associated with the liquid assets i.e. cash, bank balance that are kept in the bank for the purpose of satisfying the deposit demand for cash. Higher ratio shows lower liquidity risk. This ratio is calculated by dividing total cash and bank balance by total deposit.

It can be computed as:

$$\frac{\text{Total Cash and bank Balance}}{\text{Total Deposit}}$$

### **ii) Credit Risk Ratio and Provisioning**

#### **Credit Risk Ratio**

This ratio measures the possibility that loan will not be repaid or the investment will deteriorate in quality of going into default with consequently loss to the bank. According to definition, credit risk ratio is expressed as the percentage of non-performing loan to total loan and advances.

The ratio can be computed as:

$$\frac{\text{Non performing Loans}}{\text{Total Loans and Advances}}$$

#### **Loan Loss Provision To Total Loan And Advances Ratio**

This ratio describes the quality of assets that a bank is holding. The low ratio indicates the good quality of assets in total volume of loan and advances and high ratio indicates more risky assets in total volume of loan and advances.

The ratio can be computed as follow:

$$\frac{\text{Loan Loss Provision}}{\text{Total Loan And Advances}}$$

### **E. Adequacy of Loan Loss Provisioning**

Nepal Rastra Bank has set up directives regarding the maintenance of loan loss provision for different types of loan of commercial banks.

In this way, this analysis comprises the adequacy of loan loss provision as per NRB directives of the sample banks for the study period. Adequacy is measured by computing the ratios of loan loss provisioning to loans and advances of different classified loan.

**i) Pass Loan Provision to total Pass Loan**

This ratio measures whether the sample banks under the study has maintained the pass loan provision of at least 1% of total pass loan according to NRB directive throughout the review period. The ratio can be computed as follow:

$$\frac{\text{Pass Loan Provision}}{\text{total Pass Loan}}$$

**ii) Sub-standard Loan Loss Provision to Total Sub-standard Loan**

This ratio measures whether the sample banks under the study has maintained the Sub-standard Loan Loss provision of at least 25% of total Sub-standard loan according to NRB directive throughout the review period. The ratio can be computed as follow:

$$\frac{\text{Sub Standard Loan Loss Provision}}{\text{Total Sub Standard Loan}}$$

**iii) Provision for Doubtful Debt to Total Doubtful Debt**

This ratio measures whether the sample banks under the study has maintained the Provision for Doubtful Debt of at least 50% of Total Doubtful Debt according to NRB directive throughout the review period. The ratio can be computed as:

$$\frac{\text{Provision for Doubtful Debt}}{\text{Total Doubtful Debt}}$$

**iv) Provision for Bad debt(Loss) to Total Bad Debt(Loss)**

This ratio measures whether the sample banks under the study has maintained the Provision for Bad (Loss) Debt of at least 100% of Total Bad (Loss) Debt according to NRB directive throughout the review period. The ratio can be computed as follow:

$$\frac{\text{Provision for Bad (Loss)}}{\text{Total Bad (Loss) Debt}}$$

### **3.5.2 Statistical Tools**

Some important statistical tools has been used to present and analyze the data for achieving the objective of the study. Simple analytical statistical tools such as graph,

percentages, Karl Person's Coefficient of Correlation, method of least square are adopted which are as follows:

### **i) Coefficient of correlation Analysis**

This analysis interprets and identifies the relationship between two or more variables.

- i) Coefficient of correlation between Total Deposit and Loan and Advances.
- ii) Coefficient of correlation between Net income and Loan and Advances.
- iii) Coefficient of correlation between Interest Earned and Loan and Advances
- iv) Correlation between Non performing Loan and Total Loan & Advances

The above ratio tools analyzes the relationship between these relevant variables and helps the bank to make appropriate policies regarding deposit collection, fund utilization (loan and advances and investment) and profit maximization.

To find out those relationships, the following formula is used:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,  $x = (X - \bar{X})$ ,  $y = (Y - \bar{Y})$

The result of coefficient of correlation is always between -1 to +1, where  $r = +1$  means there is a positive relationship between two variables and where  $r = -1$ , means there is a negative relationship between two variables.

### **ii) Trend analysis**

Under this topic, we analyze the trend of deposit, loan and advances, net profit and non performing loan of NABIL, NIBL and SCBL from F/Y 2002 to F/Y 2006 is analyzed that helps to make forecasting for next five years up to 2011. The following trends of the concerned banks have been computed for the analysis:

- i) Trend analysis of total deposit
- ii) Trend analysis of loan and advances
- iii) Trend analysis of net profit
- iv) Trend analysis of Non Performing Loan

The trend analysis of related variable can be calculated as,  $Y = a + bx$



### iii) Test of Hypothesis

A hypothesis is defined by Webster as “A tentative theory or supposition provisionally adopted to explain certain facts and to guide in the investigation of others”.

For the test of hypothesis F-test has been used under this study, since the number of sample of three commercial banks is taken from the population.

The objective of this test is to test the significant different regarding the parameters of the population on the basis of sample drawn from the population this test has been conducted on the various relations related with the banking business.

- i) Test of hypothesis on loan and advances to total deposit ratio of NABIL, NIBL and SCBL
- ii) Test of hypothesis on Return on loan and advances of NABIL, NIBL and SCBL.

### iii) Standard Deviation (S.D.)

The measurement of the scatterness of the mass of figures in a series about an average is known as dispersion. The standard deviation measures the absolute dispersion. The greater the amount of dispersion, greater the standard deviation. Means a high degree of uniformity of the observations as well as homogeneity of the series, a large standard deviation means just the opposite. In this study standard deviation of different ratios are calculated as under:

$$S.D = \sqrt{\frac{\sum(X - \bar{X})^2}{N}} \quad \text{where, } X = \text{variable, } \bar{X} = \text{Mean and } N = \text{No. of Period}$$

## **CHAPTER- IV**

### **ANALYSIS AND PRESENTATION OF DATA**

This is the analytical part of the study, this chapter deals with the presentation, analysis and interpretation of the relevant data of NABIL, NIBL and SCBNL in other to fulfill the objective of this study.

“The data after collection has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan.” Kothari. C.R. “research Methodology: Methods And Techniques” (New Delhi: Wiley Eastern Ltd. 1990)

The main purpose of this chapter is to analyze and evaluate the data through the major financial and statistical tool.

With the help of this analysis, efforts have been made to highlight credit management of the NABIL, NIBL, SCBNL as well as other cases and problems of the concerned banks. For the analysis, the researcher uses the different types of analytical methods and tools such as financial ratio analysis and statistical analysis.

#### **4.1 Financial Analysis**

The Balance sheet shows the financial position on a particular date in terms of structure of assets, liabilities and owner’s equity, and profit and loss account shows the profit earned and loss sustained during a specific period. The financial analysis helps to obtain better understanding of firm’s position and performance. The first step involves selecting the information, second step involves arranging the information in a way to highlight significant relationships, the final step is interpretation and drawing of conclusion.

Under this topic, some financial tools such as liquidity ratio, assets management ratio, profitability ratio, risk ratio, Adequacy of Loan Loss Provisioning ratios are used to achieve the objective of the study. They are as follows:

##### **4.1.1 Liquidity Ratio**

Commercial banks should maintain its satisfactory liquidity position to satisfy the credit needs of the community, to meet demands for deposit, withdraws, pay maturity obligation in time and convert non-cash to satisfy immediate needs without loss to bank and consequent impact in long run profit. The liquidity positions of the commercial banks are comparatively studied through the following ratios:

###### **i) Current Ratio**

The current ratio indicates the ability of the bank to meet its current obligation. It measures the liquidity position of financial institutions. Current ratio is calculated by

dividing current assets by current liabilities (**for details see appendix-B**). The current ratio of NABIL, NIBL and SCBNL is under analysis in the following table.

**Table No. 3**

<b>Current Assets to current Liability Ratio(Times)</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	0.81	0.75	1.07
2005/2006	0.92	0.90	1.06
2006/2007	0.94	0.89	0.91
2007/2008	0.97	0.94	0.96
2008/2009	0.89	0.92	0.90
<b>Mean</b>	<b>0.91</b>	<b>0.88</b>	<b>0.98</b>
<b>S.D</b>	<b>0.05</b>	<b>0.067</b>	<b>0.07</b>
<b>C.V</b>	<b>5.49</b>	<b>7.61</b>	<b>7.14</b>

Appendix -B

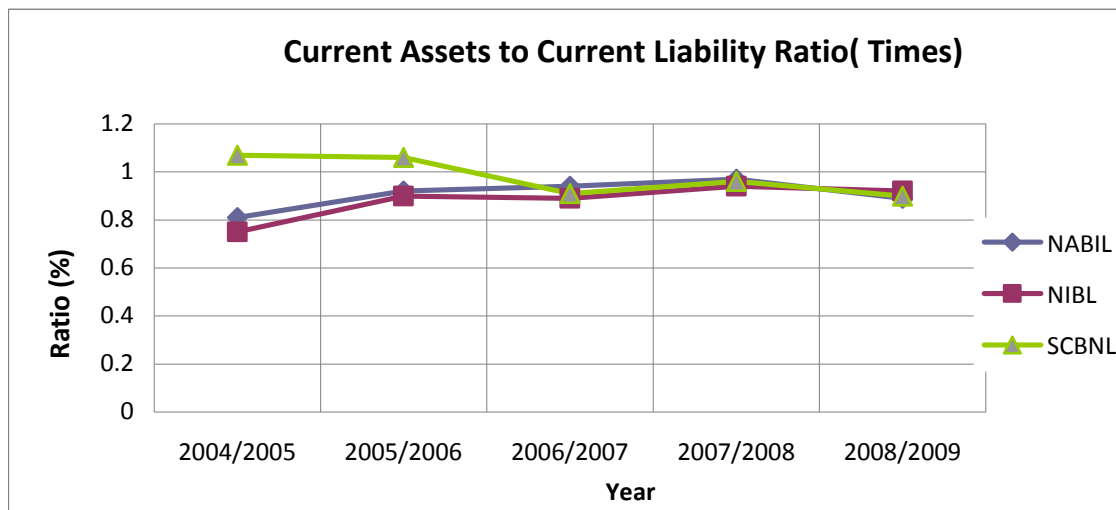
The above table shows that the current ratio of NABIL, NIBL and SCBNL are in fluctuating trend. The highest ratio of NABIL is 0.97 times in F/Y 2007/2008 and the lowest id 0.81 times in F/Y 2004/2005. Respectively NIBL has the highest ratio of 0.94 times in F/Y 2007/2008 and the lowest of 0.75 times in F/Y 2004/2005. Respectively the SCBNL's highest ratio is 1.07 times in F/Y 2004/2005 and lowest is 0.9 times in F/Y 2008/2009.

From the mean ratio point of view current liabilities exceeded the current assets of NABIL, NIBL and SCBNL. Though SCBNL has the highest mean ratio of 0.98 among the three banks under study, yet the mean ratio of SCBNL doesn't meet the optimal standard of current ratio 2:1. Among the three banks (NABIL, NIBL and SCBNL) NABIL is much consistency in its ratio with 5.49% followed by SCBNL with 7.14% and NIBL with 7.61%.

Though the optimal standard of current ratio should be 2:1, the conventional measure of liabilities is not applicable in banking sector. Banking business holds huge portion of deposit as a core deposit and this deposit remains all the time throughout the years. This core deposit forms the fixed liability on the bank though it is current in nature. So the ratio maintained by commercial banks at the level of around 1:1 can be regarded as good and sufficient to meet the normal contingencies. Therefore, the above current ratio

analysis of the banks over the five years period indicates that the banks have satisfactory liability position.

**Figure 1**



## ii) Cash And Bank Balance To Total Deposit Ratio

This ratio measures the availability of bank's highly liquid or immediate funds to meet its unanticipated calls on all types of deposits. This ratio is computed as Cash and Bank Balance divided by Total Deposit (**for details see appendix-C**). A high ratio indicates the greater ability to meet their deposits and vice-versa. The following table shows the cash and bank balance to total deposit ratio of NABIL, NIBL, and SCBNL.

The ratios are analyzed and presented through the help of following table below:

**Table No. 4**

<b>Cash And Bank Balance To Total Deposit Ratio(%)</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	6.78	8.11	5.21
2005/2006	8.51	11.69	8.06
2006/2007	6.87	10.64	9.56
2007/2008	3.83	9.4	5.74
2008/2009	3.26	12.34	5.53
<b>Mean</b>	<b>5.85</b>	<b>10.44</b>	<b>6.82</b>
<b>S.D</b>	<b>1.99</b>	<b>3.42</b>	<b>3.8</b>
<b>C.V</b>	<b>34.02</b>	<b>32.76</b>	<b>55.72</b>

Appendix -C

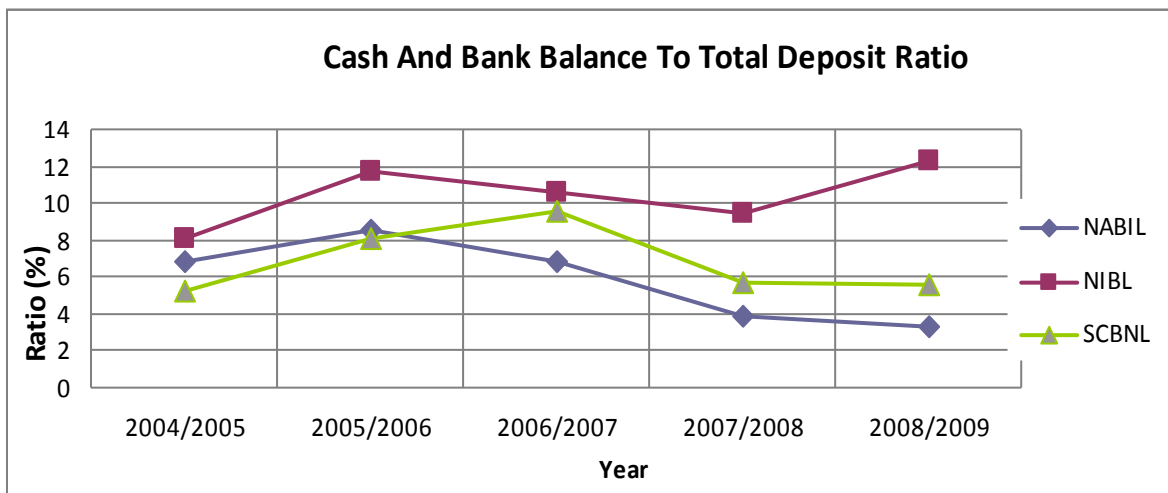
The above table shows that the comparative cash and bank balance to total deposit of NABIL has increased for first two years according to the study period then from F/Y 2006/2007 it started declining, where as NIBL Ratio seems to be fluctuating. The SCBNL ratios has increasing trend from F/Y 2004/2005 to 2006/2007 then after it started declining up to the study period. Among the three banks NIBL has the highest mean ratio of 10.44% followed by SCBNL with 6.82% then NABIL with the lowest mean ratio of 5.85%.

On the basis of coefficient of variation, among the three banks NIBL has the consistent ratio than that of NABIL and SCBNL.

Therefore it can be concluded that the cash and bank balance of NIBL with respect to deposit is better against the readiness to serve its customer's deposit than NABIL and SCBNL. It implies that better liquidity position of NIBL. In contrast, a high ratio of non-earning cash and bank balance may unfit, which indicates the bank's unavailability to invest its fund in income generation areas. Thus NIBL must invest in more productive sectors like short-term marketable securities, treasury bills etc. insuring enough liquidity which will help the bank to improve its profitability.

The Cash and Bank Balance to total deposit of the sample banks and the banking industry has also been presented through the help of figure below:

**Figure 2**



### iii) Cash and Bank Balance To Current Assets Ratio

This ratio examines the bank liquidity capacity on the basic of its most liquid assets i.e. cash and bank balance. This ratio reveals the ability of the bank to make quick payments

of its customer's deposit. A high ratio indicates the sound ability to meet the daily cash requirement of their customer's deposit and vice-versa.

This ratio is calculated by dividing cash and bank balance by current assets (**for detail see Appendix-D**).The comparative ratios are presented in the following table:

**Table No. 5**

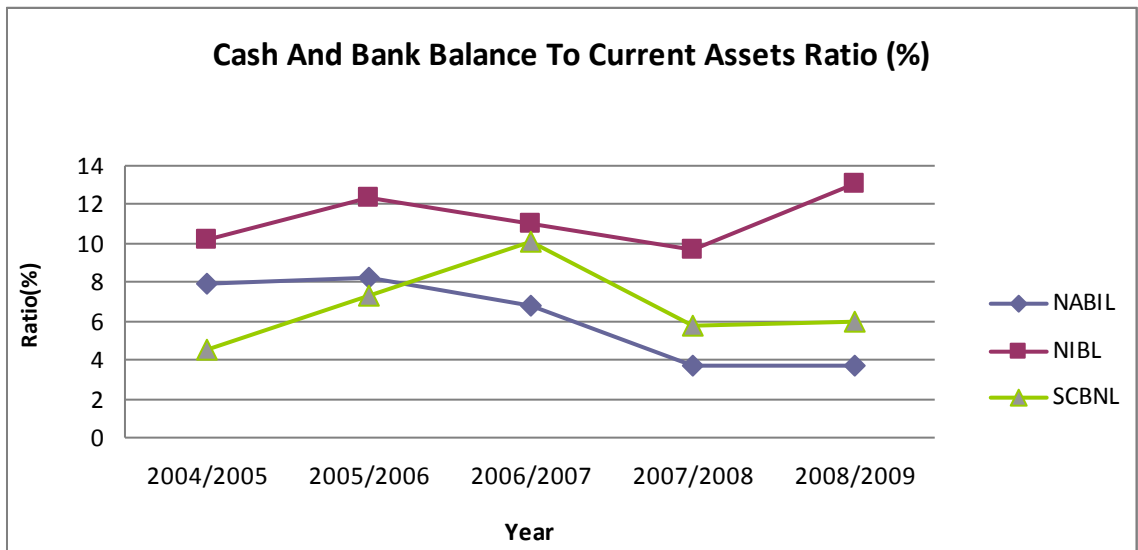
<b>Cash And Bank Balance To Current Assets Ratio (%)</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	7.9	10.14	4.5
2005/2006	8.25	12.32	7.27
2006/2007	6.81	11	10.07
2007/2008	3.74	9.7	5.75
2008/2009	3.47	13.05	5.94
<b>Mean</b>	<b>6.03</b>	<b>11.24</b>	<b>6.75</b>
<b>S.D</b>	<b>2.04</b>	<b>1.27</b>	<b>1.9</b>
<b>C.V</b>	<b>33.83</b>	<b>11.3</b>	<b>28.15</b>

Appendix -D

Analyzing the above ratios it clears that cash and bank balance to current asset ratio of NABIL has increased for first two years according to the study period then from F/Y 2004/2005 it started declining, where as NIBL Ratio seems to be fluctuating. The SCBNL ratios have increasing trend from F/Y 2004/2005 to 2006/2007 then fluctuating up to the study period.

On the basis of mean ratio NIBL has the highest ratio of 11.24% followed by SCBNL with mean ratio 6.75% and NABIL with mean ratio 6.03%, which is the lowest among the banks under study. It supports the conclusion that NABIL has not been successful in maintaining its higher cash and bank balance to current asset ratio in comparison to NIBL and SCBNL. Even the variability of the ratio of NABIL is higher than that of NIBL and SCBNL.

**Figure 3**



#### **iv) Loan and Advances To Current Asset Ratio**

Loan and advances are the current assets of commercial bank, which includes loan and advances, cash, credit, loan and foreign bills purchased, overdraft and discount. A commercial bank should not keep its all connected fund as cash and bank balances but they should be invested as loan and advances to customers because they must earn high profit by mobilizing funds for long life banking. They should pay interest on these deposit funds even they don't generate loan and advances and may lose some earning. However, high loan and advances may be harmful, since they need sufficient liquidity.

This ratio is calculated by dividing loan and advances by current assets (**for details see Appendix- E**).The ratios are analyzed and presented through the help of following table below:

**Table No. 6**

<b>Loan and Advances To Current Asset Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	55.87	76.77	29.26
2005/2006	55.92	76.78	27.39
2006/2007	57.5	63.98	31.9
2007/2008	70.7	73.61	42.14
2008/2009	71.26	71.35	41.61
<b>Mean</b>	<b>62.25</b>	<b>72.5</b>	<b>34.46</b>
<b>S.D</b>	<b>7.15</b>	<b>4.72</b>	<b>6.22</b>
<b>C.V</b>	<b>11.49</b>	<b>6.52</b>	<b>18.06</b>

Appendix- E

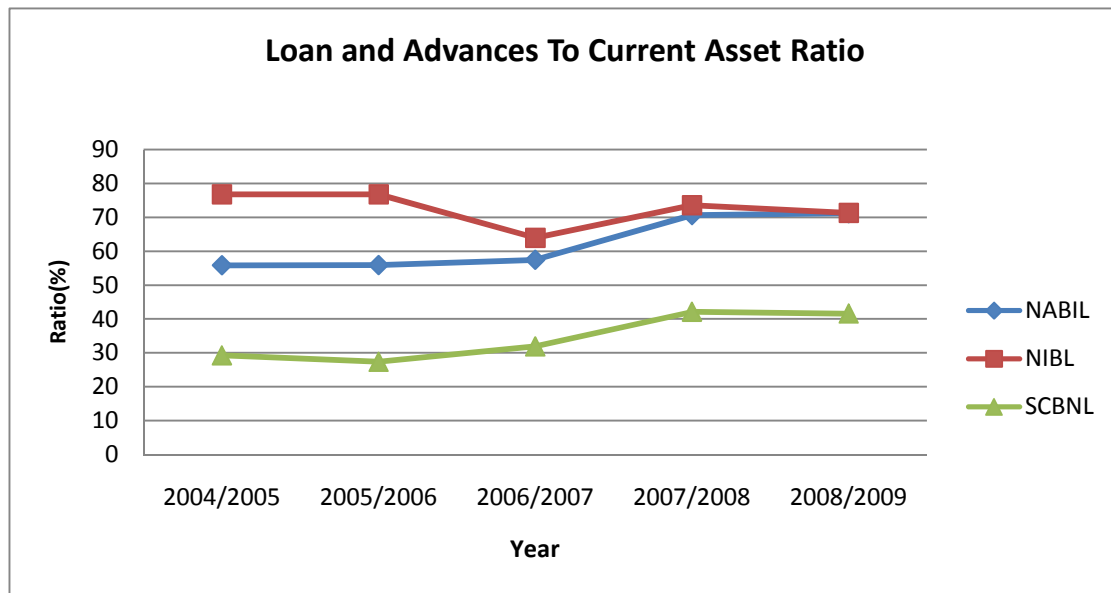
The above comparative table shows that NABIL has an increasing trend of loan and advance to current asset ratio during the study period. It has highest ratio of 71.26% in F/Y 2008/2009 and the lowest of 55.87% in F/Y 2004/2005, whereas NIBL's ratios are in fluctuating trend, the highest ratio is 76.78% in F/Y 2005/2006 and the lowest is 63.98% in F/Y 2006/2007, similarly SCBNL has also fluctuating trend, the highest ratio is 42.14% in F/Y 2007/2008 and the lowest is 27.39% in F/Y 2005/2006.

From the mean ratio point of view NIBL has the highest ratio of 72.5% followed by NABIL with mean ratio 62.25% and then SCBNL with 34.46% mean ratio. The NIBL also seems to have much more consistency than the NABIL and SCBNL with its loan and advances to current asset ratio which is computed as 6.52%. SCBNL has more inconsistent loan and advances to current asset ratio, which is 18.06%.

The loan and advances to current assets ratio of NABIL, NIBL and SCBNL has been graphically presented below:



**Figure 4**



#### **4.1.2 Asset Management Ratio**

This ratio measures how effectively the commercial banks are managing its assets and whether or not the level of those assets is properly related to the level of operations as measured by sales. In other words commercial banks should be able to manage its assets properly to earn high profit maintaining the appropriate level of liquidity. The following ratios are measured for the assets management ratio of the NABIL, NIBL, and SCBNL in comparison.

##### **i) Loan And Advances To Total Deposit Ratio**

This ratio measures the bank's success to mobilize their funds on loan and advance for the purpose of income generation.

A high ratio indicates better mobilization of collected deposit and vice-versa. But, it is known that high ratio may not be better from the liquidity point of view. This ratio is computed by dividing loan and advances by total deposit.

This ratio is calculated by dividing loan and advances by total deposit (**for details see Appendix- F**). The following table shows the loan and advances to total deposit of the sample bank.

**Table No. 7**

<b>Loan And Advances To Total Deposit Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	47.97	61.43	33.87
2005/2006	57.67	72.85	30.37
2006/2007	58	61.87	30.29
2007/2008	72.57	71.04	42.05
2008/2009	66.79	67.5	38.75
<b>Mean</b>	<b>60.06</b>	<b>66.94</b>	<b>35.07</b>
<b>S.D</b>	<b>3.78</b>	<b>4.65</b>	<b>4.66</b>
<b>C.V</b>	<b>6.3</b>	<b>6.95</b>	<b>13.29</b>

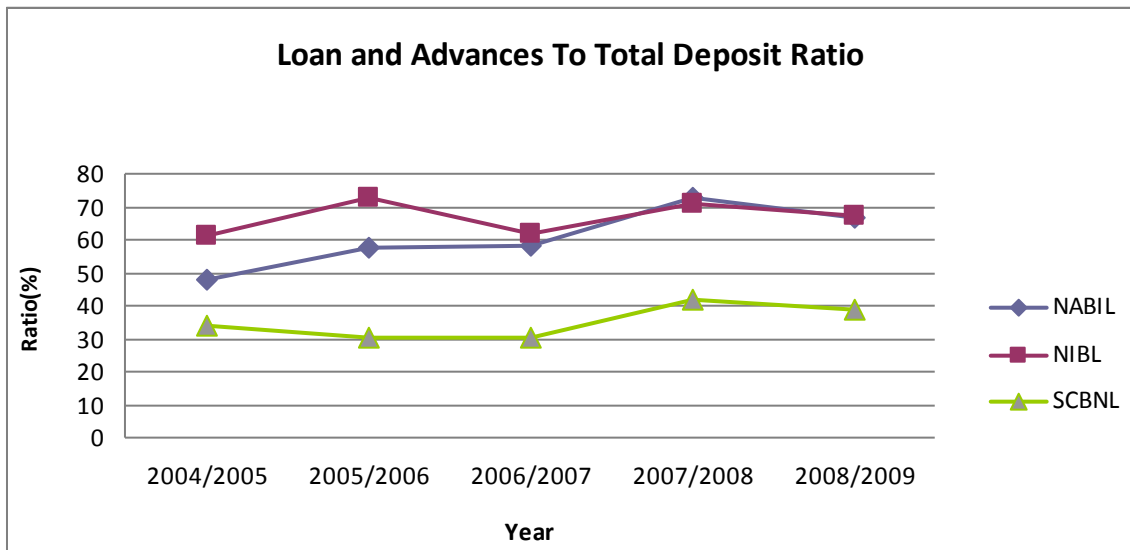
Appendix- F

The above table reveals that the NABIL's total investment to total deposit ratio has an increasing trend up to F/Y 2004/2005 then after in the F/Y 2008/2009 the ratio has decreased to 66.79%. NABIL has the highest ratio of 72.57% in the F/Y 2007/2008 and the lowest ratio is 47.97% in the F/Y 2004/2005. Whereas the NIBL has fluctuating trend in the ratio throughout the review period, its highest ratio is 72.85% in the F/Y 2005/2006 and the lowest ratio is 61.43% in the F/Y 2004/2005. Similarly SCBNL has also fluctuating trend its highest ratio is 42.05% in the F/Y 2007/2008 and the lowest ratio is 30.29% in the F/Y 2006/2007.

On the other hand the mean ratio of NIBL is the highest with 66.94%, then after NABIL with the mean ratio of 60.06%. And the SCBL with the lowest mean ratio of 35.07% among the three. Similarly, observing through the coefficient of variation of the ratios, we can conclude that NABIL has seen more consistent among the three with the lowest C.V of 6.3% followed by NIBL with 6.95% then SCBNL with highest C.V 13.29%.

From the above analysis we can conclude that NIBL is the most successful though it is less consistent than NABIL followed by NABIL (has the highest consistency among the three) and SCBNL is the least successful among the three banks to mobilize its total deposit as loan and advances and acquiring high profit. Whereas high ratio is not better from the point of view of liquidity as the loan and advances is not as liquid as cash and bank balance.

**Figure 5**



**ii) Total Investment To Total Deposit Ratio**

A commercial bank may mobilize its deposit by investing its fund in different securities issued by government and other financial and non-financial companies. Now effort has been made to measure the extent to which the banks are successful in mobilizing the total deposit on investment. A high ratio is the indicator of high success to mobilize the banking fund as investment and vice-versa.

The ratio is computed by dividing total investment by total deposit (**for details see Appendix- G**), this ratio is computed in reference to NABIL, NIBL, SCBL and the Banking Industry as a whole in the following table.

**Table No. 8**

<b>Total Investment To Total Deposit Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	52.88	43.65	58.57
2005/2006	44.85	21.52	55.22
2006/2007	41.33	33.51	53.68
2007/2008	29.25	27.6	50.1
2008/2009	31.93	29.6	55.71
<b>Mean</b>	<b>40.05</b>	<b>31.18</b>	<b>54.66</b>
<b>S.D</b>	<b>8.62</b>	<b>7.34</b>	<b>2.77</b>
<b>C.V</b>	<b>21.27</b>	<b>23.54</b>	<b>5.07</b>

Appendix- G

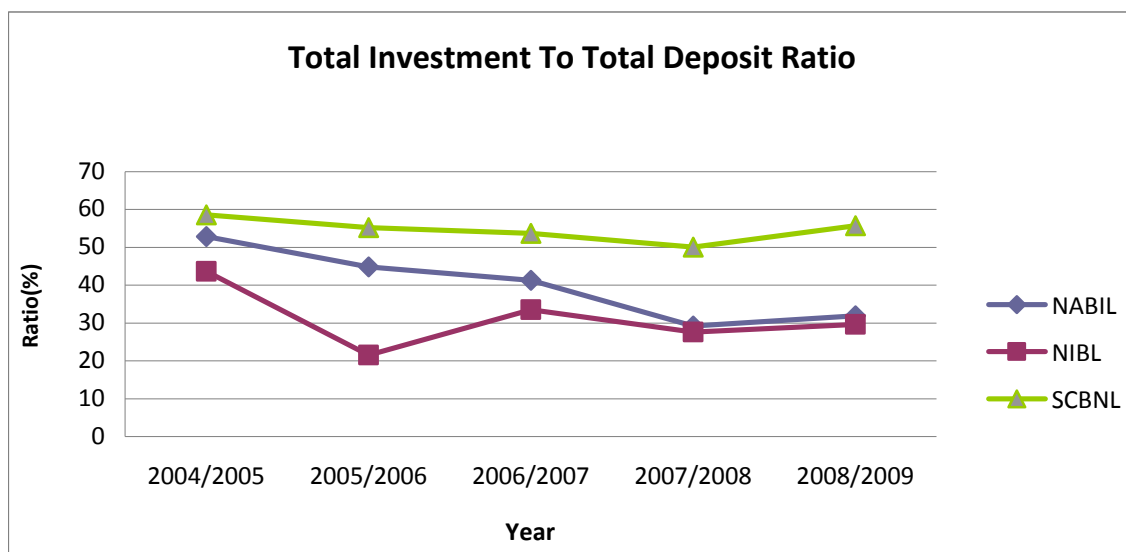
The above table reveals that the NABIL's total investment to total deposit ratio has a decreasing trend up to F/Y 2007/2008 then after in the F/Y 2008/2009 the ratio has slightly increased by 2.68%. NABIL has the highest ratio of 52.88% in the F/Y 2004/2005 and the lowest ratio of 29.25% in the F/Y 2007/2008. Whereas the NIBL has fluctuating trend in the ratio throughout the review period, its highest ratio is 43.65% in the F/Y 2004/2005 and the lowest ratio of 21.52% in the F/Y 2005/2006. In case of SCBNL the total investment to total deposit ratio has a decreasing trend up to F/Y 2007/2008 during study period. The highest ratio is 58.57% in the F/Y 2004/2005 and the lowest ratio of 50.1% in the F/Y 2007/2008.

From mean ratio point of view, SCBNL's capacity to mobilize their deposit on total investment is highest among the three banks, SCBNL has the highest mean ratio of 54.66%, then after NABIL with the mean ratio of 40.05%. And the NIBL has the lowest mean ratio of 31.18% amongst the three. On the other hand, observing the coefficient of variation of the ratio, we can conclude that SCBNL has been seen more consistent among the three with the lowest C.V of 5.07% followed by NABIL with 21.27%.

From the above analysis we can conclude that SCBNL is the most successful and NIBL is the least successful among the three banks to utilize its resources as an investment point of view.

Total deposit, loan and advances and total investment of NABIL, NIBL, SCBNL and the Banking Industry are presented in the bar diagram as follows:

**Figure 6**



### iii) **Loan And Advances To Total Working Fund Ratio**

Loan and advances of any commercial bank represent the major portion in the volume of total working fund. This ratio measures the volume of loan and advances in the structure of total assets. The high degree of this ratio indicates the good performance of the bank in mobilizing its funds by the way of lending function for the purpose of income generation. However, in its reserve side, the low degree of this represents low liquidity ratio.

This ratio is calculated by dividing loan and advances by total working fund (**for details see Appendix- H**). The ratio of NABIL, NIBL and SCBNL has been presented in the following table.

**Table No.9**

<b>Loan and Advances To Total Working Fund Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	48.82	54.5	28.86
2005/2006	45.32	47.37	29.77
2006/2007	42.2	51.56	29.1
2007/2008	46.83	64.03	27.12
2008/2009	48.91	53.79	27.11
<b>Mean</b>	<b>46.42</b>	<b>54.25</b>	<b>28.39</b>
<b>S.D</b>	<b>2.49</b>	<b>5.48</b>	<b>2.43</b>
<b>C.V</b>	<b>5.36</b>	<b>10.10</b>	<b>8.56</b>

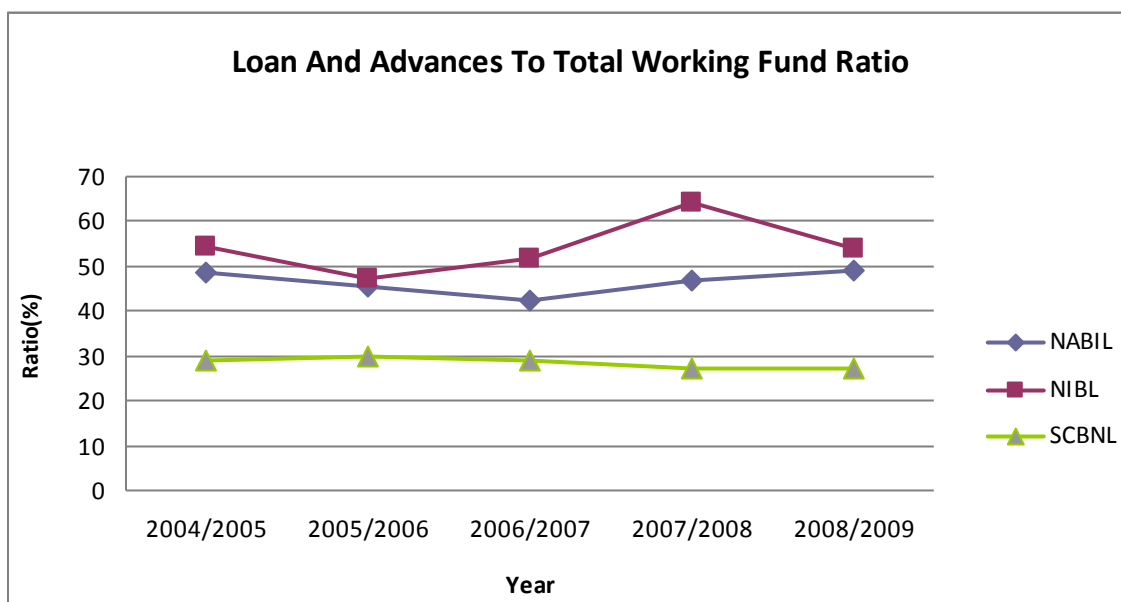
Appendix- H

The above table shows that the NABIL's ratios are in fluctuating trend. The highest ratio is 48.91% in F/Y 2008/2009 and the lowest ratio is 42.2% in 2006/2007. Similarly the ratios of NIBL are also in fluctuating trend with highest ratio 64.03% in F/Y 2007/2008 and the lowest is 47.37% in F/Y 2005/2006. Whereas, the ratios of SCBNL is in decreasing trend although the ratio from the F/Y 2008/2009 . The highest ratio of SCBL is 29.77% in F/Y 2005/2006 and the lowest is 27.11% in F/Y 2008/2009.

On the basis of mean ratio of loan and advances to total working fund, it can be said that NIBL has the highest mean ratio of 54.25%, followed by NABIL with mean ratio 46.42% and then SCBNL with 28.39%. Which mean NIBL has strong position to mobilize its working fund as loan and advance for generating income than NABIL and SCBNL. However, NIBL's ratio is least consistent than NABIL and SCBL i.e.10.10%(NIBL)>8.56%(SCBNL)>5.36%(NABIL).

Well, concluding the above analysis we could say that NIBL's fund mobilization ratio in terms of loan and advances with respect to total working fund is satisfactory than NABIL and SCBNL.

**Figure 7**



### 4.1.3 Profitability Ratio

Profit is the must for any bank for its survival. And the profitability ratio helps to measure and indicate how efficient the bank is in profit generation. A higher ratio shows the higher efficiency of the bank. The following ratio has been computed under this profitability ratio type:

#### i) Return On Loan And Advances Ratio

This ratio measures the earning capacity of the commercial banks through its fund mobilization as loan and advances. A high ratio indicates greater success to mobilize fund as loan and advances and vice-versa.

This ratio is calculated by dividing loan and advances by Net Profit (**for details see Appendix- I**). The ratio has been presented through the help of the following table:

**Table No.10**

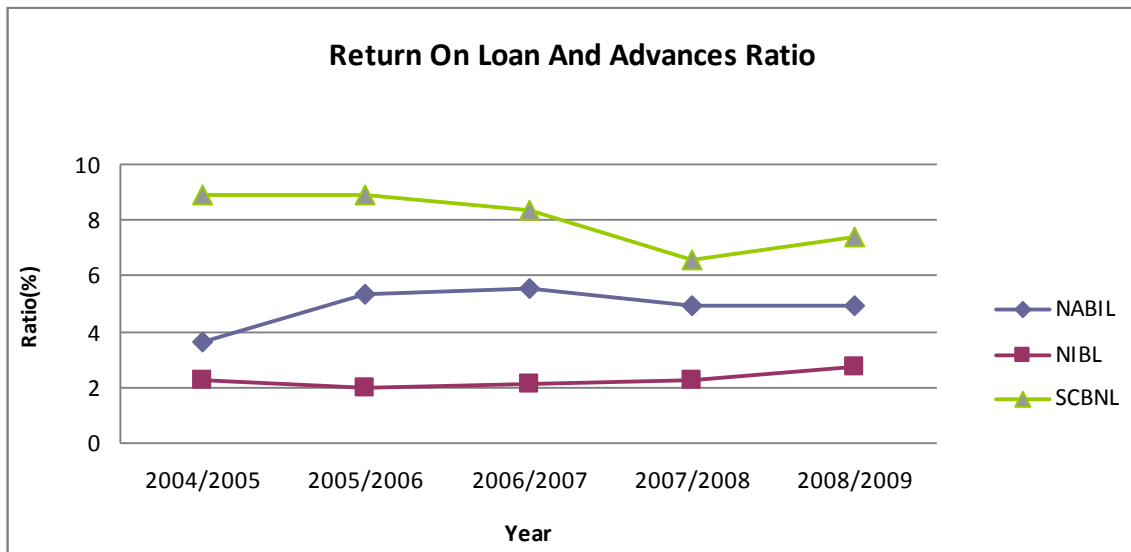
<b>Return on Loan and Advances Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	3.65	2.23	8.93
2005/2006	5.37	2.02	8.9
2006/2007	5.56	2.14	8.39
2007/2008	4.9	2.29	6.58
2008/2009	4.92	2.74	7.37
<b>Mean</b>	<b>4.88</b>	<b>2.28</b>	<b>8.03</b>
<b>S.D</b>	<b>0.78</b>	<b>0.24</b>	<b>0.92</b>
<b>C.V</b>	<b>15.98</b>	<b>10.81</b>	<b>11.46</b>

Appendix-I

From the above comparative table, NABIL's ratios are in increasing trend from F/Y 2005/2006 to F/Y 2006/2007 then it started fluctuating up to the study period. NABIL has the highest ratio of 5.56% in the F/Y 2006/2007 and the lowest ratio is 3.65% in the F/Y 2004/2005. Whereas the NIBL's ratio has decreased in the second year of review period then after it started increasing up to the last year of review period. NIBL has the highest ratio of 2.74% in the F/Y 2008/2009 and the lowest ratio is 2.02% in the F/Y 2005/2006. SCBNL has a fluctuating trend in its ratio, its highest ratio is 8.93% in the F/Y 2004/2005 and the lowest ratio is 6.58% in the F/Y 2007/2008. Comparing the mean ratio SCBNL has the highest mean ratio of 8.03% followed by NABIL with 4.88% then NIBL with 2.28%. The mean ratio specify that SCBNL has been successful in maintaining its higher return on loan and advances in comparison to other two banks under study, however, it doesn't has as much consistency as NIBL. The NIBL seems to have much consistency with 10.81% than SCBNL with 11.46% and the NABIL with 15.98%.

Conclusively, we can say that SCBNL has higher return on loan and advances in comparison to NABIL and NIBL.

**Figure 8**



**ii) Return On Total Working Fund Ratio**

Return on total working fund (ROA) ratio measures the profitability with respect to each financial resources investment of bank's assets. If the bank's total working fund is well managed and effectively utilized, the return on such assets will be higher. The ratio is calculated by dividing Net profit by Total working fund assets.

This ratio is calculated by dividing Total Working Fund by Net Profit (**for details see Appendix- J**).The following table has been presented in order to show the profitability position with respect to total assets of NABIL, NIBL and SCBNL.

**Table No.11**

<b>Return on Total Working Fund Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	1.54	1.15	2.59
2005/2006	2.51	1.29	2.41
2006/2007	2.72	1.15	2.27
2007/2008	3.02	1.43	2.46
2008/2009	2.84	1.64	2.55
<b>Mean</b>	<b>2.52</b>	<b>1.33</b>	<b>2.46</b>
<b>S.D</b>	<b>0.52</b>	<b>0.18</b>	<b>0.11</b>
<b>C.V</b>	<b>20.64</b>	<b>13.96</b>	<b>4.47</b>

Appendix - J

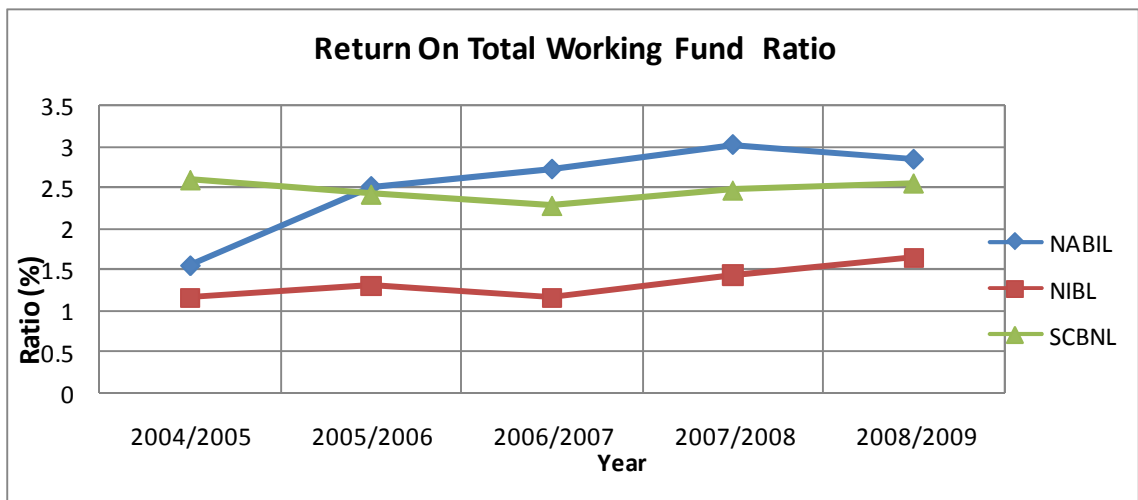


The above table reveals that the return on total assets of NABIL is in increasing trend expect in the F/Y 2005/2006. The highest ratio is 3.02% in F/Y 2007/2008 and the lowest is 1.54% in F/Y 2004/2005. Whereas NIBL has a fluctuating trend with highest ratio of 1.64% in the F/Y 2008/2009 and the lowest ratio of 1.15% in the F/Y 2004/2005 and 2006/2007. Similarly SCBNL has also the fluctuating trend in its ratios the highest ratio observed is 2.59% in the F/Y 2004/2005 and the lowest in the F/Y 2005/2006 with 2.41%.

Through the perspective of mean ratio NABIL has the highest mean ratio of 2.52% followed by SCBNL with 2.46% then by NIBL with 1.33%. From this analysis it seems that NABIL with its highest mean among the three banks is able to earn high profit on total working fund assets although it has least consistency in its ratios than SCBNL and NIBL. SCBNL ratios are more consistent with C.V 4.47% than that of NIBL with 13.96% and NABIL with 20.64%.

Conclusively, from the above analysis of Return on Total Working Fund ratio made among the three banks NABIL, NIBL and SCBNL we can say that NABIL has higher return on Total Working Fund.

**Figure 9**



**iii) Total interest earned to Total Loan and Advances Ratio**

Total interest earned to Total Loan and Advances Ratio measures the income as interest from total loan and advances. Interest income could be increased by embracing good issuing and recovery credit policy. High return shows the soundness of credit policy.

This ratio is calculated by dividing total Interest earned by Total Loan and advances (**for details see Appendix- K**).The following table has been presented in order to show the total interest earned with respect to total loan and advances of NABIL, NIBL and SCBNL.

**Table No.12**

<b>Total interest earned to Total Loan and Advances Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	15.06	12.72	18.90
2005/2006	13.12	7.96	17.58
2006/2007	12.23	10.26	16.26
2007/2008	10.09	8.76	13
2008/2009	10.14	9.18	13.31
<b>Mean</b>	<b>12.13</b>	<b>9.78</b>	<b>15.81</b>
<b>S.D</b>	<b>1.88</b>	<b>1.65</b>	<b>2.33</b>
<b>C.V</b>	<b>15.50</b>	<b>16.87</b>	<b>14.74</b>

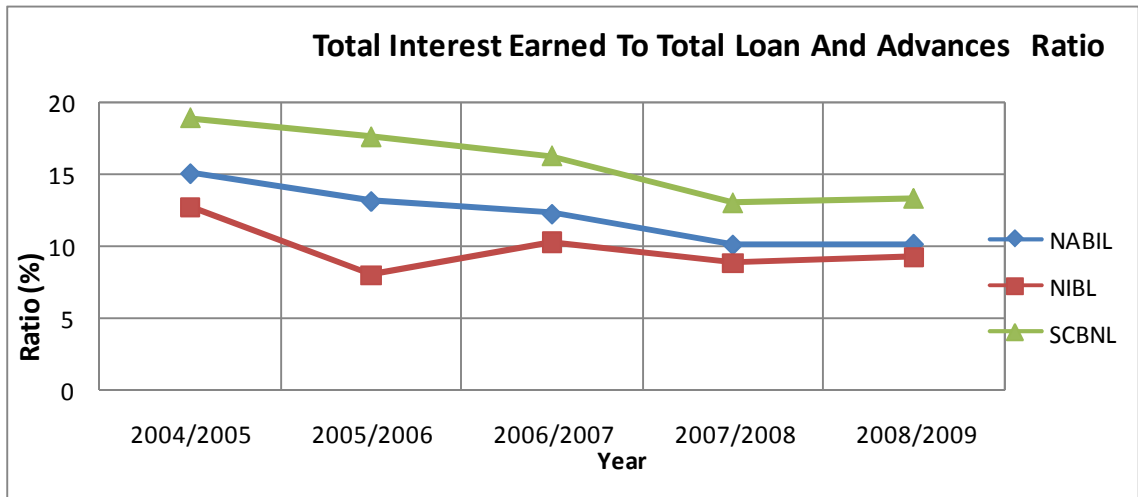
Appendix -K

The above table reveals that the total interest earned to total loan and advances ratio of NABIL bank has decreasing trend up to F/Y 2007/2008 and then it has increased in F/Y 2008/2009. The highest ratio of NABIL is 15.06% in F/Y 2004/2005 and the lowest is 10.09% in F/Y 2007/2008. However the ratios of NIBL is in fluctuating trend the highest ratio is 12.72% in F/Y 2004/2005 and the lowest is 7.96% in F/Y 2005/2006. In case of SCBNL the total interest earned to total loan and advances ratio has decreasing trend up to F/Y 2007/2008 and then it has increased in F/Y 2008/2009. The highest ratio of SCBNL is 18.90% in F/Y 2004/2005 and the lowest is 13% in F/Y 2007/2008.

Computing through the mean ratio point of view SCBNL has the highest mean total interest to total loan and advances ratio of 15.81% with the consistency 14.74% in its ratio than the NABIL and NIBL. Whereas NABIL stood second with mean ratio 12.13% with the consistency 15.50%. NIBL has the least mean ratio of 9.78% and the high inconsistency among the three banks.

Conclusively, we can say that SCBNL is generating more income through loan and advances than NABIL and NIBL.

Figure 10



#### 4.1.4 Risk Ratios

The possibility of risk makes bank's investment a challenging task. Bank has to take risk to get return on its investment. Higher the risk higher will be the return on investment. So banks operating for high profit have to accept the risk and manage it efficiently.

Through following ratios, efforts have been made to measure the level of risk essential for the banks NABIL, NIBL and SCBNL under study.

##### 4.1.4.1 Liquidity Risk Ratio

The liquidity risk of the bank defines liquidity need for its deposit. The ratio of cash and bank balance to total deposit is the indicator of bank liquidity need. Cash and bank balance are considered as banks liquidity sources and deposits as the liquidity need. A higher liquidity indicates less risk and less profit and vice-versa.

The ratio is computed by dividing liquid assets or cash and bank balance by total deposit (for details see Appendix L). Through the help of following table Cash and Bank Balance to Total Deposit Ratio has been presented:

**Table No.13**

<b>Cash And Bank Balance To Total Deposit Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	6.78	8.11	5.21
2005/2006	8.51	11.69	8.06
2006/2007	6.87	10.64	9.56
2007/2008	3.83	9.4	5.74
2008/2009	3.26	12.34	5.53
<b>Mean</b>	<b>5.85</b>	<b>10.44</b>	<b>6.82</b>
<b>S.D</b>	<b>1.99</b>	<b>3.42</b>	<b>3.8</b>
<b>C.V</b>	<b>34.02</b>	<b>32.76</b>	<b>55.72</b>

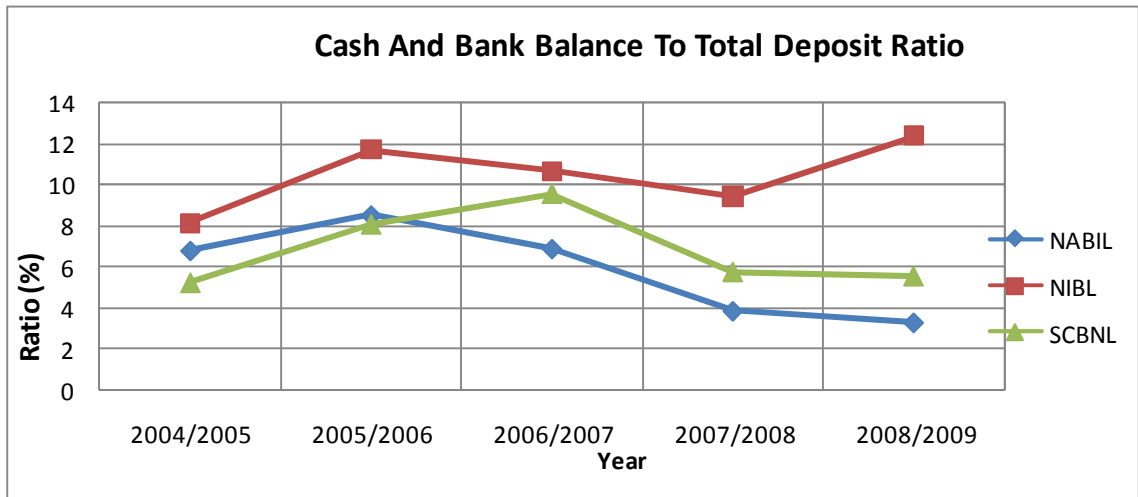
Appendix-L

The above table shows that the comparative liquidity risk ratio of NABIL has increased for first two years of the study period then from F/Y 2006/2007 it started declining, where as NIBL Liquidity Risk Ratio seems to be fluctuating with highest ratio 12.34% in F/Y 2008/2009 and the lowest ratio of 8.11% in F/Y 2004/2005. The SCBL Liquidity Risk ratios has increasing trend from F/Y 2004/2005 to 2005/2006 then after it started declining up to the study period, its highest ratio is 9.56% in F/Y 2006/2007 and the lowest is 5.21% in the F/Y 2004/2005. NIBL has the highest mean ratio of 10.44% followed by SCBNL with 6.82% then NABIL with the lowest mean ratio of 5.85%.

From the perspective of Coefficient of Variation, among the three banks NIBL has the consistent ratio than NABIL and SCBNL.

Conclusively, we can say that NIBL has maintained higher liquidity which would obviously results lower profit than SCBNL and NABIL. Whereas NABIL has the least liquidity among the three banks with stable liquidity risk ratio, which means NABIL has taken higher risk than the other two banks under study for the higher profit.

Figure 11



#### 4.1.4.2 Credit Risk Ratio and Loan Loss Provisioning

##### i) Credit Risk Ratio

Bank utilizes its collected fund in providing credit to different sectors. While making the investment, bank examines the credit risk involved in the project which may be the risk of default or the non-payment of loan.

The credit risk ratio is computed by dividing NPL by Total Loans and Advances (**For details see Appendix M1**). The following table has been presented for the comparative credit risk ratio of the NABIL, NIBL and the SCBNL under study period.

Table No.14

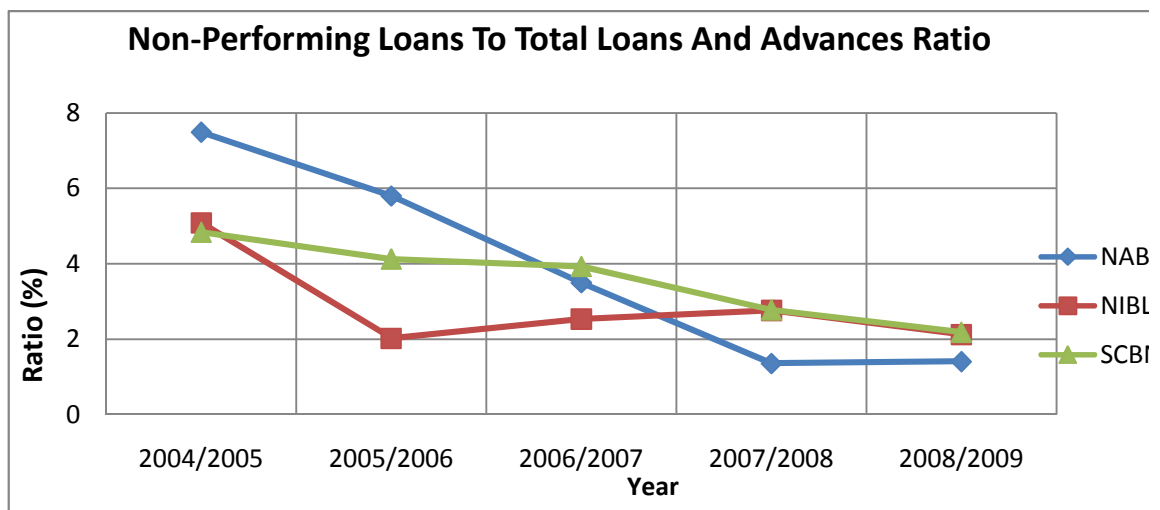
Non Performing Loans To Total Loans and Advances Ratio			
F/Y	NABIL	NIBL	SCBNL
2004/2005	7.49	5.08	4.84
2005/2006	5.8	2.03	4.13
2006/2007	3.5	2.54	3.93
2007/2008	1.36	2.77	2.78
2008/2009	1.41	2.13	2.19
<b>Mean</b>	<b>3.91</b>	<b>2.91</b>	<b>3.57</b>
<b>S.D</b>	<b>2.42</b>	<b>1.12</b>	<b>0.96</b>
<b>C.V</b>	<b>61.89</b>	<b>38.49</b>	<b>26.89</b>

Appendix – M1

The table reveals that the NABIL's Credit Risk ratios are in decreasing trend up to F/Y 2004/2005 but it has slightly increased in the F/Y 2008/2009. The highest ratio is 7.49% in F/Y 2004/2005 and the lowest ratio is 1.36% in 2006/2007. Whereas the ratios of NIBL are in fluctuating trend with highest ratio 5.08% in F/Y 2004/2005 and the lowest is 2.03% in F/Y 2005/2006. The ratios of SCBNL are in decreasing trend with the highest ratio 4.84% in F/Y 2004/2005 and the lowest is 2.19% in F/Y 2008/2009.

Through the mean ratio point of view, NABIL has the highest NPL to total loans and advances ratio with 3.91% in comparison to SCBL with 3.57% and NIBL with 2.91%. The mean ratios of the banks under study show that the NIBL has the lowest NPL with respect to its total loan and advances than SCBNL and NABIL however, NIBL's ratios are not as much consistent than that of SCBL. Among the three banks SCBNL's ratios have more consistency, followed by NIBL and then NABIL.

**Figure 12**



### ii) Loan Loss Provision To Total Loan And Advances Ratio

Loan loss provision to total loan and advances describes the quality of assets that a bank holding. The amount of loan loss provision is balance sheet refers to general loan loss provision. The provision for loan loss reflects the increasing probability of non-performing loan. The increment in loan loss provision result a decreased profit and thereby decrease in dividend payment but its positive impact is that it strengthens financial conditions of the banks by controlling credit risks related to deposits. So it can be said that bank suffer from it for short term while the good financial conditions and safety of loans will make bank's prosperity resulting increasing profits for long term. The low ratio indicates the good quality of assets in total volume of loan and advances and high ratio indicates more risky assets in total volume of loan and advances.

This ratio is computed by dividing loan loss provision by loan and advances (**For details see Appendix M2**). The loan loss provision to loan and advances ratio has been presented through the help of the following table:

**Table No. 15**

<b>Loan Loss Provision To Total Loan And Advances Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	4.89	5.81	6.19
2005/2006	4.61	2.59	5.34
2006/2007	4.38	2.89	4.42
2007/2008	3.41	3.23	3.41
2008/2009	2.76	3.15	3.03
<b>Mean</b>	<b>4.01</b>	<b>3.53</b>	<b>4.48</b>
<b>S.D</b>	<b>0.8</b>	<b>1.16</b>	<b>1.17</b>
<b>C.V</b>	<b>19.95</b>	<b>32.85</b>	<b>26.12</b>

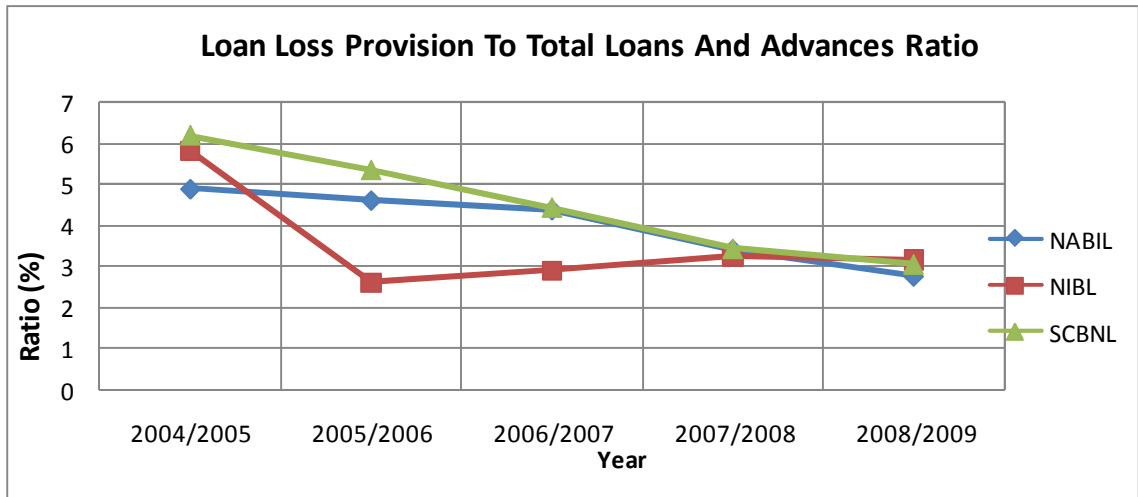
Appendix –M2

The above table reveals that the NABIL's ratios are in decreasing trend. The highest ratio is 4.89% in F/Y 2004/2005 and the lowest ratio is 2.76% in 2008/2009. Whereas the ratios of NIBL are in fluctuating trend with highest ratio 5.81% in F/Y 2004/2005 and the lowest is 2.59% in F/Y 2005/2006. The ratios of SCBNL are in decreasing trend with the highest ratio 6.19% in F/Y 2004/2005 and the lowest is 3.03% in F/Y 2008/2009.

Through the mean ratio point of view SCBNL has the highest loan loss provision to total loan and advances ratio of 4.48% followed by NABIL with 4.01% mean ratio and then by NIBL with mean ratio 3.53%. NABIL's ratios have more consistency with 19.95% than SCBL with 26.12% then NIBL with 32.85% which is the least consistent among the three banks.

Following figures represents five years Performing Loans, Non Performing Loans and Loan Loss Provision of NABIL, NIBL and SCBNL.

Figure 13



#### 4.1.5 Adequacy of Loan Loss Provisioning

Nepal Rastra Bank has set up directives regarding the maintenance of loan loss provision for different types of loan of commercial banks. In this way, this analysis comprises the adequacy of loan loss provision as per NRB directives of the sample banks for the study period. Adequacy is measured by computing the ratios of loan loss provisioning to loans and advances of different classified loan.

##### i) Pass Loan Provision To Total Pass Loan Ratio

The pass loan provision to total pass loan ratio shows that whether the Banks under study are complying with the directives issued by the Nepal Rastra Bank. This ratio is computed by dividing pass loan provision by Total Pass Loan (**For details see Appendix N**).



**Table No. 16**

<b>Pass Loan Provision To Total Pass Loan Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	1.94	1.41	1.73
2005/2006	1.6	0.98	1.64
2006/2007	1.54	0.99	1
2007/2008	2.18	0.99	1
2008/2009	1.64	1.28	1
<b>Mean</b>	<b>1.78</b>	<b>1.13</b>	<b>1.27</b>
<b>S.D</b>	<b>0.24</b>	<b>0.18</b>	<b>0.34</b>
<b>C.V</b>	<b>13.48</b>	<b>15.93</b>	<b>26.77</b>

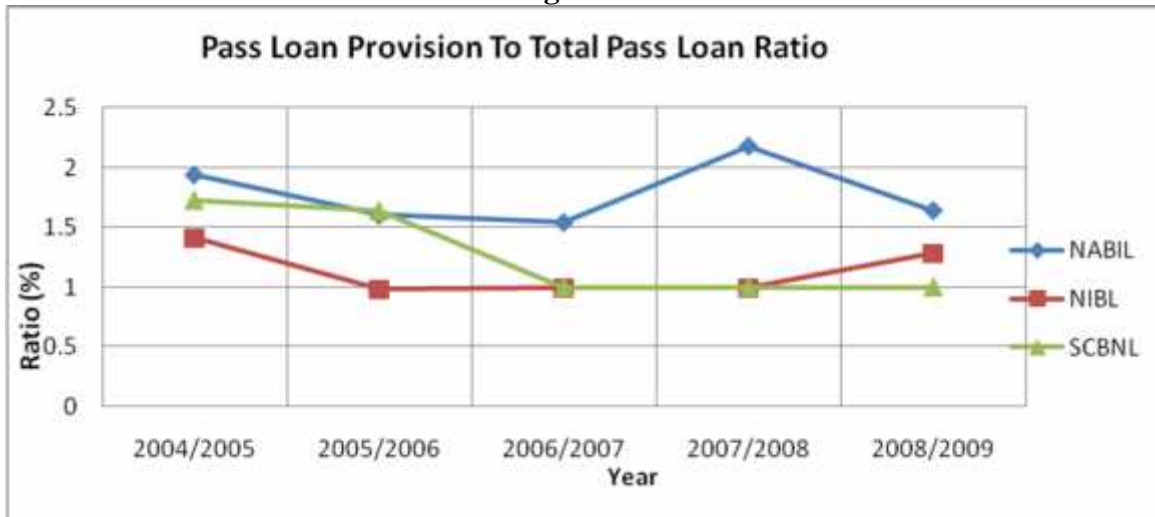
Appendix- N

The above table depicts the ratios of total pass loan provision to total loan of NABIL, NIBL and SCBNL for five financial years starting from F/Y 2004/2005 to F/Y 2008/2009. The pass loan provision to total pass loan ratio of NABIL has a fluctuating trend. However it has maintained the pass loan provision of at least 1% of total pass loan according to NRB directive throughout the review period. NIBL is also very much close maintaining it around 1%. Its highest ratio is 1.41% in F/Y 2004/2005 and the lowest is 0.98% in F/Y 2005/2006. Similarly, SCBNL has also maintained the ratios as according to NRB directives throughout the review year, its highest ratio is 1.73% in F/Y 2004/2005 and the lowest is 1% from F/Y 2006/2007 to F/Y 2008/2009.

From mean ratio point of view both of the trio banks have been able to maintain the pass loan provision of at least 1% of total pass loan. However the level of consistency of these banks under study has been different. NABIL's ratio is much more consistent with 13.48% than that of NIBL with 15.93% and SCBNL with 26.77%.

Overall with all the analysis which has been made above, we could conclude that NABIL, NIBL and SCBNL have been able to maintain the pass loan provision of at least 1% of total pass loan as according to NRB directives.

**Figure 14**



**ii) Substandard Loan Loss provision to Total Substandard Loan Ratio**

The substandard loan loss provision to total substandard loan ratio shows that whether the Banks under study are complying with the directives issued by the Nepal Rastra Bank. This ratio is computed by dividing Substandard Loan Loss provision by Total Substandard Loan (For details see Appendix O).

**Table No. 17**

<b>Substandard Loan Loss provision to Total Substandard Loan Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	24.08	12.13	25
2005/2006	24.01	11.3	24.96
2006/2007	23.22	25.18	-
2007/2008	31.08	25.76	25.02
2008/2009	67.93	25	24.98
<b>Mean</b>	<b>34.1</b>	<b>19.87</b>	<b>20</b>
<b>S.D</b>	<b>17.17</b>	<b>6.67</b>	<b>10</b>
<b>C.V</b>	<b>50.35</b>	<b>33.57</b>	<b>50</b>

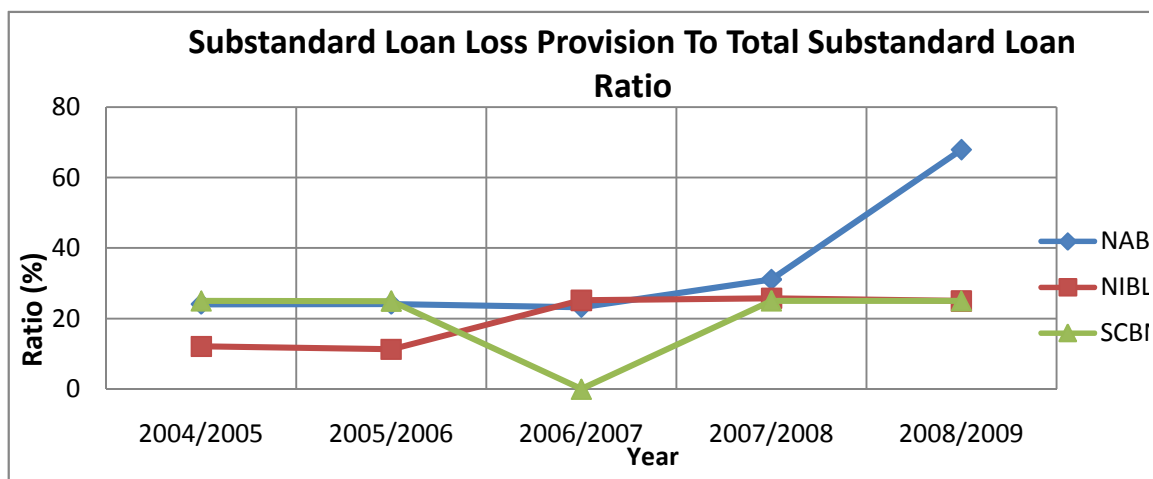
Appendix - O

The above table depicts the ratios of substandard loan loss provision to total substandard loan of NABIL, NIBL and SCBNL for five financial years starting from F/Y 2004/2005 to F/Y 2008/2009. The substandard loan loss provision to total substandard loan ratio of NABIL has a fluctuating trend. Its highest ratio is 67.93% in F/Y 2008/2009 and the lowest is 23.22% in F/Y 2006/2007. Similarly, NIBL has also fluctuating trend in its ratio. Its highest ratio is 25.76% in F/Y 2007/2008 and the lowest is 11.3% in F/Y 2005/2006. Similarly, SCBNL has also fluctuating trend in its ratio, its highest ratio is 25.02% in F/Y 2007/2008 and the lowest is 0% in F/Y 2006/2007.

From mean ratio point of view only NABIL has been able to maintain the substandard loan loss provision of at least 25% of total substandard loan according to the directives of NRB where as other banks NIBL and SCBL have failed to comply with the set standard. However NABIL's ratios are inconsistent in comparison to the ratios of NIBL and SCBNL.

Concluding the above analysis on average only NABIL has been able to meet the standard set by the NRB even though it has failed to maintain the standard as set by NRB in each of the review year. Whereas NIBL and SCBNL has maintained the standard as set by NRB in some of the review years but in aggregate both of the banks have failed to meet the standard of having substandard loan loss provision at least 25% of the total substandard loan.

**Figure 15**



**iii) Provision for Doubtful Debt To Total Doubtful Debt Ratio**

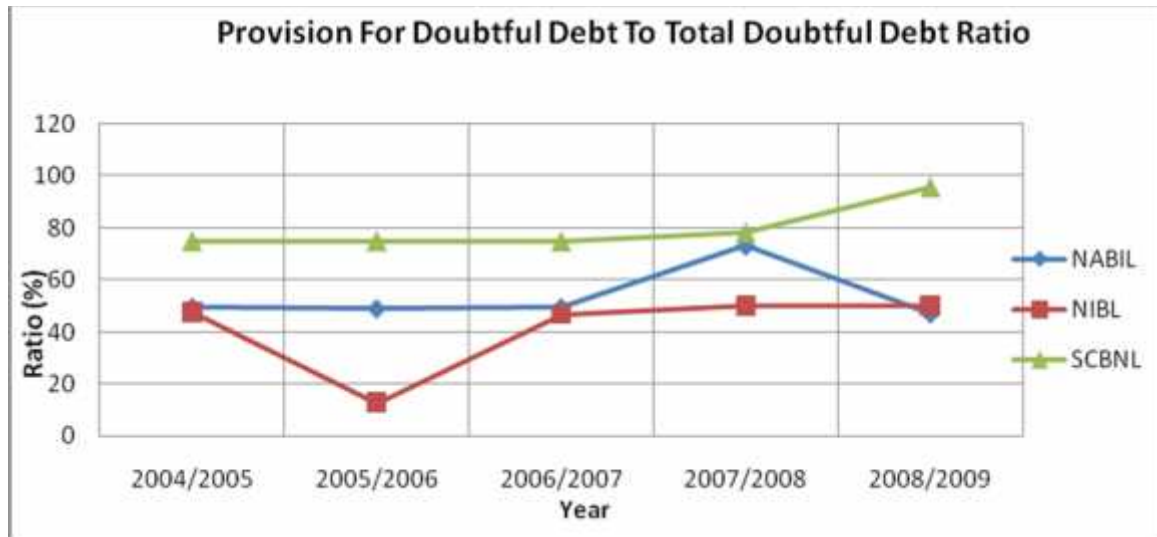
The Provision for Doubtful Debt To Total Doubtful Debt Ratio shows that whether the Banks under study are complying with the directives issued by the Nepal Rastra Bank. This ratio is computed by dividing Provision for Doubtful Debt by Total Doubtful Debt (For details see Appendix P).

**Table No. 18**

<b>Provision for Doubtful Debt To Total Doubtful Debt Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	49.54	47.41	74.95
2005/2006	48.95	12.73	75
2006/2007	49.4	46.81	74.81
2007/2008	73.22	50.1	78.22
2008/2009	47.02	49.9	95.72
<b>Mean</b>	<b>53.63</b>	<b>41.39</b>	<b>79.74</b>
<b>S.D</b>	<b>9.84</b>	<b>14.39</b>	<b>8.09</b>
<b>C.V</b>	<b>18.35</b>	<b>34.77</b>	<b>10.15</b>

Appendix- P

**Figure 16**



The above table depicts the Provision for Doubtful Debt to Total Doubtful Debt Ratio of NABIL, NIBL and SCBNL for five financial years starting from F/Y 2004/2005 to F/Y 2008/2009. The Provision for Doubtful Debt to Total Doubtful Debt Ratio of NABIL has a fluctuating trend. Its highest ratio is 73.22% in F/Y 2007/2008 and the lowest is 47.02% in F/Y 2008/2009. Similarly, NIBL has also fluctuating trend in its ratio. Its highest ratio is 50.1% in F/Y 2007/2008 and the lowest is 12.73% in F/Y 2005/2006. Similarly, SCBNL has also fluctuating trend in its ratio, its highest ratio is 95.72% in F/Y 2008/2009 and the lowest is 74.81% in F/Y 2006/2007.

From mean ratio point of view only NABIL and SCBNL has been able to maintain the provision for doubtful debt of at least 50% of total doubtful debt according to the directives of NRB where as NIBL has failed to comply with the set standard. However, NABIL's ratios are inconsistent than that of SCBNL but consistent than that of NIBL in comparison.

Concluding the above analysis on average only NABIL has been able to meet the standard set by the NRB even though it has failed to maintain the standard as set by NRB in each of the review year. Similarly SCBNL has also been able to meet the standard on average and in each of the review year as well. Whereas NIBL has maintained the standard as set by NRB in some of the review years but in aggregate NIBL has failed to meet the standard of having provision for doubtful debt of at least 50% of the total doubtful debt.

**iv) Provision for Bad Debt To Total Bad Debt Ratio**

The Provision for Bad Debt to Total Bad Debt Ratio shows that whether the Banks under study are complying with the directives issued by the Nepal Rastra Bank or not. This ratio is computed by dividing Provision for Bad Debt by Total Bad Debt (**For details see Appendix Q**).

**Table No. 19**

<b>Provision for Bad Debt To Total Bad Debt Ratio</b>			
<b>F/Y</b>	<b>NABIL</b>	<b>NIBL</b>	<b>SCBNL</b>
2004/2005	69.95	99.45	100
2005/2006	85.14	97.83	100
2006/2007	97.19	98.38	100
2007/2008	97.04	91.79	100
2008/2009	94.56	91.98	100
<b>Mean</b>	<b>88.78</b>	<b>95.89</b>	<b>100</b>
<b>S.D</b>	<b>10.39</b>	<b>3.31</b>	<b>0</b>
<b>C.V</b>	<b>11.7</b>	<b>3.54</b>	<b>0</b>

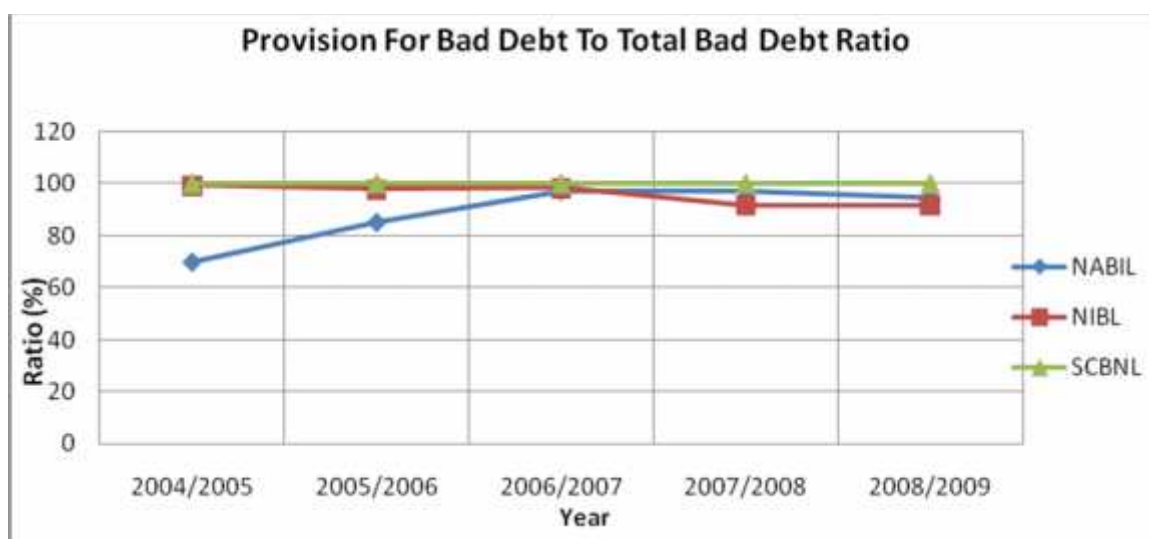
Appendix- Q

From the above table it seems that the Provision for Bad Debt to Total Bad Debt ratios of both NABIL and NIBL have fluctuating trend during the review period. The highest ratio of NABIL has been observed to be 97.19% in F/Y 2006/2007 and the lowest is 69.95 in F/Y 2004/2005. Whereas the highest ratio of NIBL is 99.45% in F/Y 2004/2005 and the lowest is 91.79% in F/Y 2007/2008. But the ratios of SCBL have been stable to 100% throughout the review period starting from F/Y 2004/2005 to F/Y 2008/2009.

From mean ratio point of view only SCBNL has been able to maintain the provision for bad debt of 100% of total bad debt according to the directives of NRB where as other banks NABIL and SCBNL have failed to comply with the set standard. Moreover, the ratios of the SCBNL seem to be very much consistent since it has been stable to 100% throughout the review period.

Concluding the above analysis on average only SCBNL has been able to meet the standard set by the NRB, even it has maintained the standard as set by NRB in each of the review year. Whereas, NABIL and NIBL have failed to meet the standard of having provision for bad debt of 100% of the total bad debt.

**Figure 17**



## 4.2 Statistical Analysis

Under this topic, some statistical tools such as co-efficient of correlation analysis between different variables, trend analysis of deposit, loan and advances, investment and net profit as well as hypothesis test (t-statistic) are used to achieve the objective of the study.

### 4.2.1 Co-efficient of Correlation Analysis

Under this heading, karl person's co-efficient of correlation is used to find out the relationship between total deposit and loan and advances, total deposit and total investment, Interest earned to Total loan and advances and loan and advances to total assets.

**i) Co-efficient of correlation between total deposit and loan and advances**

The Co-efficient of correlation between total deposit and loan and advances measures the degree of relationship between two variables. In our analysis, total deposit is an independent variable(X) and loan and advances is the dependent variable(Y). The main objective of computing ‘r’ between these two variables is to justify whether total deposit are significantly used as loan and advances in proper way or not.

The following table shows the value of ‘r’,  $r^2$ , P.Er and 6 P.Er between total deposit and loan and advances of NABIL, NIBL and SCBNL during the study period. (For details see Appendix R1, R2 and R3).

**Table No. 20**

Correlation between Total Deposit and Loan and Advances				
Bank	Evaluation Criteria			
	R	$r^2$	P.Er.	6P.Er.
NABIL	0.8	0.64	0.11	0.66
NIBL	0.99	0.98	0.006	0.036
SCBNL	0.76	0.58	0.126	0.756

Appendix - R1, R2 and R3

The above table reveals that the coefficient of correlation between deposit and loan and advances of NABIL is 0.8, which we can say that there is the positive relationship between these two variables. Moreover, the value of coefficient of determination ( $r^2$ ) is 0.64 which means 64% of variation in dependent variable i.e. loan and advances has been explained by the independent variable i.e. total deposit. Similarly, considering the value of ‘r’ which has been computed as 0.8 and comparing it with six times of probable error which is 0.66, it could be said that the value of ‘r’ is significant. Moreover it could be said that there is a significant relationship between total deposit and loan and advances of NABIL.

Likewise, coefficient of correlation between deposit and loan and advances of NIBL is 0.99, which we can say that there is the higher positive relationship almost equal to perfect correlation between these two variables. Accordingly, the value of coefficient of determination ( $r^2$ ) has been computed as 0.98, which reveals that 98% in the dependent variable has been explained by the independent variable. Similarly, considering the 6 P.Er. Which is 0.036, we can say that the relationship between the total deposit and loan and advances is significant.

Similarly, coefficient of correlation between deposit and loan and advances of SCBNL is 0.76, which we can say that there is the positive relationship between these two variables. Moreover, the value of coefficient of determination ( $r^2$ ) is 0.58 which means 58% of

variation of the dependent variable i.e. loan and advances has been explained by the independent variable i.e. total deposit. Similarly, considering the value of 'r' which has been computed as 0.76 and comparing it with six times of probable error which is 0.756, it could be said that the value of 'r' is significant. Moreover it could be said that there is a significant relationship between total deposit and loan and advances of SCBNL.

From the above analysis, we can conclude that there is the positive relationship between the total deposit and loan and advances of NABIL, NIBL and SCBNL. The relationship between the total deposit and loan and advances is significant in case of all these three banks. However, the value of  $r^2$  is different in either case. In case of NABIL and SCBNL the value of  $r^2$  comparatively low than that of NIBL, but yet shows good percentage of dependency. It indicates that the increase in loan and advances is due to increase in deposits or successful mobilization of deposit in both three banks and other factors have nominal role in increment of loan and advances as compare to deposit.

## ii) Co-efficient of Correlation between Net Income and Loan and advances

The correlation coefficient between Net Income and loan and advances measures the degree of relationship between these two variables. Here Net Income is dependent variable (X) and loan and advances is the independent variable (Y). The objective of computing 'r' between these two variables is to justify the significance of loan and advances to generate Net Income.

The following table shows the value of 'r',  $r^2$ , P.Er and 6 P.Er between Net Income and loan and advances of NABIL, NIBL and SCBL during the study period. (For details see Appendix S1, S2 and S3).

**Table No. 21**

<b>Correlation between Net Income and Loan and Advances</b>				
Bank	Evaluation Criteria			
	R	$r^2$	P.Er.	6P.Er.
NABIL	0.91	0.83	0.05	0.3
NIBL	0.81	0.656	0.104	0.624
SCBNL	0.866	0.75	0.075	0.45

Appendix S1, S2 and S3

The table reveals that the coefficient of correlation between Net Income and loan and advances of NABIL is 0.91, which we can say that there is the positive relationship between these two variables. Moreover, the value of coefficient of determination ( $r^2$ ) is 0.83 which means 83% of variation in dependent variable i.e. Net Income has been explained by the independent variable i.e. loan and advances. Similarly, considering the value of 'r' which has been computed as 0.91 and comparing it with six times of probable error which is 0.3, it could be said that the value of 'r' is significant. Moreover it could be



said that there is a significant relationship between Net Income and loan and advances of NABIL.

Likewise, coefficient of correlation between Net Income and loan and advances of NIBL is 0.81, which we can say that there is the positive relationship between these two variables. Accordingly, the value of coefficient of determination ( $r^2$ ) has been computed as 0.656, which reveals that 65.6% in the dependent variable has been explained by the independent variable. Similarly, considering the 6 P.Er. Which is 0.624, we can say that the relationship between the Net Income and loan and advances is significant in case of NIBL.

Similarly, coefficient of correlation between Net Income and loan and advances of SCBNL is 0.866, which we can say that there is the positive relationship between these two variables. Moreover, the value of coefficient of determination ( $r^2$ ) is 0.75, which means 75% of variation of the dependent variable i.e Net Income has been explained by the independent variable i.e. loan and advances. Similarly, considering the value of 'r' which has been computed as 0.866 and comparing it with six times of probable error which is 0.45, it could be said that the value of 'r' is significant. Moreover it could be said that there is a significant relationship between Net Income and loan and advances of SCBL due to the value of 'r' is higher than six times P.Er. i.e.  $0.88 > 0.45$ .

From the above analysis, we can conclude that there is the positive relationship between the Net Income and loan and advances of NABIL, NIBL and SCBNL. The relationship between the Net Income and loan and advances is significant in case of all these three banks. However, the value of  $r^2$  is different in each case. In case of NIBL and SCBL the value of  $r^2$  comparatively low than that of NABIL, but yet shows good percentage of dependency.

### **iii) Correlation between Interest Earned and Loan and Advances**

The correlation coefficient between interests earned and loan and advances measures the degree of relationship between these two variables. Here interest earned is dependent variable (X) and loan and advances is the independent variable (Y). The objective of computing 'r' between these two variables is to justify the significance of loan and advances to earn interest.

The following table shows the value of 'r',  $r^2$ , P.Er and 6 P.Er between interest earned and loan and advances of NABIL, NIBL and SCBL during the study period. **(For details see Appendix T1, T2 and T3).**

**Table No.22**

<b>Correlation between Interest Earned to Loan and Advances</b>				
Bank	Evaluation Criteria			
	R	$r^2$	P.Er.	6P.Er.
NABIL	0.79	0.62	0.115	0.69
NIBL	0.98	0.96	0.012	0.07
SCBNL	0.88	0.77	0.28	1.68

Appendix T1,T2 and T3

The table reveals that the coefficient of correlation between interest earned and loan and advances of NABIL is 0.79, which we can say that there is the positive relationship between these two variables. Moreover, the value of coefficient of determination ( $r^2$ ) is 0.62 which means 62% of variation in dependent variable i.e. interest earned has been explained by the independent variable i.e. loan and advances. Similarly, considering the value of 'r' which has been computed as 0.79 and comparing it with six times of probable error which is 0.69, it could be said that the value of 'r' is significant. Moreover it could be said that there is a significant relationship between interest earned and loan and advances of NABIL.

Likewise, coefficient of correlation between interest earned and loan and advances of NIBL is 0.98, which we can say that there is the higher positive relationship almost equal to perfect correlation between these two variables. Accordingly, the value of coefficient of determination ( $r^2$ ) has been computed as 0.96, which reveals that 96% in the dependent variable has been explained by the independent variable. Similarly, considering the 6 P.Er. Which is 0.69, we can say that the relationship between the interest earned and loan and advances is significant.

Similarly, coefficient of correlation between interest earned and loan and advances of SCBNL is 0.88, which we can say that there is the positive relationship between these two variables. Moreover, the value of coefficient of determination ( $r^2$ ) is 0.77, which means 77% of variation of the dependent variable i.e. interest earned has been explained by the independent variable i.e. loan and advances. Similarly, considering the value of 'r' which has been computed as 0.88 and comparing it with six times of probable error which is 1.68, it could be said that the value of 'r' is not significant. Moreover it could be said that there is a no significant relationship between interest earned and loan and advances of SCBL due to the value of 'r' is lower than six times P.Er. i.e.  $0.88 < 1.68$ .

From the above analysis, we can conclude that there is the positive relationship between the interest earned and loan and advances of NABIL, NIBL and SCBL. The relationship between the interest earned and loan and advances is significant in case of NABIL and NIBL but insignificant in case of SCBNL. The value of  $r^2$  is different in each case. In case of NABIL and SCBNL the value of  $r^2$  comparatively low than that of NIBL, but yet shows good percentage of dependency. It indicates that the increase in interest income is

due to increase in loan and advances and other factors have nominal role in increment of as compare to loan and advances.

**iv) Correlation between Non performing Loan and Loan & Advances**

The correlation coefficient between NPL and loan and advances measures the degree of relationship between these two variables. Here NPL is the dependent variable (X) and loan and advances is the independent variable (Y). The objective of computing ‘r’ between these two variables is to justify how a unit increment in loan and advances affect in the unit of non-performing loan.

The following table shows the value of ‘r’,  $r^2$ , P.Er and 6 P.Er between NPL and loan and advances of NABIL, NIBL and SCBL during the study period. **(For details see Appendix U1, U2 and U3)**

**Table No.23**

<b>Correlation between Non performing Loan and Loan &amp; Advances</b>				
Bank	Evaluation Criteria			
	R	$r^2$	P.Er.	6P.Er.
NABIL	-0.81	0.656	0.104	0.624
NIBL	0.898	0.806	0.058	0.35
SCBNL	-0.877	0.77	0.069	0.41

Appendix U1, U2 and U3

The above table reveals that the coefficient of correlation between NPL and loan and advances of NABIL is -0.81, which we can say that there is the negative relationship between these two variables. Moreover, the value of coefficient of determination ( $r^2$ ) is 0.656 which means 65.6% of variation in dependent variable i.e. NPL has been explained by the independent variable i.e. loan and advances. Similarly, considering the value of ‘r’ which has been computed as -0.81 and comparing it with six times of probable error which is 0.624, it could be said that the value of ‘r’ is insignificant. Moreover it could be said that there is a no significant relationship between NPL and loan and advances of NABIL since  $-0.81 < 0.624$ .

Likewise, coefficient of correlation between NPL and loan and advances of NIBL is 0.898, which we can say that there is the positive relationship between these two variables. Accordingly, the value of coefficient of determination ( $r^2$ ) has been computed as 0.806, which reveals that 80.6% in the dependent variable has been explained by the independent variable. Similarly, considering the 6 P.Er. Which is 0.35, we can say that the relationship between the NPL and loan and advances is significant.

Similarly, coefficient of correlation between NPL and loan and advances of SCBNL is -0.877, which we can say that there is the negative relationship between these two

variables. Moreover, the value of coefficient of determination ( $r^2$ ) is 0.77, which means 77% of variation of the dependent variable i.e. NPL has been explained by the independent variable i.e. loan and advances. Similarly, considering the value of 'r' which has been computed as -0.877 and comparing it with six times of probable error which is 0.41, it could be said that the value of 'r' is not significant. Moreover it could be said that there is a no significant relationship between NPL and loan and advances of SCBL due to the value of 'r' is lower than six times P.Er. i.e.  $-0.877 < 0.41$ .

From the above analysis, we can conclude that there is the negative relationship between the NPL and loan and advances of NABIL and SCBNL which implies that NPL has been decreasing with the increment in loan and advances due to effective recovery of non-performing loan. Similarly the relationship between the NPL and loan and advances is positive in case of NIBL which implies that NPL of NIBL has been increasing with the increment in loan and advances. Likewise, there is a insignificant relationship between the NPL and loan and advances of NABIL and SCBNL, however, there is a significant relationship between the NPL and loan and advances of NIBL.

#### **4.2.2 Trend Analysis and projection.**

The objective of this analysis is to analyze the trend of deposit collection, its utilization and net profit of NABIL, NIBL and SCBNL. Granting loan and advances and investing some of the fund in government securities, share and debenture of other companies by the commercial banks is the utilization of deposit. The topic analyzes the trend of loan and advances, deposit, net profit and Non Performing Loan are forecasted for next five years.

The projections are based on the following assumption.

- The main assumption is that other things will remain unchanged.
- The forecast will be true only when the limitation of least square method is carried out.
- The bank will run in present position
- The economy will remain in the present stage.
- Nepal Rastra Bank will not change its guidelines to commercial banks.

##### **i) Trend value of Loan and Advances**

The following table shows the trend value of loan and advances for 10 years mid-July 2001 to 2011 of NABIL, NIBL and SCBL. (For details see Appendix V1, V2 and V3).

**Table No.24**

<b>Trend value of Loan and Advances of NABIL, NIBL &amp;SCBNL (2002-2011)</b>			
<b>(Rs In Millions)</b>			
<b>Year</b>	<b>Trend Value of NABIL</b>	<b>Trend Value of NIBL</b>	<b>Trend Value of SCBNL</b>
2002	6618.61	2718.29	4990.96
2003	7998.56	5196.04	5950.72
2004	9378.51	7673.79	6909.74
2005	10758.46	10151.54	7868.76
2006	12138.41	12629.29	8827.78
2007	13517	15107.04	9786.8
2008	14898.31	17584.79	10745.82
2009	16278.26	20062.54	11704.84
2010	17658.21	22540.29	12663.86
2011	19038.16	25018.04	13622.88

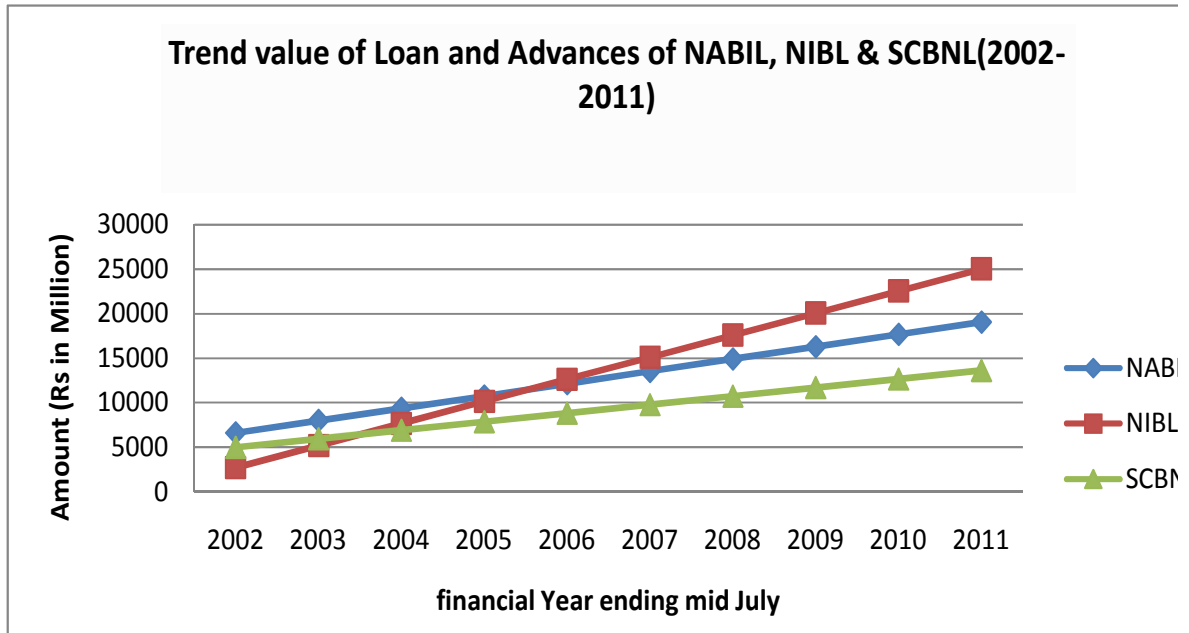
Source: Annual report of NABIL, NIBL and SCBNL

The above table reveals the trend value of loan and advances of NABIL, NIBL and SCBNL are in increasing trend. If other thing remains the same, loan and advances of NABIL in mid-July 2011 will be Rs. 19038.16 million. Similarly, NIBL's loan and advances for mid-July 2011 has been forecasted to be Rs.25018.04 million and SCBNL's loan and advances for mid-July 2011 has been forecasted to be Rs.13622.88 million.

From the above analysis, it is clear that NIBL's utilization of deposit in term of loan and advances is comparatively higher than that of NABIL and SCBNL.

The calculated trend values of loan and advances of NABIL, NIBL and SCBNL are fitted in the trend lines given as follows:

**Figure 18**



**ii) Trend value of Total Deposit**

Under this title, the trend values of total deposit of NABIL, NIBL and SCBNL for five years from mid-July 2002 to 2006 and forecast for five years from 2006 to 2011.

The following table shows the trend value of Total Deposit for 10 years from mid-July 2001 to 2011 of NABIL, NIBL and SCBL. (For details see Appendix W1, W2 and W3).

**Table No.25**

<b>Trend value of Total Deposit of NABIL, NIBL &amp; SCBNL (2002-2011)</b>			
<b>(Rs In Millions)</b>			
<b>Year</b>	<b>Trend Value of NABIL</b>	<b>Trend Value of NIBL</b>	<b>Trend Value of SCBNL</b>
2002	13637.22	4193.43	16623.79
2003	14519.31	7777.12	18129.63
2004	15401.4	11360.81	19635.47
2005	16283.49	14944.5	21141.31
2006	17165.58	18528.19	22647.15
2007	18047.67	22111.88	24152.99
2008	18929.76	25695.57	25658.83
2009	19811.85	29279.26	27164.67
2010	20693.94	32862.95	28670.51
2011	21576.03	36446.64	30176.35

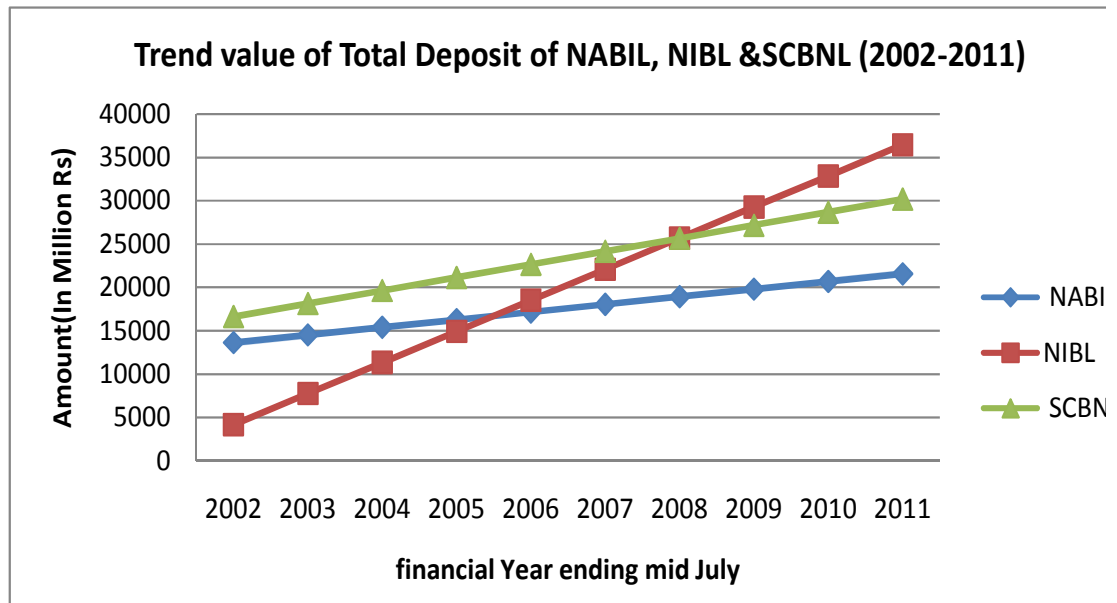
Appendix W1, W2 and W3

The above table shows that Total Deposit of NABIL, NIBL and SCBNL are in increasing trend. If other thing remains the same the total deposits of NABIL, NIBL and SCBNL for mid-July 2011 has been forecasted to be Rs. 21576.03 million, Rs. 36446.64 million and Rs. 30176.35 million respectively.

The above analysis reveals that the deposit position of NABIL, NIBL and SCBNL are increasing in same proportion. Yet NIBL will be most successful among the three banks to deposit huge amount followed by SCBNL and NABIL.

The calculated trend values of Total Deposit of NABIL, NIBL and SCBNL are fitted in the trend lines given as follows:

**Figure 19**



**iii) Trend value of Net Profit**

Under this topic the net profit of NABIL, NIBL and SCBNL has been analyzed for five years from mid-July 2002 to 2006 and forecast for five years from 2006 to 2011.

The following table shows the trend value of Net Profit for 10 years period of time from mid-July 2001 to 2011 of NABIL, NIBL and SCBNL. (For details see Appendix X1, X2 and X3)



**Table No. 26**

<b>Trend value of Net Profit of NABIL, NIBL &amp; SCBNL (2002-2011)</b>			
<b>(Rs In Millions)</b>			
<b>Year</b>	<b>Trend Value of NABIL</b>	<b>Trend Value of NIBL</b>	<b>Trend Value of SCBNL</b>
2002	293.48	41.42	466.11
2003	376.45	111.64	504.95
2004	459.42	181.86	543.79
2005	542.39	252.08	582.63
2006	625.36	322.3	612.47
2007	708.33	392.52	660.31
2008	791.3	462.74	699.15
2009	874.27	532.96	737.99
2010	957.24	603.18	776.83
2011	1040.21	673.4	815.67

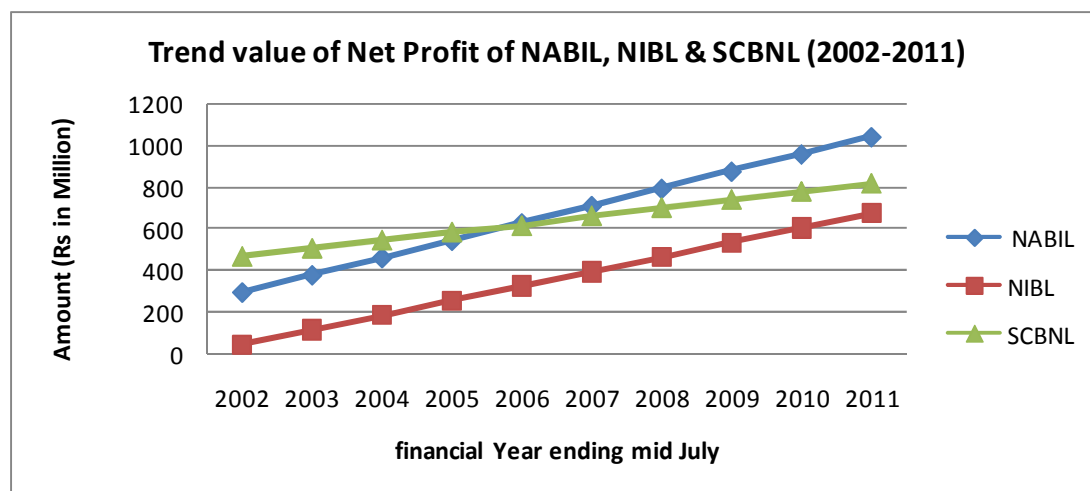
Appendix X1, X2 and X3)

The above table shows that Net Profit of NABIL, NIBL and SCBNL are in increasing trend. If other thing remains the same the Net Profit of NABIL, NIBL and SCBNL for mid-July 2011 has been forecasted to be Rs. 1040.21 million, Rs. 673.4 million and Rs. 815.67 million respectively.

The above figures depicts that NABIL's rate of generating net profit is highest among the three banks followed by NIBL and SCBNL. Although SCBNL is ahead of NIBL in generating net profit, NIBL's rate is much higher than SCBNL though.

The calculated trend values of Net Profit of NABIL, NIBL and SCBNL are fitted in the trend lines given as follows:

**Figure 20**



**iv) Trend Analysis of Non Performing Loan (NPL)**

Under this topic the Non Performing Loan of NABIL, NIBL and SCBNL has been analyzed for five years from mid-July 2002 to 2006 and forecast for five years from 2006 to 2011.

The following table shows the trend value of Non Performing Loan for 10 years period of time from mid-July 2001 to 2011 of NABIL, NIBL and SCBNL. (For details see Appendix Y1, Y2 and Y3).

**Table No. 27**

<b>Trend value of NPL of NABIL, NIBL &amp; SCBNL (2002-2011)</b>			
<b>(Rs In Millions)</b>			
Year	Trend Value of NABIL	Trend Value of NIBL	Trend Value of SCBNL
2002	534.78	106.84	261.12
2003	429.42	151.64	247.49
2004	324.06	196.44	233.86
2005	218.7	241.24	220.23
2006	113.34	286.04	206.6
2007	9	330.84	192.97
2008	-97.38	375.64	179.34
2009	-202.74	420.44	165.71
2010	-308.1	465.24	152.08
2011	-413.46	510.04	138.45

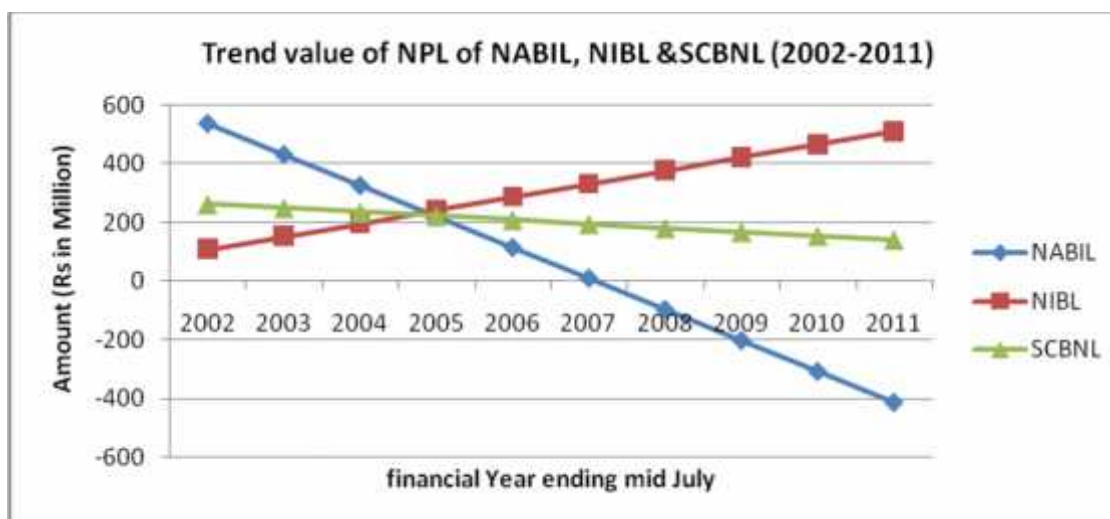
Appendix Y1, Y2 and Y3

The above table shows that NABIL and SCBL have decreasing trend in Non-performing loan whereas SCBNL has increasing trend in NPL. The average NPL of NABIL is Rs 324.06 million, which is decreasing at the rate of Rs 105.36. Hence the expected NPL of NABIL is supposed to decrease from Rs. 9 million in 2007 to Rs.-413.46 million in 2011, however the negative NPL is considered as nil since NPL could not be in negative figure. The average NPL of NIBL is Rs.196.44 million which is increasing every year at the rate of Rs. 44.8 million. The average NPL of NIBL is Rs.233.86 million which is decreasing every year at the rate of Rs. 13.63 million.

NIBL has significantly high NPL in total volume of loans and advances and it has incremental rate, which NIBL should initiate immediate reform. Whereas NABIL and SCBNL have decreasing trend in NPL, NABIL's decreasing rate in NPL is much higher than that of SCBNL.

The calculated trend values of Non-performing loan of NABIL, NIBL and SCBNL are fitted in the trend lines given as follows:

**Figure 21**



### 4.2.3 Test of Hypothesis

- i) Test of hypothesis on loan and advances to total deposit ratio of NABIL, NIBL and SCBNL.

Let, loan and advances to total deposit ratio of NABIL, NIBL and SCBNL be X1, X2 and X3.

Where,

**Null Hypothesis  $H_0$ :**  $\mu_1 = \mu_2 = \mu_3$  i.e. there is no significant difference in loan and advances to total deposit ratio between the three banks.

**Alternative Hypothesis  $H_1$ :**  $\mu_1 \neq \mu_2 \neq \mu_3$  i.e. there is significant difference in loan and advances to total deposit ratio between the three banks.

Grand mean  $\bar{X} = 54.2$  (For details see Appendix-Z1).

Sum of square between samples (banks) = 2846.12

Sum of square within samples = 573.2

Test statistic,  $F = 29.79$

**Critical value:** the tabulated value of F at 5% level of significance for 2 and 12 d.f. is 3.89 i.e.  $F_{0.05(2, 12)} = 3.89$

**Decision:** since calculated value of F is greater than the tabulated value of F. the null hypothesis  $H_0$  is rejected and hence the alternative hypothesis  $H_1$  is accepted. Therefore, we conclude that there is significant difference in loan and advances to total deposit ratio between the three banks.

## ii) Test of hypothesis on Return on loan and advances of NABIL, NIBL and SCBNL.

Let, Return on loan and advances of NABIL, NIBL and SCBNL be  $X_1, X_2$  and  $X_3$ .

Where,

**Null Hypothesis  $H_0$ :**  $\mu_1 = \mu_2 = \mu_3$  i.e. there is no significant difference in return on loan and advances ratio of the three banks.

**Alternative Hypothesis  $H_1$ :**  $\mu_1 \neq \mu_2 \neq \mu_3$  i.e. there is significant difference in return on loan and advances ratio of the three banks.

Grand mean  $\bar{X} = 5.06$  (For details see Appendix-Z2).

Sum of square between samples (banks) = 82.91

Sum of square within samples = 6.748

Test statistic,  $F = 79.94$

**Critical value:** the tabulated value of F at 5% level of significance for 2 and 12 d.f. is 3.89 i.e.  $F_{0.05(2, 12)} = 3.89$

**Decision:** since calculated value of F is greater than the tabulated value of F. the null hypothesis  $H_0$  is rejected and hence the alternative hypothesis  $H_1$  is accepted. Therefore, we conclude that there is significant difference in return on loan and advances ratio between the three banks.

## 4.3 Major Findings of the Study

The major findings of the study are divided on the basis of financial and statistical data of NABIL, NIBL and SCBL, which are given below:

## **Liquidity Ratio**

- The mean current ratio of SCBNL is computed as 0.98 times which is slightly higher than that of NABIL's 0.91 times and NIBL's 0.88 times. Likewise, variability of ratios of SCBNL is 7.14%, NIBL's is 7.61% and NABIL's is 5.49%. From which we can say that NABIL's ratios are more uniform than that of SCBL and NIBL in comparison.
- On average of 5 years of review period, cash and bank balance to total deposit ratio of NABIL, NIBL and SCBNL are 5.85%, 10.44% and 6.82% respectively. NIBL's liquidity position is better than that of SCBNL and NABIL. There is also a higher consistency in the ratios of NIBL followed by NABIL and then SCBNL with the lowest consistency in ratios among the three banks.
- The mean ratio of cash and bank balance to current asset ratio of NABIL is 6.03% which is the lowest among the three banks. SCBNL has mean ratio of cash and bank balance to current assets of 6.75% and NIBL has 11.24% (which is the highest among the three banks). Likewise, NIBL has highest consistency in its ratio of 11.3% followed by SCBNL with 28.15% and then NABIL with 33.83%.
- The mean ratio of loan and advances to current asset of NIBL is 72.5% followed by NABIL with 62.25% and then by SCBL with 34.46% which is the lowest among the three banks. SCBNL has also the lowest consistency in its ratios with 18.06%. Likewise, NABIL has 11.49% and NIBL has 6.52% (which shows the highest consistency among the three banks).

## **Assets Management Ratio**

- The mean ratio of loan and advances to total deposit of NABIL, NIBL and SCBNL are 60.06%, 66.94% and 35.07% respectively. The utilization of Total deposit as loan and advances of NIBL seems to be slightly higher than that of NABIL, whereas SCBNL's utilization of Total deposit as loan and advances is much lesser than that of the other two banks i.e. NABIL and NIBL. Likewise from the perspective of consistency NABIL has the highest consistency in its ratio with 6.3% followed by NIBL 6.95% and then SCBNL with 13.29%.
- The mean ratio of Total Investment to total deposit of NABIL, NIBL and SCBNL are 40.05%, 31.18% and 54.66% respectively. The utilization of Total deposit as Investment in different types of securities issued by government and other financial and non-financial companies of SCBNL seems to be much higher than that of NABIL and NIBL. The mean ratio of Total Investment to Total deposit ratio of NIBL is revealed as the least among the three banks under study. Likewise from the perspective of consistency SCBNL has the highest consistency in its ratio with 5.07% followed by NABIL with 21.27% and then NIBL with 23.54%.
- The mean ratio of Loan and Advances to total working fund of NABIL, NIBL and SCBNL are 46.42%, 54.25% and 28.39% respectively. NIBL seems to have much higher mean ratio than that of NABIL and SCBNL. Whereas SCBNL has the lowest mean ratio among the three banks under study. Likewise from the

perspective of consistency NABIL has the highest consistency in its ratio with 5.36% followed by SCBNL with 8.56% and then NIBL with 10.10%.

### **Profitability Ratio**

- The mean ratio of return on Loan and Advances of NABIL, NIBL and SCBNL are computed as 4.88%, 2.28% and 8.03% respectively. SCBNL seems to have much higher return from loan and advances, followed by NABIL and then NIBL. Likewise from the perspective of consistency in Return on loan and advances ratio NIBL has the highest consistency in its ratio with 10.81% followed by SCBNL with 11.46% and then NABIL with 15.98%.
- The mean ratio of return on Total Working Fund of NABIL, NIBL and SCBNL are computed as 2.52%, 1.33% and 2.46% respectively. NABIL seems to have highest return from total working fund among the three banks, followed by SCBNL and then NIBL. Likewise from the perspective of consistency in Return on total working fund ratio of SCBNL has the highest consistency in its ratio with only 4.47% variation followed by NIBL with 13.96% and then NABIL with 20.64%.
- The mean ratio of Total Interest Earned to Total Loan and Advances of NABIL, NIBL and SCBNL are computed as 12.13%, 9.78% and 15.81% respectively. SCBL seems to have highest mean ratio among the three banks, followed by NABIL and then NIBL. Likewise from the perspective of consistency, ratios of SCBNL have the highest consistency with 14.74% variation in its ratios followed by NABIL with 15.50% and then NIBL with 16.87%.

### **Risk Ratio**

- Through computing liquidity risk ratio, the liquidity of NABIL, NIBL and SCBNL in terms of average is computed as 5.85%, 10.44% and 6.82% respectively. NIBL's liquidity in terms of average i.e. 10.44% seems to be much higher than that of NABIL's 5.85% and SCBNL's 6.82%. Likewise from the perspective of consistency, ratios of NIBL have the highest consistency among the banks with 32.76% variation in its ratios followed by NABIL with 34.02% and then by SCBL with 55.72%.
- The credit Risk ratio or Non Performing Loan to Total Loan and Advances ratio of NABIL, NIBL and SCBNL are computed as 3.91%, 2.91%, 3.57% respectively. The Non Performing Loan with respect to Loan and Advances of NABIL seems to be the highest among the three banks followed by SCBNL and NIBL. Likewise from the perspective of consistency, ratios of SCBNL have the highest consistency among the banks with 26.89% variation in its ratios followed by NIBL with 38.49% and then by NABIL with 61.89%.
- The mean Loan Loss Provision to Loan and Advances ratio of NABIL, NIBL and SCBNL are computed as 4.01%, 3.53% and 4.48% respectively. SCBNL's Loan loss provision with respect to its Total Loan and Advances seems to be higher than that of NABIL and NIBL. Likewise from the perspective of consistency, ratios of NABIL have the highest consistency among the banks with 19.95% variation in its

ratios followed by SCBNL with 38.49% and then by NIBL with 61.89%.

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### **Adequacy of Loan Loss Provisioning**

- On average NABIL, NIBL and SCBNL have been able to maintain the pass loan provision of at least 1% of the total pass loan as according to the NRB directives. However the consistency in ratios of each bank has been different. NABIL have the highest consistency in its ratio among the banks with 13.48% variation in its ratios followed by NIBL with 15.93% and then by SCBNL with 26.77%.
- On average only NABIL has been able to meet the standard set by the NRB even though it has failed to maintain the standard as set by NRB in each of the review year. Whereas NIBL and SCBNL has maintained the standard as set by NRB in some of the review years but in aggregate both of the banks have failed to meet the standard of having substandard loan loss provision at least 25% of the total substandard loan.
- On average only NABIL has been able to meet the standard set by the NRB even though it has failed to maintain the standard as set by NRB in each of the review year. Similarly SCBNL has also been able to meet the standard on average and in each of the review year as well. Whereas NIBL has maintained the standard as set by NRB in some of the review years but in aggregate NIBL has failed to meet the standard of having provision for doubtful debt of at least 50% of the total doubtful debt.
- On average only SCBNL has been able to meet the standard set by the NRB, even it has maintained the standard as set by NRB in each of the review year. Whereas, NABIL and NIBL have failed to meet the standard of having provision for bad debt of 100% of the total bad debt not even in single year of the review period.

### **Co-efficient of Correlation Analysis**

- Coefficient of correlation between **total deposit and loan and advances** of NABIL, NIBL and SCBNL has a positive relationship. The relationship between the total deposit and loan and advances is significant in case of all these three banks. However, the value of  $r^2$  is different in either case. In case of NABIL and SCBL the value of  $r^2$  comparatively low than that of NIBL, but yet shows good percentage of dependency. It indicates that the increase in loan and advances is due to increase in deposits or successful mobilization of deposit in both three banks and other factors have nominal role in increment of loan and advances as compare to deposit.
- There is a positive correlation between the **Net Income and loan and advances** of NABIL, NIBL and SCBNL. The relationship between the Net Income and loan and advances is significant in case of all these three banks. However, the value of  $r^2$  is different in each case. In case of NIBL and SCBL the value of  $r^2$  comparatively low than that of NABIL, but yet shows good percentage of dependency.
- There is the positive correlation between the **interest earned and loan and advances** of NABIL, NIBL and SCBNL. The relationship between the interest earned and loan and advances is significant in case of NABIL and NIBL but insignificant in case of

SCBL. The value of  $r^2$  is different in each case. In case of NABIL and SCBNL the value of  $r^2$  comparatively low than that of NIBL, but yet shows good percentage of dependency. It indicates that the increase in interest income is due to increase in loan and advances and other factors have nominal role in increment of as compare to loan and advances.

- There is the negative correlation between the **NPL and loan and advances** of NABIL and SCBNL which implies that NPL has been decreasing with the increment in loan and advances due to effective recovery of non-performing loan. Similarly the relationship between the NPL and loan and advances is positive in case of NIBL which implies that NPL of NIBL has been increasing with the increment in loan and advances. Likewise, there is insignificant relationship between the NPL and loan and advances of NABIL and SCBNL, however, there is a significant relationship between the NPL and loan and advances of NIBL.

### **Trend Analysis**

- The trend value of **loan and advances** of NABIL, NIBL and SCBNL are in increasing trend. If other thing remains the same, loan and advances of NABIL in mid-July 2011 will be Rs. 19038.16 million. Similarly, NIBL's loan and advances for mid-July 2011 has been forecasted to be Rs.25018.04 million and SCBNL's loan and advances for mid-July 2011 has been forecasted to be Rs.13622.88 million. This analysis, clear's that NIBL's utilization of deposit in term of loan and advances is comparatively higher than that of NABIL and SCBNL.
- The trend value of **Total Deposit** of NABIL, NIBL and SCBNL are in increasing trend. If other thing remains the same the total deposits of NABIL, NIBL and SCBNL for mid-July 2011 has been forecasted to be Rs. 21576.03 million, Rs. 36446.64 million and Rs. 30176.35 million respectively. The analysis also reveals that the deposit position of NABIL, NIBL and SCBNL are increasing in same proportion. Yet NIBL will be most successful among the three banks to deposit huge amount followed by SCBNL and NABIL.
- The trend value of **Net Profit** of NABIL, NIBL and SCBNL are in increasing trend. If other thing remains the same the Net Profit of NABIL, NIBL and SCBNL for mid-July 2011 has been forecasted to be Rs. 1040.21 million, Rs. 673.4 million and Rs. 815.67 million respectively. NABIL's rate of generating net profit is highest among the three banks followed by NIBL and SCBNL. Although SCBNL is ahead of NIBL in generating net profit, NIBL's rate is much higher than SCBNL though.
- The trend value **Non-performing loan** of NABIL and SCBNL is in decreasing trend, whereas SCBNL has increasing trend in NPL. The average NPL of NABIL is Rs 324.06 million, which is decreasing at the rate of Rs 105.36. Hence the expected NPL of NABIL is supposed to decrease from Rs. 9 million in 2007 to Rs. - 413.46 million in 2011, however the negative NPL is considered as nil since NPL could not be in negative figure. The average NPL of NIBL is Rs.196.44 million which is increasing every year at the rate of Rs. 44.8 million. The average NPL of



NIBL is Rs.233.86 million which is decreasing every year at the rate of Rs. 13.63 million.

- NIBL has significantly high NPL in total volume of loans and advances and it has incremental rate, which NIBL should initiate immediate reform. Whereas NABIL and SCBNL have decreasing trend in NPL, NABIL's decreasing rate in NPL is much higher than that of SCBNL.

#### **Test of Hypothesis**

- There is significance difference between mean ratio of loan and advances to total deposit of NABIL, NIBL, and SCBNL.
- There is significance difference between mean ratio of return on loan and advances of NABIL, NIBL and SCBNL

## **CHAPTER-V**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

The last chapter of this study is the conclusions and recommendations developed from the comparative analysis of various aspects of the credit of the commercial banks by using some important financial as well as statistical tools. After completing the basic analysis required for the study the final and the most important tasks of the researcher is to summarize the study and recommend for the future importance. I am hopeful that the study that I have conducted would be meaningful to the top management of the concerned banks to initiate action and to achieve the desired results.

#### **5.1 Summary and Conclusion**

From the analysis made during the study period of the concerned sample banks, certain conclusion has been derived after the financial as well as statistical tools have been measured on behalf of different aspect of the Credit Management of the concerned banks under study.

The liquidity position of NABIL, NIBL and SCBNL have been satisfactory, the liquidity of each bank have been different though. On average the liquidity position of NABIL is not as good as that of NIBL and SCBL but yet satisfactory.

Likewise, the liquidity position of NIBL is comparatively better than that of NABIL and SCBNL. It has the highest average Cash and Bank Balance to Total Deposit Ratio, Cash and Bank Balance to Current Assets ratio and Loan and Advances to Current Assets Ratio but it has also lowest Current assets ratio among the three banks under study. Overall NIBL shows that it is in good position to meet the daily cash requirement; however, it has to bear high cost of its liquid fund. The liquidity ratios of NIBL are also stable and consistent which indicates the stable policy of NIBL regarding the liquidity in comparison to NABIL and SCBNL.

Likewise, the liquidity of SCBL has been moderate with comparison to NIBL and NABIL, but it has the highest current assets ratio on average among the three banks.

On the basis of Assets management ratio it has been concluded that NIBL is in better position than NABIL and SCBNL though on average NIBL has the lowest total investment to total deposit ratio in comparison to NABIL and SCBNL. NIBL has successfully utilized its deposit on loan and advances but has lower investment in other sectors due to which its total investment to total deposit ratio has been the lowest among the three banks but yet occupies a better position among the banks since it has the highest loan and advances to total deposit ratio and loan and advances to total working fund ratio.

Likewise compare to other two banks NABIL has moderate average loan and advances to total deposit ratio, total investment to total deposit ratio and loan and advances to total working fund ratio. The Assets management ratio of NABIL has been satisfactory according to the analysis made.

Likewise compare to NABIL and NIBL, SCBNL has the lowest average Loan and advances to total deposit ratio, loan and advances to total working fund ratio, but it has the highest total investment to total deposit ratio.

On the basis of the analysis of profitability, in comparison among the banks NABIL has the highest return on total working fund on average but in case of return on loan and advances and total interest earned to total loan and advances ratio it is behind SCBL but ahead NIBL.

Likewise SCBNL has highest return on loan and advances and total interest earned to total loan and advances ratio on average but it has only a moderate return on total working fund ratio.( higher than that of NIBL and slightly lower than NABIL).

According to the analysis, on average NIBL has the lowest return on loan and advances, total interest earned to total loan and advances ratio and return on total working fund among the three banks under study.

On the basis of the analysis of risk ratio, conclusively, from the view point of liquidity risk we can say that NIBL has maintained higher liquidity which would obviously results lower profit than SCBNL and NABIL. Whereas NABIL has the least liquidity among the three banks with stable liquidity risk ratio, which means NABIL has taken higher risk than the other two banks under study for the higher profit.

Similarly from the view point of Credit risk and provisioning against the credit risk NABIL has taken the higher credit risk with moderate credit risk provisioning followed by SCBNL with second highest credit risk and the highest provisioning against the NPL among the banks under study. Then NIBL which seems to be in the safe side with least NPL to total loan and advances ratio as compare to NABIL and SCBNL. NIBL has also the least loan loss provisioning to total loan and advances ratio among the three banks under study.

On the basis of coefficient of correlation, there is a positive correlation between Total Deposit and Loan and Advances, Net Income and Loan and Advances, Interest earned and Loan and Advances of NABIL, NIBL and SCBNL. However, the correlation between NPL and Loan and Advances of NABIL and SCBNL is negative which implies that NPL has been decreasing with the increment in loan and advances due to effective recovery of non-performing loan, but in case of NIBL it is positive which implies that NPL of NIBL has been increasing with the increment in loan and advances. There is a significant relationship between Total Deposit and Loan and Advances, Net Income and Loan and Advances of the three banks. The relationship between Interest earned and Loan and Advances of NABIL and NIBL is significant whereas it is insignificant in case of SCBNL. Likewise there is insignificant relationship between the NPL and loan and

advances of NABIL and SCBNL, however, there is a significant relationship between the NPL and loan and advances of NIBL.

On the basis of Trend analysis it can be concluded that the trend value of Loan and Advances, Total Deposit and Net Profit of NABIL, NIBL and SCBNL is in increasing trend. However the trend value of NPL of NABIL and NIBL is decreasing whereas it is increasing in case of SCBNL.

NIBL has significantly high NPL in total volume of loans and advances and it has incremental rate, which NIBL should initiate immediate reform. Whereas NABIL and SCBL have decreasing trend in NPL, NABIL's decreasing rate in NPL is much higher than that of SCBNL.

The both hypothesis test of mean Loan and advances to total deposit ratio and mean Return on Loan and Advances ratio between NABIL, NIBL and SCBNL shows that there is significant difference between these ratios of the banks under study.

## **5.2 Recommendation**

Recommendations are the final output of the whole study. It helps to convey positive information and proper way of improvement to concern banks NABIL, NIBL and SCBNL and as well as other interest researcher in upcoming days. Various analyses have been done until this stage. On the basis of analysis and finding of the study, following suggestion and recommendation can be advanced to overcome weakness, inefficiency and satisfactory improvement policy of NABIL, NIBL and SCBNL.

- The cash and bank balance to total deposit measures the availability of bank's highly liquid or immediate funds to meet its unanticipated calls on all types of deposits. The cash and bank balance of NIBL with respect to deposit is better against the readiness to serve its customer's deposit than NABIL and SCBNL. It implies that better liquidity position of NIBL. In contrast, a high ratio of non-earning cash and bank balance may unfit, which indicates the bank's unavailability to invest its fund in income generation areas. Thus NIBL is suggested to invest in more productive sectors like short-term marketable securities, treasury bills etc. insuring enough liquidity which will help the bank to improve its profitability.
- To get success in competitive banking environment, depositor's money must be utilized as loan and advances. If it is neglected, then it could results to liquidity crisis in the bank and one of the main reasons for the bank's failure. It is found that NIBL's loan and advances to total deposit ratio is comparatively the highest among the three banks followed by NABIL, then SCBNL. SCBNL's ratios seems much lower than that of NABIL and NIBL so it is recommended that SCBNL should follow liberal policy, invest more and more percentage of total deposit in loan and advances and maintain more stability on the credit policy.
- There is highly positive correlation between the Total deposit and loan and advances of NABIL, NIBL and SCBNL. So it is recommended for the banks under study especially for NIBL to increase their total deposit to make more loan and

advances, since correlation between the Total deposit and loan and advances of NIBL is much higher compare to NABIL and SCBNL.

- The loan loss provisioning and high volume of Non-performing loans of NIBL is in increasing trend which is certainly not sign of efficient credit management. Where as it is decreasing in case of NABIL and SCBNL. However NABIL's NPL is decreasing in higher rate than that of SCBNL. It is recommended to NIBL to adopt sound credit collection policy and other two banks to maintain and implement its credit policy even more efficiently, which would help them to decrease loan loss provision and non-performing loan. The policy should ensure rapid identification of delinquent loans, immediate contact with borrowers and continual follow-up until a loan recovery. The recovery of loan is the most challenging job for the bank. Therefore the banks must embrace a strengthen credit management.
- The banks under study are also recommended to strictly follow the NRB directives regarding the loan classification. Since it is found that the banks under study has not been able to maintain certain standards as set by the NRB.
- The banks are recommended to adopt innovative approach to marketing. In the light of growing competition in the banking sector, the business of the bank should be customer oriented. It should strengthen and activate its marketing function, as it is an effective tool to attract and retain the customers. For the purpose banks should develop and innovative approach to bank marketing and formulate new strategies of serving customers in a more convenient and satisfactory way by optimally utilizing the modern technology and offering new facilities to the customers at competitive prices.
- Banks should avoid extending credits merely based on oral information presented at the credit interview. Historical, financial and trade records as well as realistic cash flow projection should be obtained for proper assessment of the proposal.
- Banks should also regularly follow the credit customer to confirm that whether the customers have utilized their credit for the same purpose committed at the time of taking credit from the bank.
- There has been communication gap between the banks even though they are on the same business of banking. Banks need to develop a mechanism for inter-bank transparency, a committee which will help the better understanding of the various types of risk, disseminate information regarding bad debts and frauds cases, minimize customer misleads and practice fair competition.

Timely and effectively implementation of these corrective actions would lead the bank towards the path of its continued success and future progression.

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## APPENDIX – B

### Current Ratio

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Current Assets (Rs)</b>	<b>Current Liabilities(Rs)</b>	<b>Ratio (Times)</b>
2004/2005	13313.4	16384.73	0.81
2005/2006	13868.31	15135.42	0.92
2006/2007	14244.03	15153.01	0.94
2007/2008	14971.8	15420.81	0.97
2008/2009	18133.81	20352.55	0.89

<b>NIBL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Current Assets (Rs)</b>	<b>Current Liabilities(Rs)</b>	<b>Ratio (Times)</b>
2004/2005	3340.25	4410.21	0.75
2005/2006	7517.89	8359.64	0.90
2006/2007	11144.32	12506.95	0.89
2007/2008	13755.73	14554.81	0.94
2008/2009	17906.12	19350.83	0.92

<b>SCBNL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Current Assets (Rs)</b>	<b>Current Liabilities(Rs)</b>	<b>Ratio (Times)</b>
2004/2005	13313.4	16384.73	0.81
2005/2006	13868.31	15135.42	0.92
2006/2007	14244.03	15153.01	0.94
2007/2008	14971.8	15420.81	0.97
2008/2009	18133.81	20352.55	0.89

Source: Annual report of NABIL, NIBL, and SCBNL

## APPENDIX - C

### Cash & Bank Balance To Total Deposit

<b>NABIL</b> (Rs. In Million)			
<b>F/Y</b>	<b>Cash &amp; Bank Balance (Rs)</b>	<b>Total Deposit(Rs)</b>	<b>Ratio (%)</b>
2004/2005	1051.82	15506.42	6.78
2005/2006	1144.77	13447.66	8.51
2006/2007	970.48	14119.03	6.87
2007/2008	559.38	14586.6	3.83
2008/2009	630.23	19347.4	3.26

<b>NIBL</b> (Rs. In Million)			
<b>F/Y</b>	<b>Cash &amp; Bank Balance (Rs)</b>	<b>Total Deposit(Rs)</b>	<b>Ratio (%)</b>
2004/2005	338.92	4174.76	8.11
2005/2006	926.53	7922.76	11.69
2006/2007	1226.92	11524.68	10.64
2007/2008	1340.48	14254.57	9.4
2008/2009	2336.52	18927.30	12.34

<b>SCBNL</b> (Rs. In Million)			
<b>F/Y</b>	<b>Cash &amp; Bank Balance (Rs)</b>	<b>Total Deposit(Rs)</b>	<b>Ratio (%)</b>
2004/2005	825.26	15835.75	5.21
2005/2006	1512.3	18755.64	8.06

2006/2007	2023.16	21161.44	9.56
2007/2008	1111.12	19363.47	5.74
2008/2009	1276.24	23061.03	5.53

Source: Annual report of NABIL, NIBL and SCBNL

## APPENDIX – D

### Cash and Bank Balance To Current Assets Ratio

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Cash &amp; Bank Balance (Rs)</b>	<b>Current Assets (Rs)</b>	<b>Ratio</b>
2004/2005	1051.82	13313.4	7.9
2005/2006	1144.77	13868.31	8.25
2006/2007	970.48	14244.03	6.81
2007/2008	559.38	14971.8	3.74
2008/2009	630.23	18133.81	3.47

<b>NIBL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Cash &amp; Bank Balance (Rs)</b>	<b>Current Assets (Rs)</b>	<b>Ratio</b>
2004/2005	338.92	3340.25	10.14
2005/2006	926.53	7517.89	12.32
2006/2007	1226.92	11144.32	11
2007/2008	1340.48	13755.73	9.7
2008/2009	2336.52	17906.12	13.05

<b>SCBNL</b>			<b>(Rs. In Million)</b>
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<b>F/Y</b>	<b>Cash &amp; Bank Balance (Rs)</b>	<b>Current Assets (Rs)</b>	<b>Ratio</b>
2004/2005	825.26	18330.82	4.5
2005/2006	1512.3	20797.60	7.27
2006/2007	2023.16	20093.71	10.07
2007/2008	1111.12	19322.68	5.75
2008/2009	1276.24	21472.35	5.94

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX - E**

### **Loan and Advances To Current Asset Ratio**

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Loan &amp; Advances (Rs)</b>	<b>Current Assets (Rs)</b>	<b>Ratio (%)</b>
2004/2005	7437.9	<b>13313.4</b>	55.87
2005/2006	7755.95	<b>13868.31</b>	55.92
2006/2007	8189.99	<b>14244.03</b>	57.5
2007/2008	10586.17	<b>14971.8</b>	70.7
2008/2009	12922.54	<b>18133.81</b>	71.26

<b>NIBL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Loan &amp; Advances (Rs)</b>	<b>Current Assets (Rs)</b>	<b>Ratio (%)</b>
2004/2005	2564.43	3340.25	76.77
2005/2006	5772.14	7517.89	76.78
2006/2007	7130.12	11144.32	63.98
2007/2008	10126.05	13755.73	73.61

2008/2009	12776.21	17906.12	71.35
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<b>SCBNL</b>			
<b>(Rs. In Million)</b>			
<b>F/Y</b>	<b>Loan &amp; Advances (Rs)</b>	<b>Current Assets (Rs)</b>	<b>Ratio (%)</b>
2004/2005	5364	18330.82	29.26
2005/2006	5695.82	20797.60	27.39
2006/2007	6410.24	20093.71	31.9
2007/2008	8143.21	19322.68	42.14
2008/2009	8935.42	21472.35	41.61

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX - F**

### **Loan and Advances to total deposit ratio**

<b>NABIL</b>			
<b>(Rs. In Million)</b>			
<b>F/Y</b>	<b>Loan &amp; Advances (Rs)</b>	<b>Total Deposit (Rs)</b>	<b>Ratio (%)</b>
2004/2005	7437.9	15506.42	47.97
2005/2006	7755.95	13447.66	57.67
2006/2007	8189.99	14119.03	58
2007/2008	10586.17	14586.6	72.57
2008/2009	12922.54	19347.4	66.79

<b>\NIBL</b>			
<b>(Rs. In Million)</b>			
<b>F/Y</b>	<b>Loan &amp; Advances (Rs)</b>	<b>Total Deposit (Rs)</b>	<b>Ratio (%)</b>

2004/2005	2564.43	4174.76	61.43
2005/2006	5772.14	7922.76	72.85
2006/2007	7130.12	11524.68	61.87
2007/2008	10126.05	14254.57	71.04
2008/2009	12776.21	18927.30	67.5

<b>SCBNL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Loan &amp; Advances (Rs)</b>	<b>Total Deposit (Rs)</b>	<b>Ratio (%)</b>
2004/2005	5364	15835.75	33.87
2005/2006	5695.82	18755.64	30.37
2006/2007	6410.24	21161.44	30.29
2007/2008	8143.21	19363.47	42.05
2008/2009	8935.42	23061.03	38.75

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX - G**

### **Total Investment To Total Deposit Ratio**

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Total Investment (Rs)</b>	<b>Total Deposit (Rs)</b>	<b>Ratio (%)</b>
2004/2005	8199.51	15506.42	52.88
2005/2006	6031.17	13447.66	44.85
2006/2007	5835.94	14119.03	41.33
2007/2008	4267.23	14586.6	29.25
2008/2009	6178.53	19347.4	31.93

<b>NIBL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Total Investment (Rs)</b>	<b>Total Deposit (Rs)</b>	<b>Ratio (%)</b>
2004/2005	1822.16	4174.76	43.65
2005/2006	1705.24	7922.76	21.52
2006/2007	3862.48	11524.68	33.51
2007/2008	3934.19	14254.57	27.6
2008/2009	5602.86	18927.30	29.6

<b>SCBNL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Total Investment (Rs)</b>	<b>Total Deposit (Rs)</b>	<b>Ratio (%)</b>
2004/2005	9275.88	15835.75	58.57
2005/2006	10357.68	18755.63	55.22
2006/2007	11360.33	21161.44	53.68
2007/2008	9702.55	19363.47	50.1
2008/2009	12847.54	23061.03	55.71

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX – H**

### **Loan and Advances to Total Working Fund Ratio**

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Loan And Advances (Rs)</b>	<b>Total Working Fund (Rs)</b>	<b>Ratio (%)</b>
2004/2005	7437.9	17629.25	42.2
2005/2006	7755.95	16562.61	46.83
2006/2007	8189.99	16745.48	48.91
2007/2008	10586.17	17186.33	61.6



2008/2009	12922.54	22329.97	57.87
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<b>NIBL</b> (Rs. In Million)			
F/Y	Loan And Advances (Rs)	Total Working Fund (Rs)	Ratio (%)
2004/2005	2564.43	4973.9	51.56
2005/2006	5772.14	9014.24	64.03
2006/2007	7130.12	13255.50	53.79
2007/2008	10126.05	16274.06	62.22
2008/2009	12776.21	21330.14	59.9

<b>SCBNL</b> (Rs. In Million)			
F/Y	Loan And Advances (Rs)	Total Working Fund (Rs)	Ratio (%)
2004/2005	5364	18443.07	29.1
2005/2006	5695.82	21000.5	27.12
2006/2007	6410.24	23642.06	27.11
2007/2008	8143.21	21893.58	37.2
2008/2009	8935.42	25776.33	34.66

Source: Annual report of NABIL, NIBL, and SCBNL

## APPENDIX – I

### Return On Loan And Advances Ratio

<b>NABIL</b> (Rs. In Million)			
F/Y	Net Profit (Rs)	Loan & Advances (Rs)	Ratio (%)

2004/2005	271.64	7437.9	3.65
2005/2006	416.24	7755.95	5.37
2006/2007	455.31	8189.99	5.56
2007/2008	518.63	10586.17	4.9
2008/2009	635.3	12922.54	4.92

<b>NIBL</b>		<b>(Rs. In Million)</b>	
<b>F/Y</b>	<b>Net Profit (Rs)</b>	<b>Loan &amp; Advances (Rs)</b>	<b>Ratio (%)</b>
2004/2005	57.11	2564.43	2.23
2005/2006	116.82	5772.14	2.02
2006/2007	152.67	7130.12	2.14
2007/2008	232.15	10126.05	2.29
2008/2009	350.54	12776.21	2.74

<b>SCBNL</b>		<b>(Rs. In Million)</b>	
<b>F/Y</b>	<b>Net Profit (Rs)</b>	<b>Loan &amp; Advances (Rs)</b>	<b>Ratio (%)</b>
2004/2005	479.21	5364	8.93
2005/2006	506.93	5695.82	8.9
2006/2007	537.8	6410.24	8.39
2007/2008	536.24	8143.21	6.58
2008/2009	658.75	8935.42	7.37

Source: Annual report of NABIL, NIBL, and SCBNL

## APPENDIX - J

### Return On Total Working Fund Ratio

<b>NABIL</b>	<b>(Rs. In Million)</b>
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<b>F/Y</b>	<b>Net Profit (Rs)</b>	<b>Total Working Fund (Rs)</b>	<b>Ratio (%)</b>
2004/2005	271.64	17629.25	1.54
2005/2006	416.24	16562.61	2.51
2006/2007	455.31	16745.48	2.72
2007/2008	518.63	17186.33	3.02
2008/2009	635.3	22329.97	2.84

<b>NIBL (Rs. In Million)</b>			
<b>F/Y</b>	<b>Net Profit (Rs)</b>	<b>Total Working Fund (Rs)</b>	<b>Ratio (%)</b>
2004/2005	57.11	4973.9	1.15
2005/2006	116.82	9014.24	1.29
2006/2007	152.67	13255.50	1.15
2007/2008	232.15	16274.06	1.43
2008/2009	350.54	21330.14	1.64

<b>SCBNL (Rs. In Million)</b>			
<b>F/Y</b>	<b>Net Profit (Rs)</b>	<b>Total Working Fund (Rs)</b>	<b>Ratio (%)</b>
2004/2005	479.21	18443.07	2.59
2005/2006	506.93	21000.5	2.41
2006/2007	537.8	23642.06	2.27
2007/2008	536.24	21781.67	2.46
2008/2009	658.75	25776.33	2.55

Source: Annual report of NABIL, NIBL, and SCBNL

## APPENDIX - K

### Total Interest Earned to Loan and Advances

<b>NABIL</b>				<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Total Interest Earned</b>	<b>Loan and Advances</b>	<b>Ratio (%)</b>	
2004/2005	1120.18	7437.9	15.06	
2005/2006	1017.87	7755.95	13.12	
2006/2007	1001.62	8189.99	12.23	
2007/2008	1068.7	10586.17	10.09	
2008/2009	1310	12922.54	10.14	

<b>NIBL</b>				<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Total Interest Earned</b>	<b>Loan and Advances</b>	<b>Ratio (%)</b>	
2004/2005	326.22	2564.43	12.72	
2005/2006	459.51	5772.14	7.96	
2006/2007	731.4	7130.12	10.26	
2007/2008	886.8	10126.05	8.76	
2008/2009	1172.74	12776.21	9.18	

<b>SCBNL</b>				<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Total Interest Earned</b>	<b>Loan and Advances</b>	<b>Ratio (%)</b>	
2004/2005	1013.64	5364	18.90	
2005/2006	1001.36	5695.82	17.58	
2006/2007	1042.17	6410.24	16.26	

2007/2008	1058.67	8143.21	13
2008/2009	1189.6	8935.42	13.31

Source: Annual report of NABIL, NIBL, and SCBNL

## APPENDIX - L

### Liquidity Risk Ratio

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Cash &amp; Bank Balance (Rs)</b>	<b>Total Deposit(Rs)</b>	<b>Ratio (%)</b>
2004/2005	1051.82	15506.42	6.78
2005/2006	1144.77	13447.66	8.51
2006/2007	970.48	14119.03	6.87
2007/2008	559.38	14586.6	3.83
2008/2009	630.23	19347.4	3.26

<b>NIBL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Cash &amp; Bank Balance (Rs)</b>	<b>Total Deposit(Rs)</b>	<b>Ratio (%)</b>
2004/2005	338.92	4174.76	8.12
2005/2006	926.53	7922.76	12.1
2006/2007	1226.92	11524.68	10.65
2007/2008	1340.48	14254.57	9.4
2008/2009	2336.52	18927.30	12.34

<b>SCBNL</b>			<b>(Rs. In Million)</b>
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<b>F/Y</b>	<b>Cash &amp; Bank Balance (Rs)</b>	<b>Total Deposit(Rs)</b>	<b>Ratio (%)</b>
2004/2005	825.26	15835.75	5.21
2005/2006	1512.3	18755.63	8.06
2006/2007	2023.16	21161.44	9.56
2007/2008	1111.12	19363.47	5.74
2008/2009	1276.24	23061.03	5.53

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX – M1**

### **Credit Risk Ratio**

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Non Performing Loans (Rs)</b>	<b>Loan &amp; Advances(Rs)</b>	<b>Ratio (%)</b>
2004/2005	556.88	7437.9	7.49
2005/2006	449.63	7755.95	5.8
2006/2007	286.68	8189.99	3.5
2007/2008	144.51	10586.17	1.36
2008/2009	182.62	12922.54	1.41

<b>NIBL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Non Performing Loans (Rs)</b>	<b>Loan &amp; Advances(Rs)</b>	<b>Ratio (%)</b>
2004/2005	130.29	2564.43	5.08
2005/2006	117.1	5772.14	2.03
2006/2007	181.43	7130.12	2.54
2007/2008	280.87	10126.05	2.77
2008/2009	272.5	12776.21	2.13

<b>SCBNL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Non Performing Loans (Rs)</b>	<b>Loan &amp; Advances(Rs)</b>	<b>Ratio (%)</b>
2004/2005	259.62	5364	4.84
2005/2006	235.24	5695.82	4.13
2006/2007	252.2	6410.24	3.93
2007/2008	226.31	8143.21	2.78
2008/2009	195.93	8935.42	2.19

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX – M2**

### **Loan Loss Provision To Total Loan And Advances Ratio**

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Loan Loss Provision (Rs)</b>	<b>Loan &amp; Advances(Rs)</b>	<b>Ratio (%)</b>
2004/2005	363.95	7437.9	4.89
2005/2006	357.73	7755.95	4.61
2006/2007	358.66	8189.99	4.38
2007/2008	360.57	10586.17	3.41
2008/2009	356.24	12922.54	2.76

<b>NIBL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Loan Loss Provision (Rs)</b>	<b>Loan &amp; Advances(Rs)</b>	<b>Ratio (%)</b>
2004/2005	149.1	2564.43	5.81
2005/2006	149.65	5772.14	2.59

2006/2007	206.29	7130.12	2.89
2007/2008	327.11	10126.05	3.23
2008/2009	401.94	12776.21	3.15

<b>SCBNL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Loan Loss Provision (Rs)</b>	<b>Loan &amp; Advances(Rs)</b>	<b>Ratio (%)</b>
2004/2005	332.17	5364	6.19
2005/2006	304.33	5695.82	5.34
2006/2007	283.62	6410.24	4.42
2007/2008	277.66	8143.21	3.41
2008/2009	270.86	8935.42	3.03

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX - N**

### **Pass Loan Provision To Total Pass Loan**

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Pass Loan Provision</b>	<b>Total Pass Loan</b>	<b>Ratio</b>
2004/2005	140.92	7244.97	1.94
2005/2006	122.59	7664.05	1.6
2006/2007	127.73	8261.98	1.54
2007/2008	235.34	10802.23	2.18
2008/2009	214.3	13096.16	1.64

<b>NIBL</b>			<b>(Rs. In Million)</b>
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<b>F/Y</b>	<b>Pass Loan Provision</b>	<b>Total Pass Loan</b>	<b>Ratio</b>
2004/2005	36.38	2583.23	1.41
2005/2006	57.21	5804.7	0.98
2006/2007	68.68	6942.66	0.99
2007/2008	101.06	10172.29	0.99
2008/2009	165.14	12905.66	1.28

<b>SCBNL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Pass Loan Provision</b>	<b>Total Pass Loan</b>	<b>Ratio</b>
2004/2005	93.88	5420.25	1.73
2005/2006	94.18	5752.21	1.64
2006/2007	64.42	6441.66	1
2007/2008	81.94	8194.56	1
2008/2009	90.10	9010.35	1

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX – O**

### **Substandard Loan Loss provision to Total Substandard**

<b>NABIL</b>			<b>(Rs. In Million)</b>
<b>F/Y</b>	<b>Substandard Loan Loss Provision</b>	<b>Total Substandard Loan</b>	<b>Ratio</b>
2004/2005	62.68	260.28	24.08
2005/2006	18.32	76.31	24.01
2006/2007	5.141	22.14	23.22
2007/2008	6.86	22.07	31.08
2008/2009	42.57	62.67	67.93

<b>NIBL</b>				<b>(Rs. In Million)</b>			
<b>F/Y</b>	<b>Substandard Loan Loss Provision</b>	<b>Total Substandard Loan</b>	<b>Ratio</b>				
2004/2005	2.09	17.23	12.13				
2005/2006	2.49	22.03	11.3				
2006/2007	2.73	10.84	25.18				
2007/2008	0.212	0.823	25.76				
2008/2009	11.06	44.24	25				

<b>SCBNL</b>				<b>(Rs. In Million)</b>			
<b>F/Y</b>	<b>Substandard Loan Loss Provision</b>	<b>Total Substandard Loan</b>	<b>Ratio</b>				
2004/2005	0.83	3.32	25				
2005/2006	1.76	7.05	24.96				
2006/2007	-	-	-				
2007/2008	2.61	10.43	25.02				
2008/2009	4.12	16.49	24.98				

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX - P**

### **Provision for Doubtful Debt To Total Doubtful Debt**

<b>NABIL</b>				<b>(Rs. In Million)</b>			
<b>F/Y</b>	<b>Provision for Doubtful Debt</b>	<b>Total Doubtful Debt</b>	<b>Ratio</b>				

2004/2005	114.42	230.94	49.54
2005/2006	136.62	279.12	48.95
2006/2007	32.38	65.55	49.4
2007/2008	1.416	1.934	73.22
2008/2009	13.9	29.56	47.02

<b>NIBL</b>			
<b>(Rs. In Million)</b>			
<b>F/Y</b>	<b>Provision for Doubtful Debt</b>	<b>Total Doubtful Debt</b>	<b>Ratio</b>
2004/2005	1.65	3.48	47.41
2005/2006	0.457	3.59	12.73
2006/2007	29.9	63.88	46.81
2007/2008	37.56	74.94	50.1
2008/2009	0.248	0.497	49.9

<b>SCBNL</b>			
<b>(Rs. In Million)</b>			
<b>F/Y</b>	<b>Provision for Doubtful Debt</b>	<b>Total Doubtful Debt</b>	<b>Ratio</b>
2004/2005	105.15	140.29	74.95
2005/2006	97.5	130	75
2006/2007	97.99	130.99	74.81
2007/2008	81.76	104.52	78.22
2008/2009	62.80	65.61	95.72

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX - Q**

### **Provision for Bad Debt To Total Bad Debt**

<b>NABIL</b> (Rs. In Million)			
<b>F/Y</b>	<b>Provision for Bad Debt</b>	<b>Total Bad Debt</b>	<b>Ratio (%)</b>
2004/2005	45.93	65.66	69.95
2005/2006	80.20	94.20	85.14
2006/2007	193.40	198.99	97.19
2007/2008	116.94	120.5	97.04
2008/2009	85.47	90.39	94.56

<b>NIBL</b> (Rs. In Million)			
<b>F/Y</b>	<b>Provision for Bad Debt</b>	<b>Total Bad Debt</b>	<b>Ratio (%)</b>
2004/2005	108.98	109.58	99.45
2005/2006	89.49	91.47	97.83
2006/2007	104.99	106.72	98.38
2007/2008	188.28	205.11	91.79
2008/2009	255.49	277.76	91.98

<b>SCBNL</b> (Rs. In Million)			
<b>F/Y</b>	<b>Provision for Bad Debt</b>	<b>Total Bad Debt</b>	<b>Ratio (%)</b>
2004/2005	132.31	132.31	100
2005/2006	110.89	110.89	100
2006/2007	121.21	121.21	100
2007/2008	111.34	111.34	100
2008/2009	113.83	113.83	100

Source: Annual report of NABIL, NIBL, and SCBNL

## **APPENDIX – R(1)**

## Co-efficient of Correlation Between Total Deposit and Loan and Advances

Correlation between Total Deposit and Loan and Advances of NABIL							
F/Y	Total Deposit (X)	Loan & Advances (Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/05	15506.42	7437.9	105	-1940.61	11025	3765967.17	-203764.05
2005/06	13447.66	7755.95	-1953.76	-1622.56	3817178.14	2632700.95	3170092.83
2006/07	14119.03	8189.99	-1282.39	-1188.52	1644524.11	1412579.79	1524146.16
2007/08	14586.6	10586.17	-814.82	1207.66	663931.63	1458442.67	-984025.52
2008/09	19347.4	12922.54	3945.98	3544.03	15570758.2	12560148.6	13984671.5
N= 5	$\bar{X}$ =15401.4	$\bar{Y}$ =9378.51			21707417.1	21829839.2	17491120.9

Now, we have

$$N= 5 \quad x^2=21707417.1$$

$$y^2=21829839.2$$

$$xy =17491120.9$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{17491120.9}{\sqrt{21707417.1} \sqrt{21829839.2}}$$

$$r = \frac{17491120.9}{21768533.1}$$

$$r = 0.8 \quad r^2 = 0.64$$

$$P.Er. = 0.6745 \frac{1-r^2}{\sqrt{N}} \quad P.Er. = 0.6745 \frac{1-0.64}{\sqrt{5}} \quad P.Er. = 0.11 \quad 6P.Er. = 0.66$$

## APPENDIX – R(2)

<b>Correlation between Total Deposit and Loan and Advances of NIBL</b>							
F/Y	Total Deposit(X)	Loan & Advances (Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	$x^2$	$y^2$	xy
2004/05	4174.76	2564.43	-7186.05	-5109.36	51639314.6	26105559.6	36716116.4
2005/06	7922.76	5772.14	-3438.05	-1901.65	11820187.8	3616272.72	6537967.78
2006/07	11524.68	7130.12	163.87	-543.67	26853.38	295577.07	-89091.2
2007/08	14254.57	10126.05	2893.76	2452.26	8373846.94	6013579.11	7096251.9
2008/09	18927.30	12776.21	7566.49	5102.42	57251770.9	26034689.9	38607409.9
N= 5	$\bar{X}=11360.8$	$\bar{Y}=7673.79$			129111974	62065678.4	88868654.8

Now, we have

$$N= 5 \quad x^2=129111974$$

$$y^2= 62065678.4$$

$$xy =88868654.8$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{88868654.8}{\sqrt{129111974} \sqrt{62065678.4}}$$

$$r = \frac{88868654.8}{89517750.43}$$

$$r = 0.99 \quad r^2 = 0.98$$

$$P.Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P.Er. = 0.6745 \frac{1 - 0.98}{\sqrt{5}} \quad P.Er. = 0.006 \quad 6P.Er. = 0.036$$

### APPENDIX – R(3)

Correlation between Total Deposit and Loan and Advances of SCBNL							
F/Y	Total Deposit(X)	Loan & Advances (Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/05	15835.75	5364	-3799.72	-1545.74	14437872.1	2389312.15	5873379.19
2005/06	18755.64	5695.82	-879.83	-1213.92	774100.83	1473601.77	1068043.23
2006/07	21161.44	6410.24	1525.97	-499.5	2328584.44	249500.25	-762222.02
2007/08	19363.47	8143.21	-272	1233.47	73984	1521448.24	-335503.84
2008/09	23061.03	8935.42	3425.56	2025.68	11734461.3	4103379.46	6939088.38
N= 5	$\bar{X}$ =19635.47	$\bar{Y}$ =6909.74			29349002.7	9737241.87	12782784.9

Now, we have

$$N= 5 \quad x^2 = 29349002.7$$

$$y^2 = 9737241.87$$

$$xy = 12782784.9$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{12782784.9}{\sqrt{29349002.7} \sqrt{9737241.87}}$$

$$r = \frac{12782/84.9}{169049/1.35}$$

$$r = 0.76 \quad r^2 = 0.58$$

$$P.Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P.Er. = 0.6745 \frac{1 - 0.58}{\sqrt{5}} \quad P.Er. = 0.126 \quad 6P.Er. = 0.756$$

## APPENDIX – S(1)

### Co-efficient of Correlation Between Net Income and Loan and Advances

Correlation between Net Income and Loan and advances of NABIL							
F/Y	Net Income (X)	Loan and Advances (Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/2005	271.64	7437.9	-187.78	-1940.61	35261.33	3765967.17	364407.74
2005/2006	416.24	7755.95	-43.18	-1622.56	1864.51	2632700.95	70062.14
2006/2007	455.31	8189.99	-4.11	-1188.52	16.89	1412579.79	4884.82
2007/2008	518.63	10586.17	59.2	1207.66	3505.8	1458442.68	71493.47
2008/2009	635.3	12922.54	175.88	3544.03	30933.77	12560148.6	623324
N= 5	$\bar{X}$ =459.42	$\bar{Y}$ =9378.51			71582.3	21829839.2	1134172.17

Now, we have

$$N= 5 \quad x^2=71582.3$$

$$y^2=21829839.2$$

$$xy = 1134172.17$$

Correlation of coefficient can be calculated by using the following formula:



$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{1134172.17}{\sqrt{71582.3} \sqrt{21829839.2}}$$

$$r = \frac{1134172.17}{1250058.17}$$

$$r = 0.91 \quad r^2 = 0.83$$

$$P.Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P.Er. = 0.6745 \frac{1 - 0.83}{\sqrt{5}} \quad P.Er. = 0.05 \quad 6P.Er. = 0.3$$

### APPENDIX – S(2)

Correlation between Net Income and Loan and advances of NIBL							
F/Y	Net Income(X)	Loan and Advances (Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/2005	57.11	2564.43	-124.75	-5109.36	15562.56	26105559.6	637392.66
2005/2006	116.82	5772.14	-65.04	-1901.65	4230.2	3616272.7	123683.32
2006/2007	152.67	7130.12	-29.19	-543.67	852.06	295577.07	15607.02
2007/2008	232.15	10126.05	50.29	2452.26	2529.08	6013579.11	123324.16
2008/2009	350.54	12776.21	168.68	5102.42	28452.94	26034689.9	860676.21
N= 5	$\bar{X}$ =181.86	$\bar{Y}$ =7673.79			51626.84	62065678.3	1760683.37

Now, we have

$$N= 5 \quad x^2=51626.84$$

$$y^2=62065678.3$$

$$xy = 1760683.37$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{1760683.37}{\sqrt{51626.84} \sqrt{62065678.3}}$$

$$r = \frac{1760683.37}{2183988.32}$$

$$r = 0.81 \quad r^2 = 0.656$$

$$P.Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P.Er. = 0.6745 \frac{1 - 0.656}{\sqrt{5}} \quad P.Er. = 0.104 \quad 6P.Er. = 0.624$$

### APPENDIX – S(3)

Correlation between Net Income and Loan and advances of SCBNL							
F/Y	Net Income (X)	Loan and Advances (Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/2005	479.21	5364	-64.58	-1545.74	4170.58	2389312.15	99823.89
2005/2006	506.93	5695.82	-36.86	-1213.92	1358.66	1473601.77	44745.09
2006/2007	537.8	6410.24	-5.99	-499.5	35.88	249500.25	2992
2007/2008	536.24	8143.21	-7.55	1233.47	57	1521448.24	-9312.7
2008/2009	658.75	8935.42	114.96	2025.68	13215.8	4103379.46	232872.17
N= 5	$\bar{X}$ =543.79	$\bar{Y}$ =6909.74			18837.92	9737241.87	371120.45

Now, we have

$$N= 5 \quad x^2=18837.92$$

$$y^2=9737241.87$$

$$xy = 371120.45$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{371120.45}{\sqrt{18837.92} \sqrt{9737241.87}}$$

$$r = \frac{371120.45}{428281.76}$$

$$r = 0.866 \quad r^2 = 0.75$$

$$P. Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P. Er. = 0.6745 \frac{1 - 0.75}{\sqrt{5}} \quad P. Er. = 0.075 \quad 6P. Er. = 0.45$$

## APPENDIX – T(1)

### Correlation between Interest Earned to Loan and Advances

Correlation between Interest Earned to Loan and Advances of NABIL							
F/Y	Interest Earned (X)	Loan and Advances (Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/2005	1120.18	7437.9	16.51	-1940.61	272.58	3765967.17	-32039.47
2005/2006	1017.87	7755.95	-85.8	-1622.56	7361.64	2632700.95	139215.65
2006/2007	1001.62	8189.99	-102.05	-1188.52	10414.2	1412579.79	121288.47
2007/2008	1068.7	10586.17	-34.97	1207.66	1222.9	1458442.68	-42231.87
2008/2009	1310	12922.54	206.33	3544.03	42572.07	12560148.6	731239.71
N= 5	$\bar{X}$ =1103.67	$\bar{Y}$ =9378.51			61843.39	21829839.19	917472.49

Now, we have

$$N = 5 \quad x^2 = 61843.39$$

$$y^2 = 21829839.19$$

$$xy = 917472.49$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{917472.49}{\sqrt{61843.39} \sqrt{21829839.19}}$$

$$r = \frac{917472.49}{1161892.98}$$

$$r = 0.79 \quad r^2 = 0.62$$

$$P.Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P.Er. = 0.6745 \frac{1 - 0.62}{\sqrt{5}} \quad P.Er. = 0.115 \quad 6P.Er. = 0.69$$

## APPENDIX – T(2)

Correlation between Interest Earned to Loan and Advances of NIBL							
F/Y	Interest Earned (X)	Loan and Advances (Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/2005	326.22	2564.43	-389.11	-5109.36	151406.59	26105559.6	1988103.07
2005/2006	459.51	5772.14	-255.82	-1901.65	65443.87	3616272.72	486480.1
2006/2007	731.4	7130.12	16.07	-543.67	258.24	295577.07	-8736.78
2007/2008	886.8	10126.05	171.47	2452.26	29401.96	6013579.11	420489.02

2008/2009	1172.74	12776.21	457.41	5102.42	209223.91	26034689.9	2333897.9
N= 5	$\bar{X}=715.33$	$\bar{Y}=7673.79$			455734.57	62065678.4	5220233.31

Now, we have

$$N= 5 \quad x^2 = 455734.57$$

$$y^2 = 62065678.4$$

$$xy = 5220233.31$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{5220233.31}{\sqrt{455734.57} \sqrt{62065678.4}}$$

$$r = \frac{5220233.31}{5318399.97}$$

$$r = 0.98 \quad r^2 = 0.96$$

$$P. Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P. Er. = 0.6745 \frac{1 - 0.96}{\sqrt{5}} \quad P. Er. = 0.012 \quad 6P. Er. = 0.07$$

### APPENDIX – T(3)

Correlation between Interest Earned to Loan and Advances of SCBNL							
F/Y	Interest Earned (X)	Loan and Advances(Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/2005	1013.64	5364	-47.45	-1545.74	2251.5	2389312.15	73345.36
2005/2006	1001.36	5695.82	-59.73	-1213.92	3567.67	1473601.77	72507.44

2006/2007	1042.17	6410.24	-36.92	-499.5	1363.1	249500.25	18441.54
2007/2008	1058.67	8143.21	-2.42	1233.47	5.86	1521448.24	-2984.98
2008/2009	1189.6	8935.42	128.51	2025.68	16514.82	4103379.46	260320.14
N= 5	$\bar{X}=1061.09$	$\bar{Y}=6909.74$			23702.95	9737241.87	421629.5

Now, we have

$$N= 5 \quad x^2 = 23702.95$$

$$y^2 = 9737241.87$$

$$xy = 421629.5$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{421629.5}{\sqrt{23702.95} \sqrt{9737241.87}}$$

$$r = \frac{421629.5}{480424.48}$$

$$r = 0.88 \quad r^2 = 0.77$$

$$P.Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P.Er. = 0.6745 \frac{1 - 0.77}{\sqrt{5}} \quad P.Er. = 0.28 \quad 6P.Er. = 1.68$$

## APPENDIX – U(1)

### Correlation between Non performing Loan and Total Loan & Advances

Correlation between Non performing Loan and Total Loan & Advances of NABIL

F/Y	NPL (X)	Loan and Advances(Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/2005	556.88	7437.9	232.82	-1940.61	54205.15	3765967.17	-451812.8
2005/2006	449.63	7755.95	125.57	-1622.56	15767.82	2632700.95	-203744.9
2006/2007	286.68	8189.99	-37.38	-1188.52	1397.26	1412579.79	44426.88
2007/2008	144.51	10586.17	-179.55	1207.66	32238.2	1458442.68	-216835.4
2008/2009	182.62	12922.54	-141.44	3544.03	20005.27	12560148.6	-501267.6
N= 5	$\bar{X}$ =324.06	$\bar{Y}$ =9378.51			123613.7	21829839.19	-1329234

Now, we have

$$N= 5 \quad x^2 = 123613.7$$

$$y^2 = 21829839.19$$

$$xy = -1329234$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{-1329234}{\sqrt{123613.7} \sqrt{21829839.19}}$$

$$r = \frac{-1329234}{1642713.34}$$

$$r = -0.81 \quad r^2 = 0.656$$

$$P.Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P.Er. = 0.6745 \frac{1 - 0.656}{\sqrt{5}} \quad P.Er. = 0.104 \quad 6P.Er. = 0.624$$

## APPENDIX – U(2)

Correlation between Non performing Loan and Total Loan & Advances of NIBL							
F/Y	NPL (X)	Loan and Advances(Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	x <sup>2</sup>	y <sup>2</sup>	xy
2004/2005	130.29	2564.43	-66.15	-5109.36	4375.82	26105559.6	337984.16
2005/2006	117.1	5772.14	-79.34	-1901.65	6294.83	3616272.72	150876.9
2006/2007	181.43	7130.12	-15.01	-543.67	255.3	295577.07	8160.49
2007/2008	280.87	10126.05	84.43	2452.26	7128.42	6013579.11	207044.31
2008/2009	272.5	12776.21	76.06	5102.42	5785.12	26034689.9	388090.06
N= 5	$\bar{X}$ =196.44	$\bar{Y}$ =7673.79			23839.49	62065678.4	1092155.92

Now, we have

$$N= 5 \quad x^2 = 23839.49$$

$$y^2 = 62065678.4$$

$$xy = 1092155.92$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{1092155.92}{\sqrt{23839.49} \sqrt{62065678.4}}$$

$$r = \frac{1092155.92}{1216390.99}$$

$$r = 0.898$$

$$r^2 = 0.806$$

$$P. Er. = 0.6745 \frac{1-r^2}{\sqrt{N}} \quad P. Er. = 0.6745 \frac{1-0.806}{\sqrt{5}} \quad P. Er. = 0.058 \quad 6P. Er. = 0.35$$



## APPENDIX – U(3)

<b>Correlation between Non performing Loan and Total Loan &amp; Advances of SCBNL</b>							
F/Y	NPL (X)	Loan and Advances(Y)	x= (X- $\bar{X}$ )	y= (Y- $\bar{Y}$ )	$x^2$	$y^2$	xy
2004/2005	259.62	5364	25.76	-1545.74	663.58	2389312.15	-39818.26
2005/2006	235.24	5695.82	1.38	-1213.92	1.90	1473601.77	-1675.21
2006/2007	252.2	6410.24	18.34	-499.5	336.35	249500.25	-9160.83
2007/2008	226.31	8143.21	-7.55	1233.47	57	1521448.24	-9251.03
2008/2009	195.93	8935.42	-37.93	2025.68	1438.68	4103379.46	-76834.04
N= 5	$\bar{X}$ =233.86	$\bar{Y}$ =6909.74			2497.51	9737241.87	-136739.4

Now, we have

$$N= 5 \quad x^2 = 2497.51$$

$$y^2 = 9737241.87$$

$$xy = -136739.4$$

Correlation of coefficient can be calculated by using the following formula:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$r = \frac{-136739.4}{\sqrt{2497.51} \sqrt{9737241.87}}$$

$$r = \frac{-136739.4}{155929.16}$$

$$r = -0.877$$

$$r^2 = 0.77$$

$$P.Er. = 0.6745 \frac{1 - r^2}{\sqrt{N}} \quad P.Er. = 0.6745 \frac{1 - 0.77}{\sqrt{5}} \quad P.Er. = 0.069 \quad 6P.Er. = 0.41$$

## APPENDIX – V(1)

### Trend value of Loan and Advances

Trend value of Loan and Advances of NABIL (2005-2009)					
Year (X)	Loan and Advances (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y= 9378.51+1379.95x
2005	7437.9	-2	4	-14875.8	6618.61
2006	7755.95	-1	1	-7755.95	7998.56
2007	8189.99	0	0	0	9378.51
2008	10586.17	1	1	10586.17	10758.46
2009	12922.54	2	4	25845.1	12138.41
	46892.55		10	13799.52	

Now,

$$a = \frac{\sum Y}{N} \qquad b = \frac{\sum xY}{\sum x^2}$$

$$a = \frac{46892.55}{5} \qquad b = \frac{13799.52}{10}$$

$$a = 9378.51 \qquad b = 1379.95$$

Trend value of Loan and Advances of NABIL (2006-2011)		
Year (X)	x= (X-2004)	Trend Value y= a+ bx
2007	3	13517

2008	4	14898.31
2009	5	16278.26
2010	6	17658.21
2011	7	19038.16

### APPENDIX – V(2)

Trend value of Loan and Advances of NIBL (2005-2009)					
Year (X)	Loan and Advances (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y=7673.79 +2477.75x
2005	2564.43	-2	4	-5128.86	2718.29
2006	5772.14	-1	1	-5772.14	5196.04
2007	7130.12	0	0	0	7673.79
2008	10126.05	1	1	10126.05	10151.54
2009	12776.21	2	4	25552.42	12629.29
	38368.95		10	24777.47	

Now,

$$a = \frac{\sum Y}{N}$$

$$a = \frac{38368.95}{5}$$

$$a = 7673.79$$

$$b = \frac{\sum xY}{\sum x^2}$$

$$b = \frac{24777.47}{10}$$

$$b = 2477.75$$

Trend value of Loan and Advances of NIBL (2006-2011)		
Year (X)	x= (X-2004)	Trend Value y= a+ bx

2007	3	15107.04
2008	4	17584.79
2009	5	20062.54
2010	6	22540.29
2011	7	25018.04

### APPENDIX – V(3)

Trend value of Loan and Advances of SCBNL (2005-2009)					
Year (X)	Loan and Advances (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y=6909.74+959.02x
2005	5364	-2	4	-10728	4990.96
2006	5695.82	-1	1	-5695.82	5950.72
2007	6410.24	0	0	0	6909.74
2008	8143.21	1	1	8143.21	7868.76
2009	8935.42	2	4	17870.84	8827.78
	34548.69		10	9590.23	

Now,  $a = \frac{\sum Y}{N}$

$$a = \frac{34548.69}{5}$$

$$a = 6909.74$$

$$b = \frac{\sum xY}{\sum x^2}$$

$$b = \frac{9590.23}{10}$$

$$b = 959.02$$

#### Trend value of Loan and Advances of SCBNL(2006-2011)

Year (X)	x= (X-2004)	Trend Value y= a+ bx
2007	3	9786.8
2008	4	10745.82
2009	5	11704.84
2010	6	12663.86
2011	7	13622.88

## APPENDIX – W(1)

### Trend Analysis of Total Deposit

Trend value of Total Deposit of NABIL (2005-2009)					
Year (X)	Total Deposit (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y= 15401.4+882.09x
2005	15506.42	-2	4	-31012.84	13637.22
2006	13447.66	-1	1	-13447.66	14519.31
2007	14119.03	0	0	0	15401.4
2008	14586.6	1	1	14586.6	16283.49
2009	19347.4	2	4	38694.8	17165.58
	77007		10	8820.9	

Now,

$$a = \frac{\sum Y}{N}$$

$$b = \frac{\sum xY}{\sum x^2}$$

$$a = \frac{77007}{5}$$

$$b = \frac{8820.9}{10}$$

$$a = 15401.4$$

$$b = 882.09$$

<b>Trend value of Total Deposit of NABIL (2006-2011)</b>		
Year (X)	x= (X-2004)	Trend Value y= a+ bx
2007	3	18047.67
2008	4	18929.76
2009	5	19811.85
2010	6	20693.94
2011	7	21576.03

### APPENDIX – W(2)

<b>Trend value of Total Deposit of NIBL (2005-2009)</b>					
Year (X)	Total Deposit (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y=11360.81+3583.69x
2005	4174.76	-2	4	-8349.52	4193.43
2006	7922.76	-1	1	-7922.76	7777.12
2007	11524.68	0	0	0	11360.81
2008	14254.57	1	1	14254.57	14944.5
2009	18927.30	2	4	37854.6	18528.19
	56804.05		10	35836.89	

Now,  $a = \frac{\sum Y}{N}$

$$b = \frac{\sum xY}{\sum x^2}$$

$$a = \frac{56804.05}{5}$$

$$a = 11360.81$$

$$b = \frac{35836.89}{10}$$

$$b = 3583.69$$

<b>Trend value of Total Deposit of NIBL (2006-2011)</b>		
Year (X)	x = (X-2004)	Trend Value y = a + bx
2007	3	22111.88
2008	4	25695.57
2009	5	29279.26
2010	6	32862.95
2011	7	36446.64

### **APPENDIX – W(3)**

<b>Trend value of Total Deposit of SCBNL (2005-2009)</b>					
Year (X)	Total Deposit (Y)	x = (X-2004)	x <sup>2</sup>	xY	y = a + bx y = 19635.47 + 1505.84x
2005	15835.75	-2	4	-31671.5	16623.79
2006	18755.64	-1	1	-18755.64	18129.63
2007	21161.44	0	0	0	19635.47
2008	19363.47	1	1	19363.47	21141.31
2009	23061.03	2	4	46122.06	22647.15
	98177.35		10	15058.39	

Now,  $a = \frac{\sum Y}{N}$                        $b = \frac{\sum xY}{\sum x^2}$

$a = \frac{98177.35}{5}$                        $b = \frac{15058.39}{10}$

$a = 19635.47$                        $b = 1505.84$

<b>Trend value of Total Deposit of SCBNL (2006-2011)</b>		
Year (X)	x= (X-2004)	Trend Value y= a+ bx
2007	3	24152.99
2008	4	25658.83
2009	5	27164.67
2010	6	28670.51
2011	7	30176.35

## APPENDIX – X(1)

### Trend Analysis of Net Profit

<b>Trend value of Net Profit of NABIL (2005-2009)</b>					
Year (X)	Net Profit (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y= 459.42+82.97x
2005	271.64	-2	4	-543.28	293.48
2006	416.24	-1	1	-416.24	376.45
2007	455.31	0	0	0	459.42



2008	518.63	1	1	518.63	542.39
2009	635.3	2	4	1270.6	625.36
	2297.12		10	829.71	

Now,  $a = \frac{\sum Y}{N}$                        $b = \frac{\sum xY}{\sum x^2}$

$a = \frac{2297.12}{5}$                        $b = \frac{829.71}{10}$

$a = 459.42$                        $b = 82.97$

<b>Trend value of Net Profit of NABIL (2006-2011)</b>		
Year (X)	x = (X-2004)	Trend Value y = a + bx
2007	3	708.33
2008	4	791.3
2009	5	874.27
2010	6	957.24
2011	7	1040.21

## APPENDIX – X(2)

<b>Trend value of Net Profit of NIBL (2005-2009)</b>					
Year (X)	Net Profit (Y)	x = (X-2004)	x <sup>2</sup>	xY	y = a + bx y = 181.86 + 70.22x
2005	57.11	-2	4	-114.22	41.42

2006	116.82	-1	1	-116.82	111.64
2007	152.67	0	0	0	181.86
2008	232.15	1	1	232.15	252.08
2009	350.54	2	4	701.08	322.3
	909.29		10	702.19	

Now,  $a = \frac{\sum Y}{N}$                        $b = \frac{\sum xY}{\sum x^2}$

$a = \frac{909.29}{5}$                           $b = \frac{702.19}{10}$

$a = 181.86$                           $b = 70.22$

<b>Trend value of Net Profit of NIBL (2006-2011)</b>		
Year (X)	x= (X-2004)	Trend Value y= a+ bx
2007	3	392.52
2008	4	462.74
2009	5	532.96
2010	6	603.18
2011	7	673.4

### **APPENDIX – X(3)**

<b>Trend value of Net Profit of SCBNL (2005-2009)</b>
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Year (X)	Net Profit (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y= 543.79+38.84x
2005	479.21	-2	4	-958.42	466.11
2006	506.93	-1	1	-506.93	504.95
2007	537.8	0	0	0	543.79
2008	536.24	1	1	536.24	582.63
2009	658.75	2	4	1317.5	612.47
	2718.93		10	388.39	

Now,

$$a = \frac{\sum Y}{N}$$

$$b = \frac{\sum xY}{\sum x^2}$$

$$a = \frac{2718.93}{5}$$

$$b = \frac{388.39}{10}$$

$$a = 543.79$$

$$b = 38.84$$

Trend value of Net Profit of SCBNL (2006-2011)		
Year (X)	x = (X-2004)	Trend Value y= a+ bx
2007	3	660.31
2008	4	699.15
2009	5	737.99
2010	6	776.83
2011	7	815.67

## APPENDIX – Y(1)

### Trend value of Non Performing Loan

Trend value of Non Performing Loan of NABIL (2005-2009)					
Year (X)	NPL (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y= 324.06+(-105.36)x
2005	556.88	-2	4	-1113.76	534.78
2006	449.63	-1	1	-449.63	429.42
2007	286.68	0	0	0	324.06
2008	144.51	1	1	144.51	218.7
2009	182.62	2	4	365.24	113.34
	1620.3		10	-1053.64	

Now,

$$a = \frac{\sum Y}{N}$$

$$b = \frac{\sum xY}{\sum x^2}$$

$$a = \frac{1620.3}{5}$$

$$b = \frac{-1053.64}{10}$$

$$a = 324.06$$

$$b = -105.36$$

Trend value of Non Performing Loan of NABIL (2006-2011)		
Year (X)	x= (X-2004)	Trend Value y= a+ bx
2007	3	9
2008	4	-97.38
2009	5	-202.74
2010	6	-308.1
2011	7	-413.46

## APPENDIX – Y(2)

Trend value of Non Performing Loan of NIBL (2005-2009)					
Year (X)	NPL (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y= 196.44+44.8x
2005	130.29	-2	4	-260.58	106.84
2006	117.1	-1	1	-117.1	151.64
2007	181.43	0	0	0	196.44
2008	280.87	1	1	280.87	241.24
2009	272.5	2	4	545	286.04
	982.19		10	448.19	

Now,

$$a = \frac{\sum Y}{N} \qquad b = \frac{\sum xY}{\sum x^2}$$

$$a = \frac{982.19}{5} \qquad b = \frac{448.19}{10}$$

$$a = 196.44 \qquad b = 44.8$$

Trend value of Non Performing Loan of NIBL (2006-2011)		
Year (X)	x= (X-2004)	Trend Value y= a+ bx
2007	3	330.84
2008	4	375.64
2009	5	420.44
2010	6	465.24
2011	7	510.04

## APPENDIX – Y(3)

Trend value of Non Performing Loan of SCBNL (2005-2009)					
Year (X)	NPL (Y)	x = (X-2004)	x <sup>2</sup>	xY	y=a+bx y= 233.86+(-13.63)x
2005	259.62	-2	4	-519.24	261.12
2006	235.24	-1	1	-235.24	247.49
2007	252.2	0	0	0	233.86
2008	226.31	1	1	226.31	220.23
2009	195.93	2	4	391.86	206.6
	1169.3		10	-136.31	

Now,

$$a = \frac{\sum Y}{N} \qquad b = \frac{\sum xY}{\sum x^2}$$

$$a = \frac{11693}{5} \qquad b = \frac{-13631}{10}$$

$$a = 233.86 \qquad b = -13.63$$

Trend value of Non Performing Loan of SCBNL (2006-2011)		
Year (X)	x= (X-2004)	Trend Value y= a+ bx
2007	3	192.97
2008	4	179.34
2009	5	165.71

2010	6	152.08
2011	7	138.45

## APPENDIX – Z(1)

**Test of hypothesis on Loan and advances to total deposit ratio of NABIL, NIBL and SCBNL.**

F/Y	NABIL (X <sub>1</sub> )	(X <sub>1</sub> - $\bar{X}_1$ ) <sup>2</sup>	NIBL (X <sub>2</sub> )	(X <sub>2</sub> - $\bar{X}_2$ ) <sup>2</sup>	SCBNL (X <sub>3</sub> )	(X <sub>3</sub> - $\bar{X}_3$ ) <sup>2</sup>
2004/2005	47.97	159.52	61.43	30.36	33.87	1.44
2005/2006	57.67	8.58	72.85	34.93	30.37	22.09
2006/2007	58	6.76	61.87	25.7	30.29	22.85
2007/2008	72.57	143.28	71.04	16.81	42.05	48.72
2008/2009	66.79	38.32	67.5	0.31	38.75	13.54
<b>Total</b>	<b>X<sub>1</sub>= 303</b>	<b>(X<sub>1</sub>-<math>\bar{X}_1</math>)<sup>2</sup> =356.46</b>	<b>X<sub>2</sub>=334.69</b>	<b>(X<sub>2</sub>-<math>\bar{X}_2</math>)<sup>2</sup> =108.1</b>	<b>X<sub>3</sub>=175.33</b>	<b>(X<sub>3</sub>-<math>\bar{X}_3</math>)<sup>2</sup> =108.64</b>
<b>Mean</b>	<b><math>\bar{X}_1= 60.6</math></b>		<b><math>\bar{X}_2= 66.94</math></b>		<b><math>\bar{X}_3=35.07</math></b>	

$$\text{Grand mean } \bar{X} = \frac{303+334.69+175.33}{15} = 54.2$$

Sum of square between samples (banks)

$$= n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(60.6-54.2)^2 + 5(66.94-54.2)^2 + 5(35.07-54.2)^2 = 2846.12$$

Sum of square within samples

$$= (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$

$$= 356.46 + 108.1 + 108.64 = 573.2$$

$$\text{Test statistic, } F = \frac{\text{Sum of square between samples}/k-1}{\text{Sum of square within samples}/n-k}$$

Where k= no. of samples and n= total number of observations

$$\text{Therefore } F = \frac{2846.12/3-1}{573.2/15-3} = 29.79$$

Degree of freedom =(k-1, n-k) = (3-1, 15-3)= (2, 12)

**Critical value:** the tabulated value of F at 5% level of significance for 2 and 12 d.f. is 3.89 i.e.  $F_{0.05(2, 12)}=3.89$

## APPENDIX – Z(2)

F/Y	NABIL (X <sub>1</sub> )	(X <sub>1</sub> - $\bar{X}_1$ ) <sup>2</sup>	NIBL (X <sub>2</sub> )	(X <sub>2</sub> - $\bar{X}_2$ ) <sup>2</sup>	SCBNL (X <sub>3</sub> )	(X <sub>3</sub> - $\bar{X}_3$ ) <sup>2</sup>
2004/2005	3.65	1.51	2.23	0.0025	8.93	0.81
2005/2006	5.37	0.24	2.02	0.0676	8.9	0.7569
2006/2007	5.56	0.46	2.14	0.0196	8.39	0.1296
2007/2008	4.9	0.0004	2.29	0.0001	6.58	2.1025
2008/2009	4.92	0.0016	2.74	0.2116	7.37	0.4356
<b>Total</b>	<b>X<sub>1</sub>= 24.4</b>	<b>(X<sub>1</sub>- <math>\bar{X}_1</math>)<sup>2</sup> =2.212</b>	<b>X<sub>2</sub>=11.4</b>	<b>(X<sub>2</sub>- <math>\bar{X}_2</math>)<sup>2</sup> =0.3014</b>	<b>X<sub>3</sub>=40.15</b>	<b>(X<sub>3</sub>- <math>\bar{X}_3</math>)<sup>2</sup> =4.2346</b>
<b>Mean</b>	<b><math>\bar{X}_1= 4.88</math></b>		<b><math>\bar{X}_2= 2.28</math></b>		<b><math>\bar{X}_3=8.03</math></b>	

$$\text{Grand mean } \bar{X} = \frac{24.4+11.4+40.15}{15} = 5.06$$

Sum of square between samples (banks)

$$= n_1 (\bar{X}_1 - \bar{X})^2 + n_2 (\bar{X}_2 - \bar{X})^2 + n_3 (\bar{X}_3 - \bar{X})^2$$

$$= 5(4.88-5.06)^2 + 5(2.28-5.06)^2 + 5(8.03-5.06)^2 = 82.91$$

Sum of square within samples

$$= (X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2$$



$$= 2.212+0.3014+4.2346 =6.748$$

$$\text{Test statistic, } F = \frac{\text{Sum of square between samples}/k-1}{\text{Sum of square within samples}/n-k}$$

Where k= no. of samples and n= total number of observations

$$\text{Therefore } F = \frac{89.91/3-1}{6.748/15-3} =79.94$$

Degree of freedom =(k-1, n-k) = (3-1, 15-3)= (2, 12)

**Critical value:** the tabulated value of F at 5% level of significance for 2 and 12 d.f is 3.89 i.e.  $F_{0.05(2, 12)}=3.89$