A STUDY ON CAPITAL ADEQUACY & LOAN LOSS PROVISION OF NEPALESE COMMERCIAL BANKS
(With Reference To NABIL, EBL & SCBNL)

A Thesis Report

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Office of the Dean

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Submitted By

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In the Partial Fulfillment of the Requirement for the

Master of Business Studies (MBS)

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RECOMMENDATION

This is to certify that the Thesis

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(With Reference To NABIL, EBL & SCBNL)

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DECLARATION

I, hereby, declare that the work reported in this thesis entitled ***"A Study On Capital Adequacy & Loan Loss Provision Of Nepalese Commercial Banks (With Reference To NABIL, EBL & SCBNL)"*** submitted to office of the Dean, Faculty of Management, Tribhuvan University, is my original work done for the partial fulfillment of the requirement for the Masters of Business Studies (MBS) under the supervision of **Associate Prof. Prakash Singh Pradhan & Pitri Raj Adhikari** of Shanker Dev Campus, Putalisadak, Kathmandu.

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SBBREVIATIONS

ALM	Assets Liabilities Management
CAR	Capital Adequacy Ratio
CEO	Chief Executive Officer
CRR	Cash Reserve Ratio
EBL	Everest Bank Limited
EVA	Economic Value Addition
FSS	Financial Services Sector
FY	Fiscal year
GDP	Gross Domestic Product
LA	Loan & Advance
LLP	Loan Loss Provision
NABIL	NABIL Bank Limited
NEPSE	Nepal Stock Exchange
NPA	Non-Performing Assets
NPL	Non-Performing Loan
NPM	Net Profit Margin
NRB	Nepal Rastra Bank
PA	Performing Assets
PL	Pass loan
ROA	Return on Assets
ROE	Return on Total Equity
SCBNL	Standard Chartered Bank Nepal Limited
SEBON	Security Board of Nepal
TL	Total Loan
TU	Tribhuvan University
WTO	World Trade Organization

CHAPTER - I

INTRODUCTION

1.1 General Background of the Study

Banking system occupies an important place in a nation's economy. A banking institution is indispensable in a modern society. It plays a vital role in the development of economy of the country and forms the core of the money market in an advanced country. In the current background of the rapid expansion of the bank and financial intuition network along with the financial sector liberalization, the implementation of this monetary policy will enhance the effectiveness of the NRB to undertake appropriate regulation, supervision and monitoring responsibilities for the qualitative development of the financial sector. For supervision, regulation and monitoring of Banks and financial institutions, NRB has issued NRB Directives.

More than a decade has passed since the Basel Committee on Banking Supervision (the Committee) introduced its 1988 Capital Accord (the Accord). The business of banking, risk management practices, supervisory approaches, and financial markets each have undergone significant transformation since then. In June 1999 the Committee released a proposal to replace the 1988 Accord with a more risk-sensitive framework, on which more than 200 comments were received. Reflecting those comments and the results of ongoing dialogue with the industry and supervisors worldwide, the Committee is now presenting a more concrete proposal, seeking comments from interested parties by 31 May 2001.The Committee has expected the final version of the new Accord to be published around the end of 2001 and to be implemented in 2004.

Capital requirement refers to the standardized requirements in place for banks and other depository institutions, which determines how much capital is required to be held for a certain level of assets through regulatory agencies such as the Bank for International Settlements, Federal Deposit Insurance Corporation or Federal Reserve Board. These requirements are put into place to ensure that these institutions are not participating or holding investments that increase the risk of default and that they have enough capital to

sustain operating losses while still honoring withdrawals. Also known as "regulatory capital".

For the effective and smooth operation of the financial system of the country, every financial institution needed to be regulated by the authorized body of the country backed by various suggestions prescribed by international regulatory bodies. Among the various regulation, capital regulation to them seems very important in terms of managing the liquidity as well as to minimize the various risks associated with the investment of the financial institutions. These risks are commonly known as credit risk, market risk and operational risk. Capital should be managed in accordance with the security and provision required for all types of risks mentioned above so that protection to the depositors and appropriate return on investment can be ensured.

A loan is a type of debt. Like all debt instruments, a loan entails the redistribution of financial assets over time, between the lender and the borrower. In a loan, the borrower initially receives or borrows an amount of money, called the principal, from the lender, and is obligated to pay back or repay an equal amount of money to the lender later. Typically, the money is paid back in regular installments, or partial repayments; in an annuity, each installment is the same amount.

The loan is generally provided at a cost, referred to as interest on the debt, which provides an incentive for the lender to engage in the loan. In a legal loan, each of these obligations and restrictions is enforced by contract, which can also place the borrower under additional restrictions known as loan covenants. Although this article focuses on monetary loans, in practice any material object might be lent. Acting as a provider of loans is one of the principal tasks for financial institutions. For other institutions, issuing of debt contracts such as bonds is a typical source of funding.

NRB has set down various rules and regulation for banks and the banks has to follow them. So, NRB is also known as banker’s bank. If the banks do not follow the rules and regulations issued by the central bank, the bank will be obliged to pay penalties. Generally, to bring uniformity and to amend the rules and regulations, NRB issues directives to the commercial banks from time to time and amends them on “need basis”. The commercial banks have to modify their functions accordingly.

1.2 Statement of the Problems

In 21st century, the increasing trend of banking sector in the country, there is a mushrooming growth of commercial banks in private sector as well as in joint venture. A large number of banking, serving in the small sector will obviously increase the top competition for survival, which might leads to keen rivalry among them to occupy the bigger part. So there may offering of uneconomic rate of interest, including in risky enterprises, unhealthy competition etc. such situations may endanger the deposits of public. In order to safeguard the public deposits and ensure the economic stability in the country, NRB issues directives from time to time to commercial banks. The directives are related to various performances of the banks and the banks are required to follow the directives. There are sixteen (16) directives related to the banking supervision and regulations.

NRB is the main figure of this research study. NRB directives being only the tools of NRB to supervise monitor and control the financial institution, it obviously play important role in the development of commercial banks of Nepal. It issues directives to the commercial banks from time to time in order to maintain stability in the financial market. The directives are issued based on monetary policies and the success of the country depends on the directives of the central bank and its central role.

In the beginning, due to lack of proper regulations Nepalese Commercial banks could not recognize the importance of the quality credit and banking sector failed to witness the expected developments. Subsequently, the banking sector faced the problems of bad debts, overdue loans, accrued interest, accumulations of non-banking assets and excess liquidity in the banking system. Viewing the need of structural reform amidst these adverse implications, NRB has issued suitable directives to run commercial banks in a healthy competitive manner to ensure the sustainable developments of the overall banking system. As the banking sector is highly affected by various negative factors of the economy, this sector is facing numerous problems as stated above. By the year 2070 B. S. all commercial banks are required to have capital base of two billion. It is felt that some commercial banks will have difficulty to fulfill these requirements. As per one of the current directions issued by Nepal Rastra Bank, commercials banks are required to

arrange for loan loss provision as per the classification of loans advances. In this situation, the following problems are especially focused for this research study.

- What is the current capital adequacy position of selected commercial banks?
- Have the Commercial banks maintained their capital adequacy position according to NRB directive?
- What is the loan loss provision of selected commercial banks?
- Have the Commercial banks maintained their loan loss provision according to NRB directive?

1.3 Objectives of the Study

NRB has under taken various activities for the banking and financial development since its establishment. NRB has issued various directives for commercial banks and other financial institutions for regulation, supervision and monitoring. The overall objective of the study is to review directives of the NRB related to commercial banks. However, special attention is given to capital adequacy and loan loss provision of commercial banks. The specific objectives of this study are given below.

- To assess capital adequacy position of selected commercial banks and compare their performance with the concerned directives of NRB.
- To study the loan loss provision of selected commercial banks and compares their provision with the concerned directive of NRB.
- To make necessary recommendations to the commercial banks and Nepal Rastra Bank for improvement in the findings of the early two objectives of this study.

1.4 Significance of the Study

The present study is to find out the capital adequacy and loan loss provisions of Nepalese commercial banks. As the research done in any field there are several key factors that cannot be avoided, in which significance of study also occurs. Mainly this study covers the capital adequacy and loan loss provisions of commercial banks, so it helps to reveal the financial position of banks and study occupies an important role in the series of the studies on commercial banks. The significances of the study are as follows.

- Important to policy formulator and also be useful for academic professionals, students particularly those involves in commerce, CA and financial institutions to formulate policies and plans on the basis of the performance of the bank.
- This study will be helpful to management of the selected commercial bank of Nepal to make effective profit planning strategy for future. This also will be valuable for researcher, students who want to investigate into the investment and profitability of the selected commercial bank of Nepal. It will also be important to the bank, investors and stakeholders concerned.
- The study enlightens the shareholders, depositors, creditors, NRB, Tax office etc. about the financial performance of the bank.
- The financial agencies including stock exchanges and stock traders interested in the performance of the bank as well as the customer, depositor and debtors can identify the better bank to deal with in terms of profitability, safety and liquidity.

1.5 Limitations of the Study

Every research work has some limitations. The major limitations of the study are as follows.

- Nepal Rastra Bank issues the different types of directives, guidelines, policy and rules for the smooth operation of banking and financial institutions and other economic activities of the country but this study is concerns only with the directives issued by NRB for the banking and financial institutions.
- To find out the compliance of the directives issued, the study does not focus on all the financial institutions. The study is only made for the commercial banks.
- There are 32 commercial banks are operated in Nepal. It is almost impossible to take in account all the banks and make the study on them. Therefore, only three banks are taken into account for the study i.e. NABIL, SCBNL & EBL. These three banks are joint venture banks and play a vital role in the economic development of Nepal. In addition, all are the successful with providing quality service to the customers.
- This study covers only five fiscal year data since, 2064/065 to 2068/069 for the research purpose.

- This study is concern only the capital adequacy and loan loss provision of commercial banks.

1.6 Organization of the Study

The research will be divided into five chapters. The first chapter introduces background of study, Profile of the sample companies, statement of problem, objective of the study, significance of the study, limitations of the study and organization of the study. The second chapter includes pilot studies and textual concepts with regard to conceptual framework on Capital, loan, loan loss provision along with the review of major books, journal, research work etc. The third chapter includes research design, population & sample, sources and types of data, data processing technique and method & tools of data analysis. The fourth chapter deals with the presentation and analysis of data. It analyses the data and interprets the results using different financial and statistical tools, table, chart and graphs. The last chapter of the study summarizes the result of analysis and suggestive framework. Besides these, bibliography and annexure are presented at the end of the thesis. Similarly acknowledgements, table of contents, list of tables, list of figures, abbreviations are included in the front part of the thesis report.

CHAPTER - II

REVIEW OF LITERATURE

This chapter focuses on the review of literature, research studies and other pertinent prepositions in the related field study, textbooks and reference books relevant to the capital and loan loss of commercial banks in Nepal particularly different journals, Article, Annual reports and some research paper related with this topic .This chapter is arranged into the following manner.

1. Conceptual Review
2. Review of Related study
   - Review of Legal Provisions
   - Review of Journals and Articles.
   - Review of Thesis

2.1 Conceptual Review

Conceptual Review provides the fundamental theoretical frame work and foundation to the present study. Hence books, research paper etc. dealing with theoretical aspects of capital, loan, investment are taken into consideration.

2.1.1 Concept of Capital

Capital is the cash or goods used to generate income by investing in a business or a different income property. The net worth of a business that is, the amount by which its assets exceed its liabilities. The money, property & other valuables which collectively represent the wealth of an individual or business (www.investorwords.com).

In classical and neoclassical economics, capital is one of the factors of production. The others are land, labor and, according to some proponents, organization, entrepreneurship, or management. Goods with the following features are capital;

- It can be used in the production of other goods (this is what makes it a factor of production).

- It was produced, in contrast to "land", which refers to naturally occurring resources such as geographical locations and minerals.
- It is not used up immediately in the process of production unlike raw materials or intermediate goods. (The significant exception to this is depreciation allowance, which like intermediate goods, is treated as a business expense.)

These distinctions of convenience have carried over to contemporary economic theory. There was the further clarification that capital is a stock. As such, its value can be estimated at a point in time. By contrast, investment, as production to be added to the capital stock, is described as taking place over time ("per year"), thus fallow.

Earlier illustrations often described capital as physical items, such as tools, buildings, and vehicles that are use in the production process. Since at least the 1960s, economists have increasingly focused on broader forms of capital. For example, investment in skills and education can be view as building up human capital or knowledge capital, and investments in intellectual property can be view as building up intellectual capital. These terms lead to certain questions and controversies discussed in those articles.

Financial capital, which represents obligations, and is liquidated as money for trade, and owned by legal entities. It is in the form of capital assets, traded in financial markets. Its market value is not based on the historical accumulation of money invested but on the perception by the market of its expected revenues and of the risk entailed.

Capital is termed in different ways by different scholars and professionals. Economics speak of as wealth, businesspersons speak of it as total assets whereas the accountant as net assets or stockholders interest as shown by the balance sheet or the net worth of the shareholders equity. Similarly, a lawyer calls it capital stock. Whatever may be the term used, capital is the fund raised to finance different assets, short-term or long-term. Therefore, capital is a mix of long-term as well as short-term funds. (Bhattarai, 2008: p3).

2.1.2 Capital Requirement

Capital requirement refers to the standardized requirements in place for banks and other depository institutions, which determines how much capital is required to be held for a certain level of assets through regulatory agencies such as the Bank for International

Settlements, Federal Deposit Insurance Corporation or Federal Reserve Board. These requirements are put into place to ensure that these institutions are not participating or holding investments that increase the risk of default and that they have enough capital to sustain operating losses while still honoring withdrawals. Also known as "regulatory capital".

A vital element of the work of any industry regulator is to ensure that the firms operating in the industry are prudently managing. The aim is to protect the firms themselves, their customers and the economy, by establishing rules and principles that should ensure the continuation of a safe and efficient market, able to withstand any foreseeable problems.

The Basel Accords, published by the Basel Committee on Banking Supervision housed at the Bank for International Settlements, sets a framework on how banks and depository institutions must calculate their capital. In 1988, the Committee decided to introduce a capital measurement system commonly referred to as Basel I. This framework has been replaced by a significantly more complex capital adequacy framework commonly known as Basel II. After 2012 it will be replaced by Basel III. Another term commonly used in the context of the frameworks is Economic Capital, which can be thought of as the capital level bank shareholders would choose in absence of capital regulation.

The capital ratio is the percentage of a bank's capital to its risk-weighted assets. Weights are defined by risk-sensitivity ratios whose calculation is dictated under the relevant Accord. Basel II requires that the total capital ratio must be no lower than 8%. Each national regulator normally has a very slightly different way of calculating bank capital, designed to meet the common requirements within their individual national legal framework.

Most developed countries implement Basel I and II, stipulate lending limits as a multiple of a bank’s capital eroded by the yearly inflation rate. The five Cs of Credit - Character, Cash Flow, Collateral, Conditions and Capital- have been replaced by one single criterion. While the international standards of bank capital were laid down in the 1988 Basel I accord, Basel II makes significant alterations to the interpretation, if not the calculation, of the capital requirement. Examples of national regulators implementing Basel II include the FSA in the UK, BaFin in Germany, OSFI in Canada, Banca d'Italia in Italy.

In the United States, depository institutions are subject to risk-based capital guidelines issued by the Board of Governors of the Federal Reserve System (FRB).[4] These guidelines are used to evaluate capital adequacy based primarily on the perceived credit risk associated with balance sheet assets, as well as certain off-balance sheet exposures such as unfunded loan commitments, letters of credit, and derivatives and foreign exchange contracts. The risk-based capital guidelines are supplemented by a leverage ratio requirement. To be adequately capitalizing under federal bank regulatory agency definitions, a bank holding company must have a Tier 1 capital ratio of at least 4%. A combined Tier 1 and Tier 2 capital ratio of at least 8%, and a leverage ratio of at least 4%, and not be subject to a directive, order, or written agreement to meet and maintain specific capital levels. To be well capitalizing under federal bank regulatory agency definitions, a bank holding company must have a Tier 1 capital ratio of at least 6%. a combined Tier 1 and Tier 2 capital ratio of at least 10%, and a leverage ratio of at least 5%, and not be subject to a directive, order, or written agreement to meet and maintain specific capital levels. These capital ratios are reporting quarterly on the Call Report or Thrift Financial Report. Although Tier 1 capital has traditionally been emphasize, in the Late-2000s recession regulators and investors began to focus on tangible common equity, which is different from Tier 1 capital in that it excludes preferred equity.

2.1.3 Regulatory capital

In the Basel II accord bank, capital has been dividing into two "tiers" each with some subdivisions.

2.1.3.1 Tier 1 capital

Tier 1 capital, the more important of the two, consists largely of shareholders' equity and disclosed reserves. This is the amount paid up to originally purchase the stock (or shares) of the Bank (not the amount those shares are currently trading for on the stock exchange), retained profits subtracting accumulated losses, and other qualifiable. Tier 1 capital securities (see below). In simple terms, if the original stockholders contributed $100 to buy their stock and the Bank has made $10 in retained earnings each year since, paid out no dividends, had no other forms of capital and made no losses, after 10 years the Bank's tier one capital would be $200. Shareholders equity and retained earnings are now

commonly referring to as "Core" Tier 1 capital, whereas Tier 1 is core Tier 1 together with other qualifying Tier 1 capital securities.

In India, the Tier 1 capital is defined as "'Tier I Capital' means "owned fund" as reduced by investment in shares of other non-banking financial companies and in shares, debentures, bonds, outstanding loans and advances including hire purchase and lease finance made to and deposits with subsidiaries and companies in the same group exceeding, in aggregate, ten per cent of the owned fund and perpetual debt instruments issued by a Systemically important non-deposit taking non-banking financial company in each year to the extent it does not exceed 15% of the aggregate Tier I Capital of such company as on March 31 of the previous accounting year;" (as per Non-Banking Financial (Non - Deposit Accepting or Holding) Companies Prudential Norms (Reserve Bank Directions, 2007) In the context of NBFCs in India, the Tier I capital is nothing but Net Owned Funds. “Owned fund” means paid up equity capital, preference shares that are compulsorily convertible into equity, free reserves, balance in share premium account and capital reserves representing surplus arising out of sale proceeds of asset, excluding reserves created by revaluation of asset, as reduced by accumulated loss balance, book value of intangible assets and deferred revenue expenditure, if any.

2.1.3.2 Tier 2 (Supplementary) Capital

Tier 2 capitals or supplementary capital is includes undisclosed reserves, revaluation reserves, general provisions, hybrid instruments and subordinated term debt.

a. Undisclosed Reserves

Undisclosed reserves are not common, but are accept by some regulators where a Bank has made a profit but this has not appeared in normal retained profits or in general reserves. Most of the regulators do not allow this type of reserve because it does not reflect a true and fair picture of the results.

b. Revaluation reserves

A revaluation reserve is a reserve created when a company has an asset revalued and an increase in value is brought to account. A simple example may be where a bank owns the land and building of its headquarters and bought them for $100 a century ago. A current

revaluation is very likely to show a large increase in value. The increase would be add to a revaluation reserve.

c. General Provisions

A general provision is creating when a company is aware that a loss may have occurred but is not certain of the exact nature of that loss. Under pre-IFRS accounting standards, general provisions were commonly create to provide for losses that were expects in the future. As these did not represent incurred losses, regulators tended to allow them to be count as capital.

d. Hybrid Debt Capital Instruments

They consist of instruments, which combine certain characteristics of equity as well as debt. They can be included in supplementary capital if they are able to support losses on an on-going basis without triggering liquidation. Sometimes, it includes instruments, which are initially issued with interest obligation (e.g. Debentures), but the same can later be converted into capital.

e. Subordinated-Term Debt

Subordinated debt is class as Lower Tier 2 debt, usually has a maturity of a minimum of 10 years and ranks senior to Tier 1 debt, but subordinate to senior debt. To ensure that the amount of capital outstanding does not fall sharply once a lower Tier 2 issue matures. In addition, for example, not be replaced, the regulator demands that the amount that is qualifiable as Tier 2 capital amortizes (i.e. reduces) on a straight-line basis from maturity minus 5 years (e.g. a 1bn issue would only count as worth 800m in capital 4years before maturity). The remainder qualifies as senior issuance. For this reason many Lower Tier 2 instruments were issued as 10yr non-call 5 year issues (i.e. final maturity after 10yrs but callable after 5yrs). If not called, issue has a large step - similar to Tier 1 - thereby making the call more likely.

2.1.4 Capital Adequacy Ratio (CAR)

Capital adequacy ratio is also call Capital to Risk (Weighted) Assets Ratio (CRAR).is a ratio of a bank's capital to its risk. National regulators track a bank's CAR to ensure that

it can absorb a reasonable amount of loss and complies with statutory Capital requirements.

Capital adequacy ratios (CAR) are a measure of the amount of a bank's core capital expressed as a percentage of its risk-weighted asset.

Capital adequacy ratio is define as;

$$CAR = \frac{Tire1Capit\ al + Tire2\ Capital}{Resk\ Weigh\ ted\ Assets}$$

TIER 1 CAPITAL = (paid up capital + statutory reserves + disclosed free reserves) - (equity investments in subsidiary + intangible assets + current & b/f losses)

TIER 2 CAPITAL = Undisclosed Reserves + General Loss reserves + Hybrid Debt Capital Instruments + Subordinated Debts

Where,

Risk can either be weighted assets (a) or the respective national regulator's minimum total capital requirement. If using risk weighted assets,

$$CAR = \frac{T1 + T2}{a} \geq 10$$

The percent threshold varies from bank to bank (10% in this case, a common requirement for regulators conforming to the Basel Accords) is set by the national banking regulator of different countries.

Two types of capital are measured: tier one capital (T_1), which can absorb losses without a bank being required to cease trading, and tier two capital (T_2, above), which can absorb losses in the event of a winding-up and so provides a lesser degree of protection to depositors.

2.1.5 Use of Capital Adequacy Ratio (CAR)

Capital adequacy ratio is the ratio, which determines the bank's capacity to meet the time liabilities and other risks such as credit risk, operational risk, etc. In the simplest

formulation, a bank's capital is the "cushion" for potential losses, and protects the bank's depositors and other lenders. Banking regulators in most countries define and monitor CAR to protect depositors, thereby maintaining confidence in the banking system.

CAR is similar to leverage in the most basic formulation, it is comparable to the inverse of debt-to-equity leverage formulations (although CAR uses equity over assets instead of debt-to-equity; since assets are by definition equal to debt plus equity, a transformation is required). Unlike traditional leverage, however, CAR recognizes that assets can have different levels of risk.

2.1.6 Risk Weighting

Since different types of assets have different risk profiles, CAR primarily adjusts for assets that are less risky by allowing banks to "discount" lower-risk assets. The specifics of CAR calculation vary from country to country, but general approaches tend to be similar for countries that apply the Basel Accords. In the most basic application, government debt is allowing a 0% "risk weighting" - that is, they are subtracting from total assets for purposes of calculating the CAR.

2.1.6.1 Risk weighted Assets - Fund Based

Risk weighted assets mean fund based assets such as cash, loans, investments and other assets. Degrees of credit risk expressed as percentage weights have been assign by RBI to each such assets.

2.1.6.2 Non-Funded (Off-Balance Sheet) Items

The credit risk exposure attached to off-balance sheet items has to be first calculating by multiplying the face amount of each of the off-balance sheet items by the Credit Conversion Factor. This will then have to be again multiplying by the relevant weight age.

Local regulations establish that cash and government bonds have a 0% risk weighting, and residential mortgage loans have a 50% risk weighting. All other types of assets (loans to customers) have a 100% risk weighting.

For Example, Bank "A" has assets totaling 100 units, consisting of;

- Cash: 10 units
- Government bonds: 15 units
- Mortgage loans: 20 units
- Other loans: 50 units
- Other assets: 5 units

Bank "A" has debt of 95 units, all of which are deposits. By definition, equity is equal to assets minus debt, or 5 units.

Bank A's risk-weighted assets are calculated as follows

Cash	10 × 0% = 0
Government securities	11 × 0% = 0
Mortgage loans	20 × 50% = 10
Other loans	50 × 100% = 50
Other assets	5 × 100% = 5
Total Risk Weighted assets	65
Equity	5
CAR (Equity/RWA)	7.69%

Even though *Bank "A"* would appear to have a debt-to-equity ratio of 95:5, or equity-to-assets of only 5%, its CAR is substantially higher. It is considered less risky because some of its assets are less risky than others.

2.1.7 Concept of Loan

The term ‘loan’ refers to the amount borrowed by one person from another. The amount is in the nature of loan and refers to the sum paid to the borrower. Thus, from the viewpoint of borrower, it is ‘borrowing’ and from the viewpoint of bank, it is ‘lending’. Loan may be regarded as ‘credit’ granted where the money is disbursed and its recovery is made on a later date. It is a debt for the borrower. While granting loans, credit is given for a definite purpose and for a predetermined period. Interest is charged on the loan at agreed rate and intervals of payment. ‘Advance’ on the other hand, is a ‘credit facility’ granted by the bank. Banks grant advances largely for short-term purposes, such as

purchase of goods traded in and meeting other short-term trading liabilities. There is a sense of debt in loan, whereas an advance is a facility being availed of by the borrower. However, like loans, advances are also to be repaid. Thus a credit facility- repayable in installments over a period is termed as loan while a credit facility repayable within one year may be known as advances. However, in the present lesson these two terms are used interchangeably.

A loan is a type of debt. Like all debt instruments, a loan entails the redistribution of financial assets over time, between the lender and the borrower. In a loan, the borrower initially receives or borrows an amount of money, called the principal, from the lender, and is obligated to pay back or repay an equal amount of money to the lender later. Typically, the money is paying back in regular installments, or partial repayments; in an annuity, each installment is the same amount.

The loan is generally providing at a cost, referred to as interest on the debt, which provides an incentive for the lender to engage in the loan. In a legal loan, each of these obligations and restrictions is enforce by contract, which can also place the borrower under additional restrictions known as loan covenants. Although this article focuses on monetary loans, in practice any material object might be lent. Acting as a provider of loans is one of the principal tasks for financial institutions. For other institutions, issuing of debt contracts such as bonds is a typical source of funding.

This is the major assets of a bank commanding higher proportion of total assets of any bank. This is also a primary function of bank. Primarily, banks are there to accept deposit and to advance credit. Legally, a loan is a contractual promise between two parties where one party, the creditor, agrees to provide a sum of money to a debtor, who promises to return the money to the creditor either in one lump sum or in parts over a fixed period in time. In addition to the principal, the lending institution generally charges the borrower a fee, referred to as interest on the debt, for the privilege of using this newly-created money. This interest is the major source of income for any bank, which covers interest to be paid to deposit holders and other operational costs like staff salary, rent, utility bills, stationeries etc. Where there is lending there always is risk of default. In finance, default occurs when a debtor has not met its legal obligations according to the debt contract, e.g. it has not made a scheduled payment, or has violated a loan covenant (condition) of the

debt contract. It is the failure to pay back a loan. Default may occur if the debtor is either unwilling or unable to pay their debt.

2.1.8 Types of Loan

2.1.8.1 Overdraft/Cash Credit

In this type of facility, a credit limit is given to the borrower. A credit limit is the maximum amount of credit that a bank will extend to a borrower. This limit is based on a variety of factors ranging from an individual's ability to make interest payments, an organization's cash flow and/or ability to repay the principal, need of the borrower to the credit standards employed by the lender. A credit limit is also based on the borrower's recoverable assets in the event of default. There is no restriction on deposit and withdrawal of funds up to the credit limit and interest is charged only on the amount utilized. Interest is recovered on quarterly basis. Such line of credit is extended initially for a year but renewable for further period. This type of facility is generally extended to businesses for meeting their working capital need.

2.1.8.2 Demand Loan

This type of facility has no specific maturity date, but payable at any time. But for convenience in practice it is generally extended for period ranging from 3 months to 3 years. Only interest is paid until the principal is paid off, or until the lender demands repayment of principal. The borrower may, however, pay off the loan early, without incurring a prepayment penalty.

2.1.8.3 Trust Receipt Loans

These types of loans are generally extended against import documents like bills and letter of credit. When any borrower import some merchandise via Letter of Credit, then these documents are retired by booking the Trust Receipt Loans. As these types of facilities can be closely monitored they bear lower interest rate than Cash Credit/Overdraft accounts as they are considered comparatively safe. These types of loans are extended for maximum 90 days, as directed by Nepal Rastra Bank (NRB).

2.1.8.4 Term Loans

These are the types of loans that have maturity period more than one year. These types of loans are generally extended for acquisition of fixed assets like Plant & Machinery, Land & Building and Vehicles etc. The loan is repayable in fixed installments and repaid amount can't be withdrawn again. The nonpayment of installment is considered serious. These types of loans are repaid from the Cash Accruals of the business but not from the Sales Revenue.

2.1.8.5 Retail /consumer loan

a. Hire Purchase Loan

The Bank extends Hire Purchase Loan for purchase of new vehicles, (including body making in case of commercial vehicles) to individuals as well as companies. The bank also finances equipment such as medical equipment, construction equipment, manufacturing machinery equipments under Hire Purchase Financing.

b. Housing Loan

Housing Loan is available to purchase readymade / under construction building (including land cost), construct a building on an already owned land, for purchase of adjacent land or extension of existing building.

c. Credit Card Loan

The bank extends credit to individuals through credit cards that could be payable on monthly installment basis (credit card), fixed tenure basis (capital asset financing), etc.

d. Loan against Fixed Deposit Receipt

The Bank extends Loan against the Fixed Deposit Receipt issued by the Bank itself or by other Banks (in Nepal). Generally, up to 90% of the FDR value can be disbursed as Loan.

e. Loan against Government Bonds & Bonds of Bank

The Bank extends loans against various Bonds / Stocks/ Promissory notes issued by the Government/ Nepal Rastra Bank. Under this, up to 90% of the value of such Bonds can be disbursed as Loan. Similarly, the bank can extend loans against bonds issued by commercial banks.

f. Loan against First Class Bank Guarantees

The Bank extends various credit facilities, funded as well as non-funded, against unconditional guarantees issued by First Class International Banks.

g. Loan against Shares

The Bank also advances loan against listed shares of Public Ltd. companies.

2.1.8.6 Small and Medium Enterprises Loan

As a step further to help establishment, growth and expansion of small and medium sized enterprises, Himalayan Bank has developed a special loan package meant just to suit small and medium sized enterprises. Business houses coming from industrial, trading and service sector can avail of this facility to meet their short-term and long-term financing needs. This could come in any form- funded or non-funded, depending on specific needs of the business enterprise:

- Funded/Non-Funded Facility in range of Rs. 0.5 M to Rs. 40.0 M

The interest rates applicable on small and medium sized enterprise loan package range between 10.00% and 12.50% per annum and this depends upon the type of facility.

2.1.9 Classification of Loans & Advances

a. Pass Loan

All Loans & Advances the principal or interest of which are not past due or past due for a period up to three months are included in this category. (Unified NRB Directives 2068) The banks should make a loan loss provisioning of minimum 1% on outstanding loan for this category of loan. The following loans and advances are categorized under pass loans.

- Loan and advances against Gold and Silver.
- Loan and advances against Fixed Deposit Receipt (FDR).
- Loan and advances against Investment Papers of Government and debentures and bond of Nepal Rastra Bank.

b. Substandard

All loans and advances the principal or interest of which are past due for a period of more than 3 months and up to 6 months are included in this category. (Unified NRB Directives 2069) The banks should make a loan loss provisioning of minimum 25% on outstanding loan for this category of loan.

c. Doubtful

All loans and advances the principal or interest of which are past due for a period of more than 6 months and up to 12 months (1 year) are included in this category. (Unified NRB Directives 2069) The banks should make a loan loss provisioning of minimum 50% on outstanding loan for this category of loan.

d. Loss

All loans and advances the principal or interest of which are past due for a period of more than 1 year are included in this category. (Unified NRB Directives 2069) The banks should make a loan loss provisioning of 100% on outstanding loan for this category of loan. Expired TR loans and Credit Card loans should be categorize under Loss category immediate after their expiry.

2.1.10 Loan Rescheduling and Restructuring

When the loan becomes NPA due to factors beyond control of the borrower, the borrower is not a willful defaulter, and the borrower wants to repay loan according to his capacity then the loan can be reschedule or restructurer. The term “reschedule” means process of extending repayment period either by increasing the loan tenure with lower installments amount or by extending maturity by providing moratorium period and the term ”restructure” means process of changing the nature or conditions of loan/facility, adding or deleting of conditions and change the limit. (Unified NRB Directives 2069) The banks

should make a loan loss provisioning of minimum 12.5% on outstanding loan for this category of loan.

2.2 Review of Legal Provision

2.2.1 Introduction of Capital Adequacy Framework

Prior to 1988, there was no uniform international regulatory standard for setting bank capital requirements. In 1988, the Basel Committee on Banking Supervision (BCBS) developed the Capital Accord, which is known as Basel I, to align the capital adequacy requirements applicable especially to banks in G-10 countries. Basel I introduced two key concepts. First, it defined what banks could hold as capital, as well as designating capital as Tier 1 or Tier 2 according to its loss-absorbing or creditor-protecting characteristics. The second key concept introduced in Basel I was that capital should be held by banks in relation to the risks that they face. The major risks faced by banks relate to the assets held on balance sheet. Thus, Basel I calculated banks' minimum capital requirements as a percentage of assets, which are adjusted in accordance to their riskiness and assigning risk weights to assets. Higher weights are assigned to riskier assets such as corporate loans, and lower weights are assigned to less risky assets, such as exposures to government.

The BCBS released the "International Convergence of Capital Measurements and Capital Standards: Revised Framework", popularly known as Basel II, on June 26, 2004. This framework was updated in November 2005 and a comprehensive version of the framework was issued in June 2006. Basel II builds significantly on Basel I by increasing the sensitivity of capital to key bank risks. In addition, Basel II recognizes that banks can face a multitude of risks, ranging from the traditional risks associated with financial intermediation to the day-to-day risks of operating a business as well as the risks associated with the ups and downs of the local and international economies. As a result, the new framework more explicitly associates capital requirements with the particular categories of major risks that banks face.

The new capital framework also recognizes that large, usually internationally active banks have already put in place sophisticated approaches to risk measurement and management based on statistical inference rather than judgement alone. Thus, the framework allows banks, under certain conditions, to use their own 'internal' models and techniques to

measure the key risks that they face, the probability of loss, and the capital required to meet those losses. In developing the new framework, the Basel Committee wanted to incorporate many elements that help promote a sound and efficient financial system over and above the setting of minimum capital requirements. With this in mind, the Basel II framework incorporates three complementary 'pillars' that draw on the range of approaches to help ensure that banks are adequately capitalised in commensurate with their risk profile.

The Basel Committees on Banking Supervision's (BCBS) recommendations on capital accord are important guiding framework for the regulatory capital requirement to the banking industry all over the world and Nepal is no exception. Realizing the significance of capital for ensuring the safety and soundness of the banks and the banking system, at large, Nepal Rastra Bank (NRB) has developed and enforced capital adequacy requirement based on international practices with appropriate level of customization based on domestic state of market developments. The existing regulatory capital is largely based on the Basel committee's 1988 recommendations. With a view of adopting the international best practices, NRB has already expressed its intention to adopt the Basel II framework, albeit in a simplified form. In line with the international development and thorough discussion with the stakeholders, evaluation and assessment of impact studies at various phases, this framework has been drafted. This framework provides the guidelines for the implementation of Basel II framework in Nepal. Reminiscent of the International convergence of capital measurements and capital standards, this framework also builds around three mutually reinforcing pillars, viz. minimum capital requirements, supervisory review process and disclosure requirements.

2.2.1.2 Objectives

The main objective of this framework is to develop safe and sound financial system by way of sufficient amount of qualitative capital and risk management practices. This framework is intended to ensure that each commercial banks maintain a level of capital which,

- Is adequate to protect its depositors and creditors,
- Commensurate with the risk associated activities and profile of the commercial bank.

- Promotes public confidence in the banking system.

The Basel Committee on Banking Supervision is a committee of banking supervisory authorities that was established by the central bank governors of the Group of Ten countries in 1975. It consists of senior representatives of bank supervisory authorities and central banks from Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States. It usually meets at the Bank for International Settlements in Basel, Switzerland where its permanent Secretariat is located.

2.2.1.3 Pre-Requisites

The effective implementation of this framework is dependent on various factors. Some such pre-requisites are:

- Implementation of Basel Core Principles for effective Banking Supervision
- Adoption of the sound practices for the management of Operational Risk
- Formulation and adoption of comprehensive risk management policy
- Adherence to high degree of corporate governance

2.2.1.4 Responsibility

The board of directors of each bank shall be responsible for establishing and maintaining, at all times, an adequate level of capital. The capital standards herein are the minimum that is acceptable for banks that are fundamentally sound, well managed, and which have no material financial or operational weaknesses. Thus, the banks are generally expected to operate above the limits prescribed by this framework.

2.2.1.5 Scope of Application

This framework shall be applicable to all "A" Class financial institutions licensed to conduct banking business in Nepal under the Bank and Financial Institution Act, 2063. This capital adequacy framework shall be applicable uniformly to all "A" class financial institutions on a stand-alone basis and as well as on a consolidated basis, where the bank is member of a consolidated banking group. For the purpose of capital adequacy, the consolidated bank means a group of financial entities, parent or holding company of

which a bank is a subsidiary. All banking and other relevant financial activities (both regulated and unregulated) conducted within a group including a bank shall be captured through consolidation. Thus, majority owned or controlled financial entities should be fully consolidated. If any majority owned subsidiaries institutions are not consolidated for capital purposes, all equity and other regulatory capital investments in those entities

attributable to the group will be deducted and the assets and liabilities, as well as third party capital investments in the subsidiary will be removed from the bank's balance sheet for capital adequacy purposes.

2.2.1.6 Approaches to Implementation

"International Convergence for Capital Measurements and Capital Standards: Revised Framework" alias Basel II under Pillar 1, provides three distinct approaches for computing capital requirements for credit risk and three other approaches for computing capital requirements for operational risk. These approaches for credit and operational risks are based on increasing risk sensitivity and allow banks to select an approach that is most appropriate to the stage of development of bank's operations. The product and services offered by the Nepalese Banks are still largely primitive and conventional, in comparison to other economies. This coupled with the various inherent limitations of our system like the absence of credit rating agencies makes the advanced approaches like Internal Ratings Based Approach or even Standardized Approach impractical and unfeasible. Thus, at this juncture, this framework prescribes Simplified Standardized Approach (SSA) to measure credit risk while Basic Indicator Approach and an indigenous Net Open Position Approach for measurement of Operational Risk and Market Risk respectively.

2.2.1.7 Implementation of Advanced Approaches

This framework prescribes the most simplest of the available approaches at the initial phase with a vision to move onto more complex and risk sensitive approaches as the market gradually gains maturity. However, banks willing to adopt advanced approaches, even for internal purposes, should obtain prior written approval from Nepal Rastra Bank on providing evidences that they have the resource and the capability to adopt the proposed approaches.

A bank will not be allowed to choose to revert to a simpler approach once it has been approved for a more advanced approach without supervisory approval. However, if a supervisor determines that a bank using a more advanced approach no longer meets the qualifying criteria for advanced approach, it may allow the bank to revert to a simpler approach for some or all of its operations, until it meets the conditions specified by the supervisor for returning to a more advanced approach.

2.2.1.8 Eligible Capital Funds

a. Core Capital (Tier 1)

The key element of capital on which the main emphasis should be placed is the Tier 1 (core) capital, which comprises of equity capital and disclosed reserves. This key element of capital is the basis on which most market judgments of capital adequacy are made; and it has a crucial bearing on profit margins and a bank's ability to compete. The BCBS has therefore concluded that capital, for supervisory purposes, should be defined in two tiers in a way, which will have the effect of requiring at least 50% of a bank's capital base to consist of a core element comprised of equity capital and published reserves from post-tax retained earnings. In order to rank as Tier 1, capital must be fully paid up, have no fixed servicing or dividend costs attached to it and be freely available to absorb losses ahead of general creditors. Capital also needs to have a very high degree of permanence if it is to be treated as Tier 1.

b. Supplementary Capital (Tier 2)

The Supplementary (Tier 2) Capital includes reserves which, though unpublished, have been passed through the profit and loss account and all other capital instruments eligible and acceptable for capital purposes. Elements of the Tier 2 capital will be reckoned as capital funds up to a maximum of 100 percent of Tier 1 capital arrived at, after making adjustments referred to in 2.4. In case, where the Tier 1 capital of a bank is negative, the Tier 2 capital for regulatory purposes shall be considered as zero and hence the capital fund, in such cases, shall be equal to the core capital.

Elements of Tier 1 Capital

- Paid up Equity Capital.
- Irredeemable non-cumulative preference shares which are fully paid-up and with the capacity to absorb unexpected losses. These instruments should not contain any clauses whatsoever, which permit redemption by the holder or issuer upon fulfillment of certain condition. Banks should obtain prior approval of NRB for this kind of instruments to qualify as a component of core capital.
- Share Premium
- Proposed Bonus Equity Share
- Statutory General Reserve.
- Retained Earnings available for distribution to shareholders.
- Un-audited current year cumulative profit, after all provisions including staff bonus and taxes. Where such provisions are not made, this amount shall not qualify as Tier 1 capital.
- Capital Redemption Reserves created in lieu of redeemable instruments.
- Capital Adjustment reserves created in respect of increasing the capital base of the bank.
- Dividend Equalization Reserves.
- Any other type of reserves notified by NRB from time to time for inclusion in Tier 1 capital

Elements of Tier 2 Capital

- Cumulative and/or redeemable preference shares with maturity of five years and above.
- Subordinated term debt fully paid up with a maturity of more than 5 years; unsecured and subordinated to the claim of other creditors, free of restrictive clauses and not redeemable before maturity. Since, subordinated term debt is not normally available to participate in the losses; the amount eligible for inclusion in the capital adequacy calculations is limited to 50% of core capital. Moreover, to reflect the diminishing value of these instruments as a continuing source of strength, a cumulative discount (amortization) factor of 20% per annum shall be applied for capital adequacy computations, during the last 5 years to maturity. The

banks should obtain written approval of NRB for including any subordinated debt instruments (like Debenture/Bonds) in supplementary (Tier-2) capital.

- Hybrid capital instruments. Those instruments which combine certain characteristics of debt and certain characteristics of equity. Each such instrument has a particular feature, which can be considered to affect its quality as capital. Where these instruments have close similarities to equity, in particular when they are able to support losses on an ongoing basis without triggering liquidation, they may be included in Tier 2 capital with approval from Nepal Rastra Bank.
- General loan loss provision limited to a maximum of 1.25% of total Risk Weighted Exposures. General loan loss provision refers to the provisions created in respect of Pass Loans only and it does not include provisions of rescheduled/restructured and classified loans. The additional loan loss provisions created in respect of Personal Guarantee loans and loans in excess of Single Obligor Limits are specific provisions and hence cannot be included under this category. Such provisions however can be deducted from the gross exposures while calculating risk weighted exposures for credit risk. However, provisions created in excess of the regulatory requirements or provisions which is not attributable to identifiable losses in any specific loans shall be allowed to be included in the General Loan Loss Provision and shall be eligible for Tier II capital subject to a maximum of 1.25% of total risk weighted exposures.
- Exchange equalization reserves created by banks as a cushion for unexpected losses arising out of adverse movements in foreign currencies.
- Investment adjustment reserves created as a cushion for adverse price movements in bank's investments falling under “Available for Sale” category.
- Revaluation reserves often serve as a cushion against unexpected losses but may not be fully available to absorb unexpected losses due to the subsequent deterioration in market values and tax consequences of revaluation. Therefore, revaluation reserves will be eligible up to 50% for treatment as Tier 2 capital and limited to a maximum of 2% of total Tier 2 capital subject to the condition that the reasonableness of the revalued amount is duly certified by the internal auditor of the bank.
- Any other type of reserves notified by NRB from time to time for inclusion in Tier 2 capital

Deductions from Core (Tier 1) Capital

Banks shall be required to deduct the following from the Tier 1 capital for capital adequacy purposes. The claims that have been deducted from core capital shall be exempt from risk weights for the measurement of credit risk.

- Book value of goodwill.
- Miscellaneous expenditure to the extent not written off. e.g. VRS expense, preliminary expense, share issue expense, deferred revenue expenditure, etc. However, software expenditure or software development expenditure, research and development expenditure, patents, copyrights, trademarks and lease hold developments booked as deferred revenue expenditure are subject to 100% risk weight and may not be deducted from Tier 1 capital.
- Investment in equity of financial institutions licensed by Nepal Rastra Bank .
- All Investments in equity of institutions with financial interest.
- Investments in equity of institutions in excess of the prescribed limits.
- Investments arising out of underwriting commitments that have not been disposed within a year from the date of commitment.
- Reciprocal crossholdings of bank capital artificially designed to inflate the capital position of the bank.
- Any other items as stipulated by Nepal Rastra Bank, from time to time.

2.2.1.9 Capital Funds

The capital fund is the summation of Tier 1 and Tier 2 capital. The sum total of the different components of the tier 2 capitals will be limited to the sum total of the various components of the Tier 1 capital net of deductions as specified in 2.4. In case the Tier 1 capital is negative, Tier 2 capital shall be considered to be "Nil" for regulatory capital adequacy purposes and hence, in such a situation, the capital fund shall be equal to the Tier 1 capital.

2.2.1.10 Minimum Capital Requirements

Unless a higher minimum ratio has been set by Nepal Rastra Bank for an individual bank through a review process, every bank shall maintain at all times, the capital requirement set out below:

- A Tier 1 (core) capital of not less than 6 per cent of total risk weighted exposure;
- A total capital fund of not less than 10 per cent of its total risk weighted exposure.

The Capital Adequacy Ratio (CAR) is calculated by dividing eligible regulatory capital by total risk weighted exposure. The total risk weighted exposure shall comprise of risk weights calculated in respect of bank's credit, operational and market risks. The methodologies to calculate RWE for each of these risk categories are described in detail in subsequent chapters.

2.2.2 Classification of Loan and Loan Loss

Nepal Rastra Bank Central Office Banks and Financial Institutions Regulation Department (Directive No. 2/069) *"Provisions Relating to Classification of Loans/advances and Loan Losses"* having exercised the powers conferred by Section 79 of the Nepal Rastra Bank Act, 2002, the following Directives have been issued with regard to classification of credit/advances and provisions to be made for its possible loss by the institutions obtaining licenses from this bank to carry out financial transactions.

2.2.2.1 Classification of loans/advances

Entire loans and advances extended by a licensed institution have to be classified as follows based on expiry of the deadline of repayment of the principal and interest.

a. Pass: Loans/advances which have not overdue and which are overdue by a period up to three months.

b. Sub-standard: Loans/advances which are overdue by a period from three months to a maximum period of six moths.

c. Doubtful: Loans/advances which are overdue by a period from six-months to a maximum period of one year.

d. Loss: Loans/advances which are overdue by a period of more than one year.

The loans which are in pass class and which have been rescheduled/restructured are called as "the performing loan, and the sub-standard, doubtful and loss categories are called non-performing loans (Note: Loans/advances also include bills purchased and discounted).

2.2.2.2 Additional provisions relating to pass loans

1. The following loans may be included in the pass loan

- Loans/advances extended against the collateral of gold and silver;
- Loans/advances of fixed receipts
- Loans/advances of Government of Nepal securities and loans/advances made against the collateral of Nepal Rastra Bank bonds

2. The working capital loan having the deadline of up to one year for repayment may be included in the pass loan class. In case the interest to be received from the loans of working capital nature is not regular, such loans have to be classified on the basis of the duration of interest to be due.

2.2.2.3 Additional Provisions Relating to Loss Loans

In case there seems any of the following discrepancies in any of the following loans, whether or not the deadline for repayment of which is expired, such loans and advances has to be categorized as the loss loan.

- The market price of the collateral cannot secure the loans
- The debtor is bankrupt or has been declared to be bankrupt.
- The debtor disappears or is not identified.
- In case non-fund based facilities such as purchased or discounted bills and L/C and guarantee which have been converted into fund-based loan, are not recovered within ninety days from the date of their conversion into loan.
- Loan is misused.
- Expiry of six months of the date of auction process after the loan could not be recovered or a case is pending at a count under the recovery process.

- Providing loan to a debtor who has been enlisted in the black-list of Credit Information Bureau Ltd.
- The Project/business is not in a condition to be operated or project or business is not in operation.
- The credit card loan is not written off within 90 days from the date of expiry of the deadline.
- While converting the L/C, guarantee and other possible liabilities into a fund-based loan under the regular process, if the said loan is not recovered within 90 days.
- In case of expiry of the deadline of a trust-receipt loan.

2.2.2.4 Provisions Relating to Rescheduling and Restructuring of Loans

1. In case a licensed institution is convinced on the following bases stated in the written action plan submitted by the debtor, it may rescheduled or retract the loan.

- Evidence showing that documents relating to loans and security are adequate.
- Bases on which the licensed institution is convinced of the possibility that the rescheduled or restructured loans would be recovered.
- In addition to submission of written plan of actions for rescheduling and restructuring loans at least 25 percent of the interest due to be paid until the date of rescheduling or restructuring of such a loan has been paid.

2. While rescheduling or restructuring the loans to the industries, which have been recommended by the Sick Industries Preliminary Inquiry and Recommendation Committee formed under Government of Nepal, a minimum of 12 percent of interest has to be paid, other procedures need to be fulfilled and rescheduling and restructuring shall have to be carried out making a provision for twenty-five percent loan loss. Provided that in the event where the loan has been rescheduled and restructured based on payment of less than 12 percent of interests, provision for loan loss has to be made based on the duration upon expiry of the deadline according to the prevailing provisions.

3. Description of the loans classified pursuant to classes (1) and (2) has to be separately prepared.

For this purpose, "Rescheduling" means the process of extending the time- limit of repayment of the loan availed by the customer. "Restructuring" means the process of changing the nature or terms and conditions of altering the restrictions on or changing the time limit of the credit facilities.

2.2.2.5 Provision to be maintaining for loan loss

1. For the loans and bills purchase classified according to these Directives, the following loan loss provision shall be maintain based on the remaining amount of principal.

- Pass ,1 percent
- Sub-standard, 25 percent
- Doubtful, 50 percent
- Loss loan/the loan extended to blacklisted, 100 percent

persons, firms, company or corporate body Provided that in case of the insured loans, it would be required to make provision of only 25 percent of the provision referred to in sub-clause (1).

2. In cases of the loans rescheduled and restructured, the following loan loss provision shall be made.

- The loans classified in the pass class at the time of rescheduling and restructuring shall, while rescheduling and restructuring, provision of at least 12.5 percent has to be made as loan loss, while rescheduling and restructuring the loans classified as substandard, doubtful and loss, no adjustment shall be allowed in the loan loss provision. In cases of the loans made available on an equal monthly installment, no loan loss provision shall have to be made in case of rescheduling and restructuring of the following of such loans if the principal and interest is regular.
    - In case amount of installment and number of installment is decreased because of prepayment of installment.
    - Due to change in the rate of interest having regard to the market situation, the duration of the loan and installment amount has been changed. In this context, if the rate of interest is increased and thereby by the duration and installment amount is increased, the installment amount determined at the time of

sanctioning the loan is not allowed to be decreased. Similarly, if the rate of interest is decreased and thereby the duration and number of installment are decreased, the installment amount determined at the time of sanctioning the loan is not allowed to be decreased.

- In case the installment of principal of the rescheduled and restructured loan and interest of two years, such loans may be converted into pass loans.
- No loans extended having pledged shares shall be rescheduled and restructured.

3. In the event of deprive sector lending made by licensed institution Bank and financial institution to deprived communities according to Directives of this Bank; if such loans have been secured through Deposit Insurance and Credit Guarantee Corporation or if other loans have also been insured an exemption of 75 percent has been made and provision for remaining 25 percent shall be required.

4. Banks and financial institution shall not provide any type of loan on the security of the memo (adhakatti) of an application to be submitted for share purchase at the time of initial public offering. In case of providing loan in such a way, the concerned bank or financial institution shall have to make cent percent loan loss provision.

5. While providing loan on personal/institutional guarantee, description of property equal in value to the amount of the personal guarantee and in sole ownership of the debtor and free of any claim of any one else shall compulsorily be obtained. Even the loans given only on the basis of personal/institutional guarantee shall also be classified as stated above in pass, substandard and doubtful as may be required and loan loss provision shall be made 20 percent more in addition to the percentage prescribed for that class. Even in the cases where personal guarantee has been taken for the collateral of physical property alone could not secure the loan, the provision for additional loan and stated above has to be made. Classifications of such loan has to be made separately.

6. No additional loan loss provision of 20 percent shall be require to be made in the loan loss provision of education loan and loans extended to micro-credit financial institutions and cooperative financial institution under the deprived sector lending by banks and financial institution on personal guarantee.

7. There is no restriction to classify loans and advances of higher class to lower class in case licensed institution so wishes. For an example, substandard loan may be classified as doubtful or loss loan and doubtful loan may be classified as loss loan.

2.2.2.6 Conditions for Adjustment in loan loss provision

No loan loss provision shall be allowed for adjustment except in the following conditions.

- In case the loan is written off.
- In the event where repayment of loan is in installment or in partial basis, the loan loss provision made to the extent of the loan so repaid may be written back and adjusted while maintaining loan loss provision according to loan classification.
- In the event of the loan is reclassified after loan rescheduling and restructuring, if the repayment of the principal and interest of the loan so rescheduled and restructured is regular for a consecutive period of two years. Details of such loans shall be separately prepared.

2.2.2.7 Loss Provisions and Auction of Non-Banking Assets

1. In case of the non-banking assets accepted by the licensed institution, cent percent loss provisions shall be made from the date of the acceptance.

2. In case of sale of the non-banking assets, necessary adjustment in the accounts of loss provision maintained for such property shall immediately be made.

3. While accepting collateral security as non-banking assets by licensed institution, the following provisions shall be applicable while selling the non-banking assets so accepted;

- While accepting the collateral property of a customer as non-banking assets whose outstanding loan amount is more than 2.5 million, the concerned party shall compulsorily be black-listed.
- Prior to auctioning the non-banking assets in the name of the institution, it shall have to be evaluated by an independent evaluator. No excessive/less evaluation shall be allowed.
- Transparent and clear provisions shall be made with regard to auction sale of collateral security/non-banking assets in Financial Administration Byelaws and

sales shall have to be carried out in such a manner to serve interest of the bank or financial institution.

- While accepting the non-banking assets in such a manner, entire property mortgaged as collateral that could not be sold by auction shall have to be accepted and it may not be accepted in part.
- The property so accepted shall have to be sold at the earliest to the extent possible. In case it is necessary for own purpose of the licensed institution, the same shall have to be approved by the Board of Directors and information thereof shall be made available to this Bank as well.

2.3 Review of Articles

Shrestha (2006) in attempt to evaluate *"Lending Operation of Commercial Banks of Nepal and its Impact on GDP"* conduct that has made an analysis of contribution of commercial banks, lending to the Gross Domestic Product (GDP) of Nepal. She has set hypothesis that there has been positive impact of lending of commercial banks to the GDP, in research methodology; she has considered GDP as the dependent variable and various sector of lending like agriculture, industrial, commercial service and general social sectors as independent variables. A multiple regression techniques have been applied to analyze the contribution.

The analysis shows that the entire variable except service sector lending has positive impact on GDP. Thus, in the conclusion she had accepted the hypothesis i.e. there has been positive impact on GDP and also she has accepted the hypothesis i.e. there has been positive impact by the lending of Commercial Banks in various investment.

Ahmad (2011) in attempt to evaluate *"Credit Appraisal Techniques"* conduct that Pakistan's leading business magazine suggests that forward-looking approach should be taken while making credit appraisals. The author has honors degree in Economics/Accounting and a MBA, both from British Universities. Subsequently he has gained over 20 years lending experience with Citibank and American Express Bank, in Pakistan and the Middle East. He has served on the Board of Directors of NDFC and Orix Investment Bank besides other Companies and is presently working as a Credit Advisor with Pakistan Kuwait Investment Company (Pvt.) Ltd. He suggests not to be overwhelmed by marketing or profit center reasons to book a loan but to take a balanced

view when booking a loan, taking into account the risk reward aspects. Generally we remain optimistic during the upswing of the business cycle, but tend to forget to see how the borrower will during the downturn, which is a shortsighted approach. Furthermore, we tend to place greater emphasis on financials, which are usually outdated; this is further exacerbated by the fact that a descriptive approach is usually taken, rather than an analytical approach, to the credit. Thus a forward-looking approach should also be adopted, since the loan will be repaid primarily from future cash flows, not historic performance; however both can be used as good repayment indicators. He suggests analyzing followings carefully while making short term lending decision:

- Company Profile / Ownership
- Proposed Transaction
- Source of repayment
- Security
- Financial Analysis
- Management Evaluation
- Organization Culture, Corporate strategy
- Risk Areas

He focuses that lending officer should have reliance on identifiable cash flows for the first way out to repay the loan rather than the security itself.

Westerfield (2011) *"Loan Loss Provisions*" Loan loss provision is a non-cash expense for banks to account for future losses on loan defaults. Banks assume that a certain percentage of loans will default or become slow paying. Banks enter a percentage as an expense when calculating their pre-tax incomes. This guarantees a bank's solvency and capitalization when the defaults occur. The loan loss provision allocated each year increases with the riskiness of the loans a given bank makes. A bank making a small number of risky loans will have a low loan loss provision compared to a bank taking higher risks. Loan loss provision (also known as "valuation allowance" and "valuation reserve") is an expense creditors budget as an allowance for bad loans.

It is highly unlikely that a bank can offer a wide variety of loans to its customers without having some of those customers fail to repay either part or all of their loans. Banks understand that a small percentage of their customers will fail to pay them back or

perhaps pay them back at a slower rate than first stipulated. To account for these circumstances, banks include on their income statement a loan loss provision, which is a negative charge against pre-tax earnings intended to simulate the financial hit of these defaulted loans.

Achou & Tenguh (2012) *"Bank Performance and Credit Risk Management"* Banking is topic, practice, business or profession almost as old as the very existence of man, but literarily it can be rooted deep back the days of the Renaissance (by the Florentine Bankers). It has sprouted from the very primitive Stone Age banking, through the Victorian-age to the technology-driven Google-age banking, encompassing automatic teller machines (ATMs), credit and debit cards, correspondent and internet banking. Credit risk has always been a vicinity of concern not only to bankers but also to all in the business world because the risks of a trading partner not fulfilling his obligations in full on due date can seriously jeopardize the affairs of the other partner. The axle of this study is to have a clearer picture of how banks manage their credit risk. In this light, the study in its first section gives a background to the study and the second part is a detailed literature review on banking and credit risk management tools and assessment models. The third part of this study is on hypothesis testing and use is made of a simple regression model. This leads us to conclude in the last section that banks with good credit risk management policies have a lower loan default rate and relatively higher interest income.

2.4 Review of Previous Theses

Pandit (2008) has conducted a research entitled *"Directives of NRB in maintaining capital adequacy Ratio & its impact, a case study of NIC Bank"* his major objectives were as follows.

- To find out the effect of the Supplementary Capital in The Capital Fund.
- To access the level of capital Adequacy Ratio prescribed by NRB.
- To analyze the trend of total capital to Deposit ratio.

The major findings of his study were as follows.

- Capital Fund has grown consistently during 2059/60 to 2064/65 due to the substantial increment in the supplementary capital, and issuance of Unsecured subordinated Term Debt.
- Bank is quite successful in maintaining capital adequacy as prescribed by NRB
- Capital to deposit ratio is adequate and satisfactory. The credit deposit ratio of the Bank is very low and needs to be improved
- Although the capital adequacy requirement has been met, the Bank is unable to fulfill other capital and deposit ratios, which are important to safeguard the depositors.

Baral (2009) entitled "*A study of Non- performing Loans of Nepalese commercial Banks"* the major findings of this study were as follows.

- To find out the non-performing loans and its effects in ROA and ROE of the Nepalese commercial banks.
- To examine whether the Nepalese commercial banks are following the NRB directives regarding loan loss provision for non performing loan or not.

The major findings of his study were as follows.

- The return on assets (ROA) and Return on equity (ROE) of the bank somehow depend upon Non Performing Loan. The bank should reduce its NPLs to increase ROA and ROE of the bank.
- Management inefficiency is one of major cause behind high level of NPA of commercial banks.
- No banks have been following NRB directives regarding loan loss provision.
- Recommendations;
- Those banks having high level of NPL should take immediate action. The bank should dispose of the collateral taken from the borrower and recover principal and interest amounts.

- Corporate structure of the bank play key role in the effective loan management. There should be separate department for credit appraisal, documentation, disbursement, relationship maintenance and inspections.
- Management efficiency should be enhanced. Hence necessary training should be given to managers and staffs.
- For the loan loss provision as per the NRB directives and to reduce the NPL, the bank management should be effective and the NRB's monitoring and regulation is necessary.

Shrestha (2010) entitled "*A study of Non- performing Loan and loan loss provision of commercial Banks, A case study of NIBL, HBL and EBL*". The objectives of his studies were as follows.

- To find out the proportion of nonperforming loan in the selected commercial banks.
- To study and analyze the guidelines and provisions pertaining to loan classification and loan loss provisioning.
- To find out the relationship between loan and loan loss provision in the selected commercial bank.
- To study and the impact of loan loss provision on the profitability of the commercial banks.

The major findings of this study were as follows.

- The EBL has the highest portion of the loan in total asset followed by NIBL and HBL. He concludes that the EBL shows the risk adverse attitude.
- Likewise, the nonperforming loan to the total loan is found in HBL, NIBL and EBL.
- The loan loss provision is also highest in HBL where as the EBL has the least Loan Loss Provision.
- The HBL has the highest portion of loss loan followed by NIBL and EBL.

Shrestha (2011) has conducted a study on *"A Study of Nonperforming Loan & loan loss Provision of Commercial Bank, A case study of NABIL, SCB and NBL"* The main objectives of her study were as follows.

- To find out the proportion of non-performing loan in the selected commercial banks.
- To find out the factors leading to accumulation of nonperforming loan in commercial banks.
- To find out the relationship between loan and loan loss provision in the selected commercial bank.
- To study and the impact of loan loss provision on the profitability of the commercial banks.

The major finding in her study was that

- The NBL has the highest portion of the loan in total asset followed by NABIL and SCBNL. She concludes that
- The SCBL shows the risk-averse attitude. Likewise, the non-performing loan to total loan is found highest in NBL, NABIL and SCBNL.
- The Loan Loss Provision is also highest in NBL where as the SCBL has the least Loan Loss Provision.
- The NBL has the highest portion of Loss loan followed by NABIL and SCBL.

Khadka (2012) has conducted a research entitled *"NRB Unified Directives on Capital adequacy Norms & its Impact, a case study of SCBL, NABIL, HBL, NIBL, and ADBL"* The major objectives of his studies are as follows.

- To find out the level of maintenance of the Capital Adequacy guidelines of NRB by the Sampled Banks.
- To see the effect of the Supplementary Capital in The Capita Fund.
- To analyze the capital Adequacy Ratio prescribed by NRB.

The major findings of his studies are as follows.

- SCBNL, NIBL, NBL, HBL and ADBL are up to the mark of Capital Adequacy guidelines of NRB.
- Banks are follow directives but in cases of supplementary capital there has been a shortfall, which can be compensated by the excess amount of Core capital in supplementary capital.
- There is a significant impact of NRB directives of Capital adequacy on the various aspects of the commercial Banks and it also helps in maintaining the stability of Commercial Banks in the Financial Market and to uplift the Banking sector in Nepal to International standard.
- The new Directives of Capital Adequacy issued by NRB made good impact more than bad impact on the various aspects of the Banks.

Lamichane (2013) has conducted a research entitled *"Capital Adequacy and its Significance to Commercial Banks (A study of SCBNL, NABIL, NIBL, EBL, HBL, NICB, LBL, and KBL"* The major objectives of this study are as follows.

- To find the level of Capital adequacy Ratio as prescribed by NRB.
- To find out the impact of supplementary capital on total Capital.
- To see the effect of Directives Regarding Capital adequacy in profitability of the Banks.

The Major Findings of this study are as follows.

- SCBNL, NABIL, EBL and NICBL are up to the Mark of Capital Adequacy guidelines of NRB while in case of NIBL, HBL, LBL and KBL shows the deficit in capital adequacy ratio.
- Banks are following directives but in case of supplementary capital, there has been a shortfall. This can be compensated by the excess amount of core capital in supplementary capital.

- The directive of NRB has adverse effect in profitability of the Banks but this decreasing profit will affect the Banks only for short term.

2.5 Research Gap

Research gap refers to the gap between previous research and this research. From the review of various literatures, it has been found many research works have been done on the study of NRB Directives and its compliance and analysis of credit management through loan loss provision, non-performing loans and capital adequacy. However, very few theses have been found on the capital adequacy and loan loss provisions, which is the most important aspect of the banking sector. Therefore, the researcher makes this research study on capital adequacy and loan loss provisions.

The purpose of research is to develop some expertise in one's area, to see what new contribution can be made and to receive some ideas, knowledge and suggestions in relation to capital adequacy and loan loss provisions. Thus, previous studies cannot be ignored because they provide the foundation to the present study. In other word, there should be continuity in research. This continuity in research is ensuring by linking the present study with past research study and try to fulfill the gap of the research. Hence, the researcher had attempted to fill this gap by measuring the capital adequacy and loan loss provisions.

The financial and statistical tools used by most of the researchers were ratio analysis, test of hypothesis and regression analysis. This research includes different tools like capital adequacy ratio, standard deviation, correlation analysis, t-test, trend analysis and co-efficient of variation as specific tools. Thus, the research study made on "Capital Adequacy & Loan Loss Provision of Commercial Banks" will be an effort to analyze on detail about capital adequacy and loan loss provisions of the commercial banks in present situation with the help of various related financial as well as statistical tools and techniques. The study can be beneficial to all the concerned parties and people as well.

CHAPTER – III

RESEARCH METHODOLOGY

A systematic study needs to follow a proper methodology to achieve pre determine objective. Research methodology may be defined as "a systematic process that is adopted by the researcher in studying problem with certain objective and view". In other word, research methodology describes the methods and process applied in the entire aspect of the study focus of data, data gathering instrument and procedure, data tabulating and processing and methods of analysis. It is really a method of critical thinking by defined and redefining the problems, formulating hypothesis or suggests solution, collecting, organizing, and evaluating data, making deduction and making conclusions.

Research methodology is a path from which we can solve research dilemma systematically to accomplish the basic objective of the study. It consists of a brief explanation of research design, nature and sources of data, method of data collection and methods of tools used for analyzing data.

3.1 Research Design

A research design is the arrangement of conditions for collection and analysis of data that aim to combine relevance to the research purpose with economy in procedure. Research design is the plan, structure and strategy of investigation conceived to obtain answers to research questions and to objective of this study. To achieve the objective of this study, descriptive and analytical research design is used. It is the process, which gives us an appropriate way to reach research goal. It includes definite procedures and techniques, which guide in sufficient way for analyzing and evaluating the study. This study is carried out by using both quantitative and qualitative analysis methods. Mostly, secondary data has been used for analysis, but the discussion and personal interview with the concerned employees of the selected bank is also used for qualitative analysis. Hence, research design of this study is based on descriptive and analytical method.

3.2 Sources of Data

The study is mainly based on secondary data. Data are collected from concern bank Nepal Rastra Bank, NEPSE, SEBO and various libraries. Likewise, the micro-level data have been derived the different libraries, such as Shanker Dev Campus, T.U central library etc. Furthermore, several data and information were gathered from periodicals, economic journals and the other published and unpublished reports and different websites. Informal interview with the authorities of related institutions are also the other sources of data.

3.3 Method of Data Collection

It indicates the sources of data and how they are collected. In this study, data are collected through published sources. They were collected from the correspondent offices and their respective websites. The annual reports of sample banks for the period of five years are obtained from the website of selected banks. The data regarding the profile of sample banks and other related documents were collected from internet websites. Unpublished master's thesis, books, research papers, articles, journals have been collected mainly form Centre Library of Tribhuvan University, library of Shanker Dev Campus, NRB directives and NRB Magazines and newspapers are from concerned authorities.

3.4 Population & Sample

The term population of data denotes for the data of each organization which is within the boundary of specific organization whereas sample data are the data of those organization which has been selected from that whole population for study. Random selected method is to be used while selecting sample organizations for this study. The population data for this study comprises all commercial banks, which are currently operating in Nepal. There are all together 32 commercial banks operating in the country. It will be lengthy, time-consuming and vague while taking into consideration of all these institutions. Therefore, the sample consists only three selected banks. The selected sample banks for the analysis are as follows.

- NABIL Bank Limited (NABIL)
- Everest Bank Limited (EBL)
- Standard Chartered Bank Nepal Limited (SCBNL)

3.5 Data Analysis Tools

A host of analytical tools can be applied to perform capital adequacy & loan loss provision of commercial banks. Following the nature of the study, a set of appropriate tools, particularly financial and statistical may be used for effective and significant analysis to meet the research objective.

3.5.1 Financial Tools

Financial tools are particularly used for the analysis as well as the interpretation of financial data. These tools can be engaged to procure the precise knowledge of a business, which are fruitful for analyzing the strength and weakness of the organization and strategies. For proper financial analysis of data, ratio analysis is the best tool. It is very simple analysis tools under which ratios are taken to express the relation between two or more data. Through ratio analysis, we can establish the relationship between the data and research into conclusion. Thus following financial tools are used to achieve the study goal.

3.5.1.1 NPA Percentage

This ratio shows the total NPA in the percentage of Gross Loans & Advances. High ratio is increases the banks riskiness and calculated as follows.

$$\text{NPA \%} = \frac{\text{Total NPA}}{\text{Gross Loan \& } Advances} \times 100$$

3.5.1.2 Capital Adequacy Ratio

This ratio shows the loss absorbing capacity of the banks. There are two types of capital;

- Core Capital (Tier I Capital)
- Supplementary Capital (Tier II Capital)

Sum of Tier I Capital and Tier II Capital is Total Capital or Capital Fund. Therefore, there are three types of capital adequacy ratio

$$\text{Core Capital} = \frac{\text{Core Capital}}{\text{Total Risk Weighted Assets}} \times 100$$

$$\text{Supplementary Capital} = \frac{\text{Supplementry Capital}}{\text{Total Risk Weighted Assets}} \times 100$$

$$\text{Capital Fund} = \frac{\text{Capital Fund}}{\text{Total Risk Weighted Assets}} \times 100$$

3.5.1.3 NPA to Total Loan & Advance Ratio (NPA/LA)

Non Performing Assets (NPA) means the amount of loan that the individual commercial banks had provided and the customer has not paid in until the time already matured. The distributed loan is not return timely by clients and becomes overdue then, it is known as Non Performing assets for the banks. Similarly, total loan & advance is the amount of loan given to the different person and institutions for different purpose. This ratio measures the proportion of nonperforming assets on total loan and advance high ratio is bad for the company.

$$\text{NPA to Total loan \& Advance Ratio} = \frac{\text{NPA}}{\text{Total Loan \& } Adcance} \times 100$$

3.5.1.4 Provision for NPL to NPL Ratio (PNPL/NPL)

Non Performing Loan (NPL) means the amount of loan that the individual commercial banks had provided and the customer has not paid in until the time already matured. Provision for NPL is the amount, which the banks separated for the NPL. This ratio shows the proportion of provision for NPL on total NPL. High ratio is less risky for the company.

$$\text{Provision for NPL to NPL Ratio} = \frac{\text{Provision for NPL}}{\text{NPL}} \times 100$$

3.5.1.5 Loan Loss Provision to Total Loan and Advances Ratio (LLP/LA)

Total loan & advance is the amount of loan given to the different person and institutions for different purpose and loan loss provision is the amount of provisions made by the bank to recover the future possible losses from loan. This ratio shows the proportion of provision for loan loss on total loan & advances. High ratio is safer for the company.

$$\text{Loan Loss Provision to Total Loan and Advances Ratio} = \frac{\text{Loan Loss Provision}}{\text{Total Loan \& } Adcance} \times 100$$

3.5.2 Statistical Tools

Statistical tools are used to analyze the relationship between two or more variables and to find how these variables are related. In this study, following statistical tools are used.

3.5.2.1 Arithmetic Mean or Average

The mean or average value is a single value within the range of the data that is used to represent all the values in the series. Since an average is somewhere within the range of the data, it is also called a measure of central value. It is calculated as follows.

$$\text{Mean } (\overline{X}) = \frac{\sum X}{N}$$

Where,

$\overline{X}$	=	Arithmetic Mean
$\sum X$	=	Sum of values of all items, and,
N	=	Number of items

3.5.2.2 Standard Deviation

The standard deviation is the measure that is most often used to describe variability in data distributions. It can be thought of as a rough measure of the average amount by which observations deviate on either side of the mean denoted by Greek letter (read as sigma). Standard deviation is extremely useful for judging the representatives of the mean. Standard deviation is calculated as follows.

$$\text{Standard deviation}(\sigma) = \sqrt{\frac{\sum(\mathbf{X}-\bar{\mathbf{x}})^2}{N}}$$

Where,

$\boldsymbol{\sigma}$	=	Standard deviation
$\sum(\mathbf{X}-\bar{\mathbf{x}})^2$	=	Sum of squares of the deviations measured from arithmetic average.
N	=	Number of items

3.5.2.3 Correlation Coefficient

Correlation is a statistical tool design to measure the degree of association between two or more variables. In other word if the changes in one variable affects the changes in other variable, then the variable are said to be co-related when it is used to measure the relationship between two variables, then it is called simple correlation. The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's method is applied in the study. The result of coefficient of correlation is always lying between +1 and -1. The formula for the calculation of coefficient of correlation between X and Y is given below.

$$r = \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}}$$

Where,

r	=	Correlation coefficient
$\sum x_1$	=	$X_1 - \overline{X}_1$
$\sum x_2$	=	$X_2 - \overline{X}_2$

The interpretation of calculated valve of correlation coefficient by following way.

- If $r = 0$, then there is no correlation between variables.
- If $r > 0$, then there is positive correlation between variables.
- If $r < 0$, then there is negative relation between variables.
- If $r = +1$, then there is perfect positive correlation.
- If $r = -1$, then there is perfect negative correlation.

3.5.2.4 Trend Analysis

Trend analysis has been a very useful and commonly applied statistical tool to forecast the future events in quantitative terms. On the basis of tendencies in the dependent variables in the past periods, the future trend is predicted. This analysis takes the historical data as the basis of forecasting. This method of forecasting the future trend is based on the assumptions that the past tendencies of the variable are repeated in the future

or the past events affect the future events significantly The future trend is forecasted by using the following formula.

$$Y = a + bx$$

where,

Y = the dependent variable

a = the origin i. e. arithmetic mean

b = the slope coefficient i. e. rate of change

X= the independent variable

3.5.2.5 Coefficient of Variation

The standard deviation as stated above is an absolute measure of dispersion. The corresponding relative measure is known as the coefficient of variation. It is used in such problems where we want to compare the variability of two or more than two series. The series for which the coefficient of variation is greater is said to be more variable or conversely less consistent, less stable or less homogeneous and vice versa. In this study coefficient of variation is used to analyze the variance of average key variables. The formula used for determining the coefficient of variation is as follows.

$$C.V = \frac{\sigma}{\bar{X}}$$

2.5.2.6 Assessment of the Sample Correlation Coefficient

For this study, t-test for significance of an observed and sample correlation coefficient is used.

Set up Hypothesis

Null hypothesis (H_0); $\rho = 0$ i.e. There is no correlation between the considered variables.

Alternative Hypothesis (H_1); $\rho \neq 0$ i.e. There is significant correlation between the considered variables.

Test statistic under H_0;

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

Where,

r	=	Sample correlation between two variables
r^2	=	Sample correlation Coefficient
n	=	No of Pair of observations

Level of significance: Level of significance $\propto$ = 5%

Critical Value: Tabulated or critical value of t at $\propto$ % level of significance for (n-2) degree of freedom obtain from't' tables.

Decision: If calculated 't' is less than or equal to tabulated value of 't' it falls in the accepted region and the null hypothesis is accepted and if calculated 't' is greater than tabulated 't' null hypothesis is reject.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

To find the answer of research problem, the collected data are necessary to present and analyze by processing. This chapter will present the data on table & figure. The main objective of the study is to present data and analyze them with the help of various financial and statistical tools. This chapter consists of analysis and presentation of empirical data. The important variables are very sensitive and taken into consideration, so this chapter will present the analysis of components of Capital Adequacy and loan Loss provisions.

In this chapter, an attempt has been made to show the various dimension of capital adequacy framework of selected commercial banks individually. The chapter devotes to show the various risks associated with assets of commercial banks, their composition, required capital for each types of risks, and comparison of capital adequacy with one other. An attempt also has been made to outline the basic problems of maintaining capital adequacy as prescribed by NRB directives. In order to highlight the formulated objectives, related data have been collected from different sources and demonstrated by the use of different tools and techniques.

A provision has set up by Nepal Rastra Bank in Fiscal year 2057/58 to control the level of NPL of Nepalese commercial banks. According to that provision, every bank has to classify its total loan and advances (including purchased and discounted bills) as pass loan, substandard loan, doubtful loan and bad loan, based on overdue against schedule. Commercial banks are also directed to maintain loan loss provision as stated in section 11 of directives no. 2 of NRB s directives for commercial banks 2059. Main purpose was to find out the level of NPL in Nepalese commercial banks and to take necessary steps to control the level of NPL in future. In the study, data of five fiscal year starting from F/Y 2064/65 to 2068/69 have been presented to study and analyze the level of NPL in total lending and provision for loan loss of the commercial banks.

4.1 Analysis of Capital Adequacy

Capital adequacy describes the risk management and risk absorbing capacity of the bank. There must be enough equity capital with the bank to take the risky ventures, this equity capital acts as cushion to absorb loss before it passes on to the deposit holders. These measures also affect the profitability of the banks, which induces banks to invest in less risky ventures.

Banks must maintain capital fund on the basis of amount of assets held and riskiness of the assets held. They must maintain certain percentage of capital fund of the total risk weighted exposure. Risk weight is assigned according to the riskiness of the exposure. For example, risk weight of loan against residential property is lower than risk weight against commercial property. So with the same amount of capital banks can lend lower amount against commercial property vis-à-vis against residential property.

Nepalese banks have started adopting the norms from 2066/067. In order to ensure a smooth transition to new approach prescribed by this framework, a parallel run for the whole year from Mid July 2007 (Fiscal Year 2065/066) was conducted. The returns submitted by the banks during this period were minutely reviewed by NRB to identify any anomalies. The identified shortcoming on the returns was advised to the bank management so that they could be rectified before we move onto fully-fledged implementation. Based on the findings of the parallel run, amendments and modifications have been incorporated in the framework wherever deemed necessary. However, there was no penalty for not meeting norms of Basel II during FY 2065/066.

Table: 4.1

Capital Adequacy as per BASEL I Norms of EBL

(Rs. In Millions)

Year	Core Capital	Supplementary Capital	Capital Fund	Total Risk Weighted Exposures
2064/065	1171.13	504.98	1676.11	14976.73
2065/066	1580.86	787.53	2348.39	20974.86
2066/067	1981.58	722.29	2703.87	25619.75
2067/068	2537.09	720.00	3257.14	30240.43
2068/069	2927.17	678.67	3605.84	34583.54

Source: Annual report from 2064/065 to 2068/069

The above table shows that the core capital, total capital fund and total risk weighted assets of EBL are in increasing trend over the study period but the supplementary capital is decreasing after the fiscal year 2065/066.

Table: 4.2

Percentage of Total Risk Weighted Exposures of EBL

(Ratio in %)

Year	Core Capital	Supplementary Capital	Capital Fund
2064/065	7.82	3.37	11.19
2065/066	7.54	3.75	11.20
2066/067	7.73	2.82	10.55
2067/068	8.39	2.38	10.77
2068/069	8.46	1.96	10.43
Average	7.99	2.86	10.83
S.D	0.41	0.72	0.36

Source: Annual report from 2064/065 to 2068/069

Above table 4.2, and below figure 4.1 shows the capital adequacy position of EBL as per BASEL I capital adequacy norms. The percentage of core capital, supplementary capital and total capital fund is in fluctuating trend over the study period. As per the norms, core capital should be 6% of total risk weighted assets and Capital Fund should be not less than 10% of total risk weighted assets. The above table shows that EBL meet the regulatory requirement.

Figure: 4.1

Trend of Percentage of Total Risk Weighted Exposures of EBL

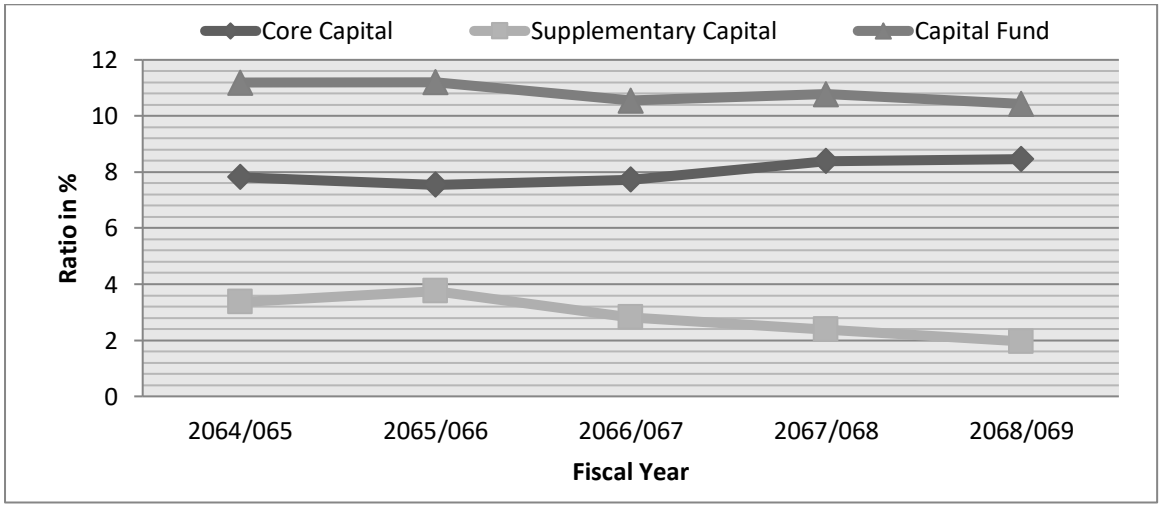


Table: 4.3

Capital Adequacy as per BASEL I Norms of SCBNL

(Rs. In Millions)

Year	Core Capital	Supplementary Capital	Capital Fund	Total Risk Weighted Exposures
2064/065	1606.88	240.34	1847.24	12369.49
2065/066	1951.11	274.17	2225.28	14168.42
2066/067	2304.75	350.52	2655.28	18969.85
2067/068	2832.76	357.6	3190.37	21703.16
2068/069	3050.71	479.78	3530.49	24184.58

Source: Annual report 2064/065 to 2068/069.

The above table shows that the core capital, supplementary capital, total capital fund and total risk weighted assets of SCBNL are in increasing trend over the study period.

Table: 4.4

Percentage of Total Risk Weighted Exposures of SCBNL

(Ratio in %)

Year	Core Capital	Supplementary Capital	Capital Fund
2064/065	12.99	1.94	14.93
2065/066	13.77	1.94	15.71
2066/067	12.15	1.85	14.00
2067/068	13.05	1.65	14.70
2068/069	12.61	1.98	14.60
Average	12.92	1.87	14.79
S.D	0.60	0.13	0.62

Source: Annual report 2064/065 to 2068/069.

Above table 4.4, and below figure 4.2 shows the capital adequacy position of SCBNL as per BASEL I capital adequacy norms. The percentage of core capital, supplementary capital and total capital fund is in fluctuating trend over the study period. As per the norms, core capital should be 6% of total risk weighted assets and Capital Fund should be not less than 10% of total risk weighted assets. The above table shows that SCBNL meet the regulatory requirement.

Figure: 4.2

Trend of Percentage of Total Risk Weighted Exposures of SCBNL

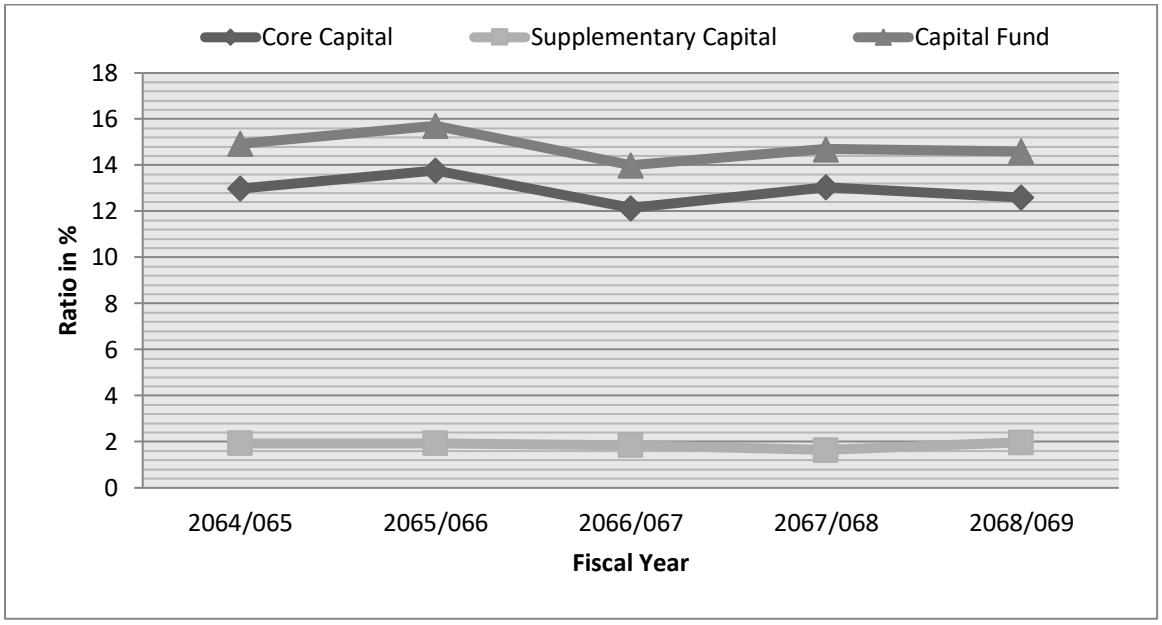


Table: 4.5

Capital Adequacy as per BASEL I Norms of NABIL

(Rs. In Millions)

Year	Core Capital	Supplementary Capital	Capital Fund	Total Risk Weighted Exposures
2064/065	1992.85	314.78	2307.63	19166.76
2065/066	2363.59	635.13	2998.73	27010.56
2066/067	3044.34	682.74	3727.08	34816.5
2067/068	3667.85	722.37	4990.23	41822.66
2068/069	4318.69	854.7	5173.39	48884.97

Source: Annual report 2064/065 to 2068/069.

The above table shows that the core capital, supplementary capital, total capital fund and total risk weighted assets of NABIL are in increasing trend over the study period.

Table: 4.6

Percentage of Total Risk Weighted Exposures of NABIL

(Ratio in %)

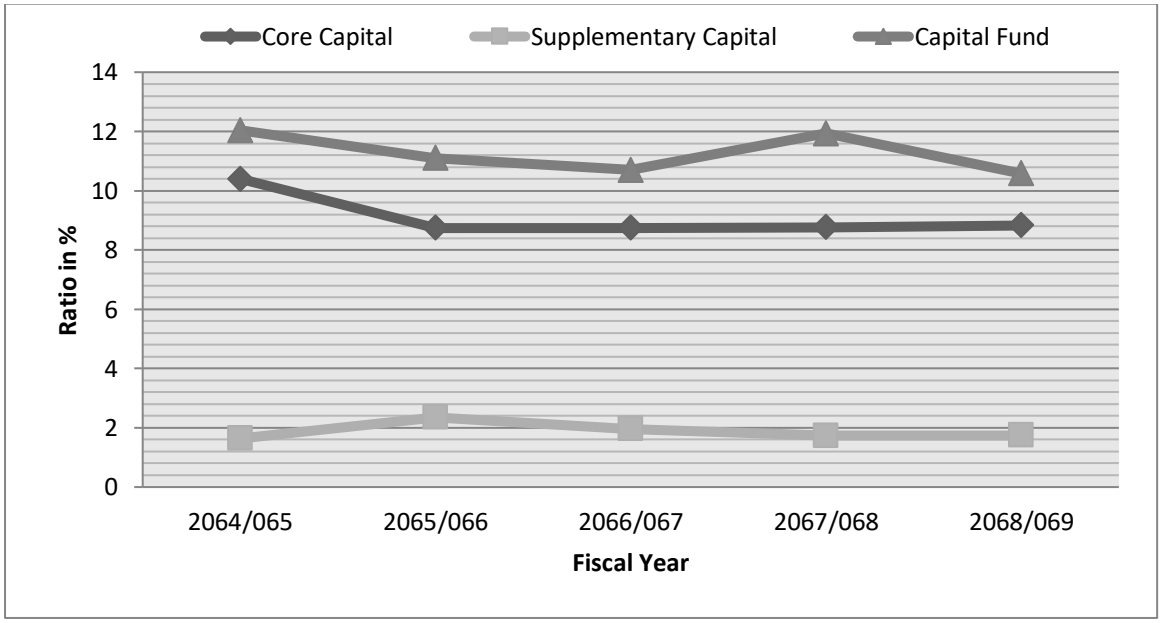
Year	Core Capital	Supplementary Capital	Capital Fund
2064/065	10.40	1.64	12.04
2065/066	8.75	2.35	11.10
2066/067	8.74	1.96	10.70
2067/068	8.77	1.73	11.93
2068/069	8.83	1.75	10.58
Average	9.10	1.89	11.27
S.D	0.73	0.29	0.68

Source: Annual report 2064/065 to 2068/069.

Above table 4.6, and below figure 4.3 shows the capital adequacy position of NABIL as per BASEL I capital adequacy norms. The percentage of core capital is fluctuating, supplementary capital is decreasing except the year 2064/067 and total capital fund is in fluctuating trend over the study period. As per the norms, core capital should be 6% of total risk weighted assets and Capital Fund should be not less than 10% of total risk weighted assets. The above table shows that NABIL meet the regulatory requirement.

Figure: 4.3

Trend of Percentage of Total Risk Weighted Exposures of NABIL



4.2 Breakdown of Risk Weighted Exposure

As per Basel II norms, total risk exposure is divided into three components viz. Credit Risk, Market Risk and Operational Risk. As to Credit Risk management, the Bank has drawn a clear demarcation between business generation and risk management unit. Without approval of risk management unit, no loan is sanctioned. Credit Policy of the Bank guides all the lending officials from credit screening to settlement. In order to lessen concentration risk, the Bank monitors lending portfolio periodically and takes appropriate decision with regard to the exposure in a borrower and in a sector. Similarly, Investment Policy of the Bank guides the concerned officials for management of credit risks in investment portfolio. The Bank takes deposits, government securities, etc. as measures to mitigate credit risk.

With regard to market risk and liquidity risk management, the Bank has a very active ALCO, which meets periodically to discuss and manage these risks as per the ALM policy, Investment Policy, Forex Policy approved by the Board. Similarly, there is a front office and back office concept to ensure compliance of policies/limits on a transaction level.

Among three risk categories of the total risk weighted exposure, credit risk is the most extensive risk of the commercial banks against which large amount of capital is required to be maintained in order to gain the sense of security against the probable future loss by the stakeholders concerned directly or indirectly through the credit extensive of the bank.

Table: 4.7

Breakdown of Risk Exposure of EBL for FY 2068/069

(Rs. In Millions)

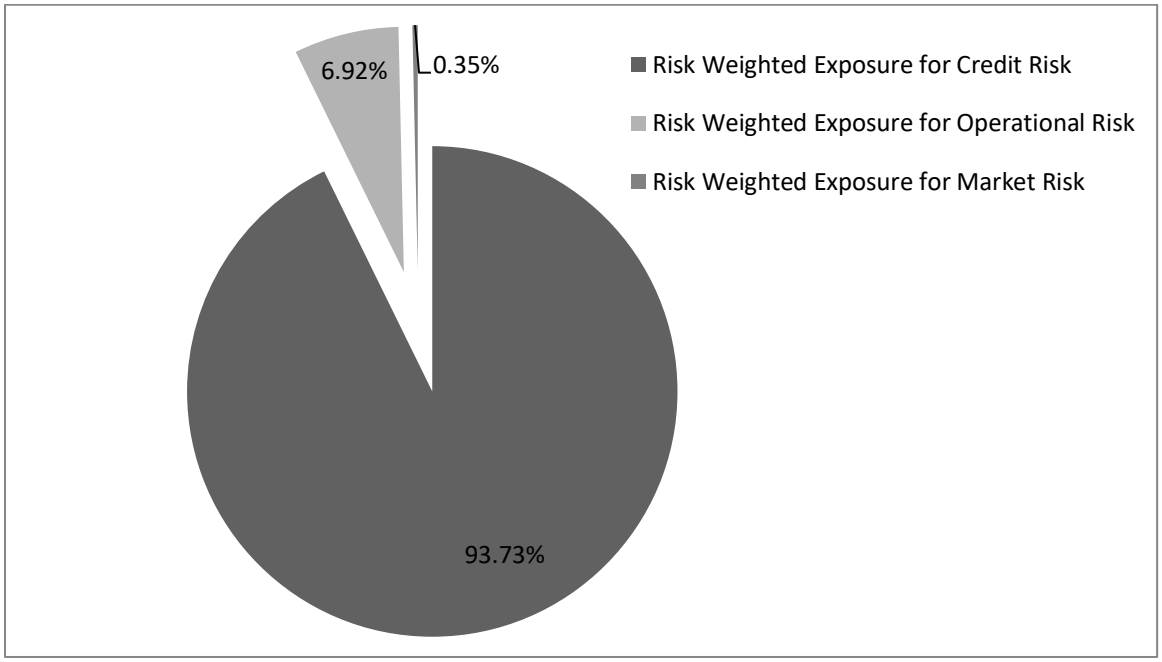
Particular	Amount	% of Total Exposure
Risk Weighted Exposure for Credit Risk	31440.3	92.73
Risk Weighted Exposure for Operational Risk	2345.8	6.92
Risk Weighted Exposure for Market Risk	119.2	0.35
Total Risk Weighted Exposure	33905.3	100

Source: Annual report FY 2068/069

Out total risk weighted exposure of Rs.33905.3 Million, EBL shows risk exposure of Rs.31440.3 Million against credit risk. More over it shows risk exposure of operational risk equal to Rs.2345.8 million. Similarly, it shows total risk exposure of Rs.192.2 million against market risk.

Figure: 4.4

Risk Exposure of EBL for FY 2068/069



On total risk weighted exposure, EBL has higher percentage of Credit Risk and lower percentage of market risk. It has 93.73 percent of credit risk, 6.92 percent of operational risk and only 0.35 percent of market risk.

Table: 4.8

Breakdown of Risk Exposure of SCBN for FY 2068/069

(Rs. In Millions)

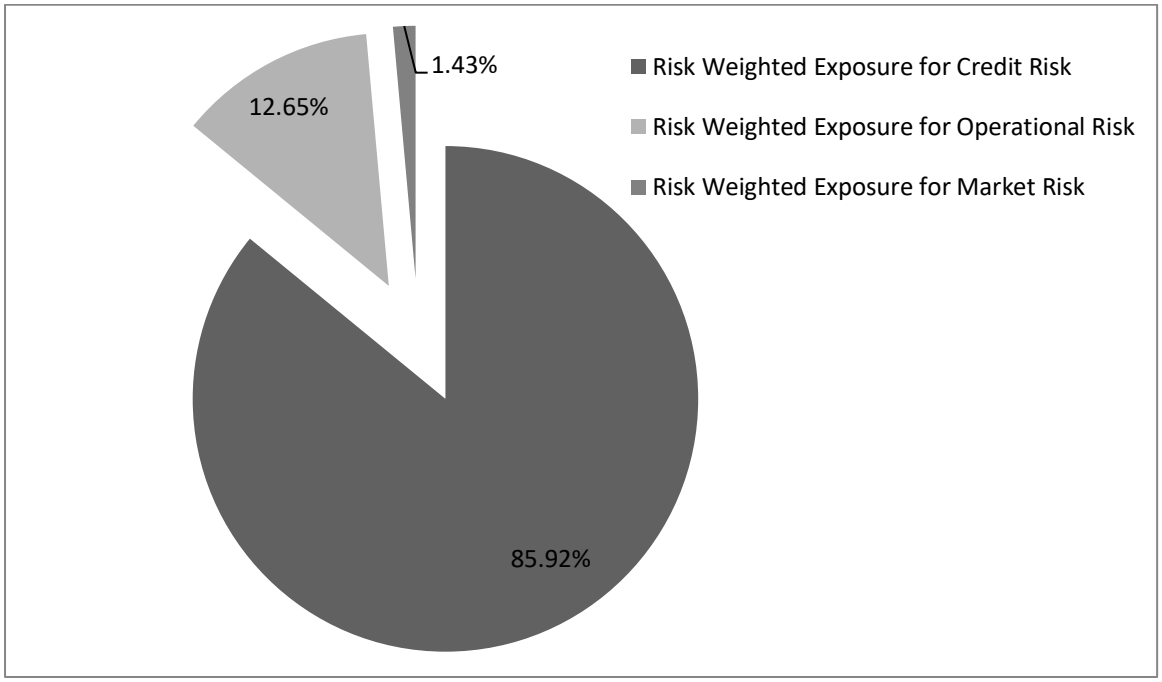
Particular	Amount	% of Total Exposure
Risk Weighted Exposure for Credit Risk	20779.88	85.92
Risk Weighted Exposure for Operational Risk	3058.85	12.65
Risk Weighted Exposure for Market Risk	345.85	1.43
Total Risk Weighted Exposure	24184.58	100

Source: Annual report FY 2068/069

The above table shows that out of total risk weighted exposure of Rs. 24184.58 Million, SCBNL has risk exposure of Rs.20779.88 Million against credit risk. More over it shows risk exposure of operational risk equal to Rs.3058.85 million. Similarly, it shows total risk exposure of Rs.345.85 million against market risk.

Figure: 4.5

Risk Exposure of SCBNL for FY 2068/069



On total risk weighted exposure, SCBNL has higher percentage of Credit Risk and lower percentage of market risk. It has 85.92 percent of credit risk, 12.65 percent of operational risk and only 1.43 percent of market risk.

Table: 4.9

Breakdown of Risk Exposure of NABIL Bank for FY 2068/069

(Rs. In Millions)

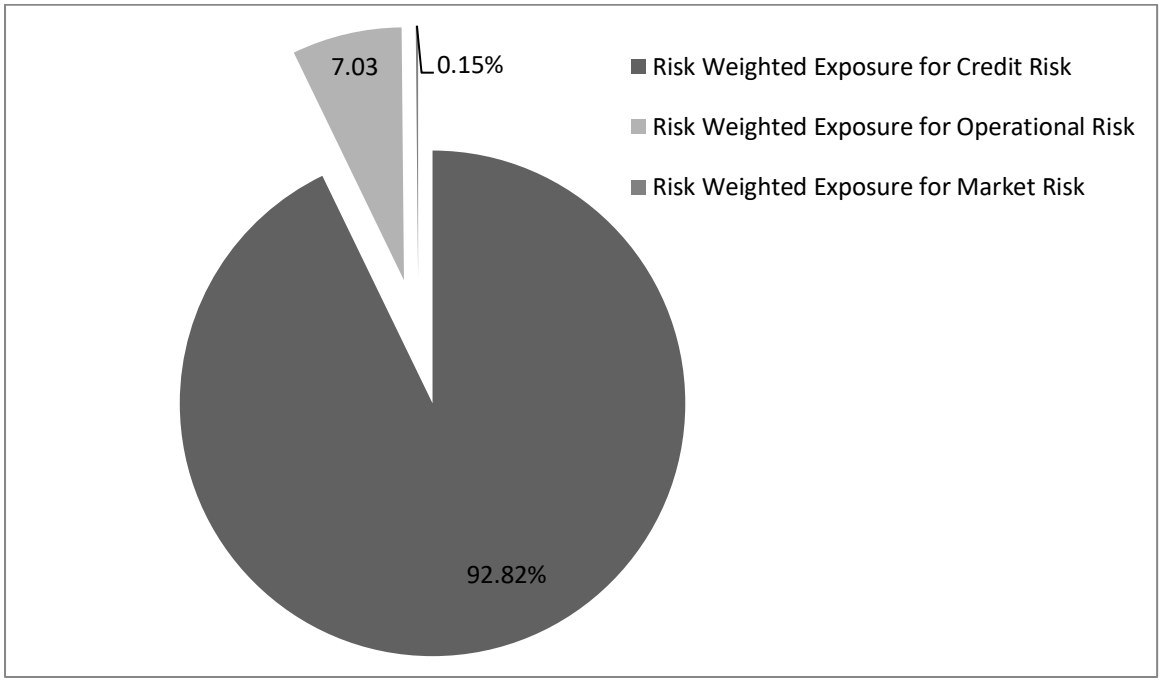
Particular	Amount	% of Total Exposure
Risk Weighted Exposure for Credit Risk	44686.8	92.82
Risk Weighted Exposure for Operational Risk	3383.19	7.03
Risk Weighted Exposure for Market Risk	74.44	0.15
Total Risk Weighted Exposure	48144.43	100

Source: Annual report FY 2068/069

The above table shows that out of total risk weighted exposure of Rs. 48144.43 Million, NABIL has risk exposure of Rs.44686.8 Million against credit risk. More over it shows risk exposure of operational risk equal to Rs.3383.19 million. Similarly, it shows total risk exposure of Rs.74.44 million against market risk.

Figure: 4.6

Risk Exposure of NABIL Bank for FY 2068/069



NABIL's total risk weighted assets composed all three categories of risk. Credit risk exposure constitute large portion in total RWA, which equal to 92.82% of total risk exposure. Other two risk; operational and market risk constitute 7.03% and 0.15% of total RWA respectively.

4.3 Analysis of Loan & Advance and Loan Loss Provisions

Loan is a contractual promise between two parties where one party, the creditor, agrees to provide a sum of money to a debtor, who promises to return the money to the creditor either in one lump sum or in parts over a fixed period in time. Loan loss Provision is the amount of provision made by the bank to recover the any possibility of loss from the loan provided by the bank. The directive of NRB 2069 recommends making compulsory provision of more than 1 Percent of total pass loan for the loan loss.

Table: 4.10

Loan Loss provisions to Loan & Advance Ratio of EBL

(Rs. In Millions)

Year	Total Loan & Advance	Loan Loss provisions	Loan Loss provisions to Loan & Advance Ratio (%)
2064/065	14082.67	418.60	2.97
2065/066	18836.43	497.35	2.64
2066/067	24469.55	584.88	2.39
2067/068	28156.39	600.04	2.13
2068/069	31661.84	604.15	1.91
Average			2.41
S.D			0.42

Source: Annual reports FY 2064/065 to 2068/069

Table 4.10 and Figure 4.7 show the amount of loans & advances, loan loss provisions and loan loss provision to loan and advance ratio of two EBL on respective years. The above table shows that loans & advances and loan loss provisions of EBL is growing in volume. The lowest amount of loan and advance and loan loss provisions of EBL are Rs.14082.67 & Rs. 418.60 millions in the fiscal year 2064/065 and the highest amount is Rs. 31661.84 & 604.15 millions in the fiscal year 2068/069 respectively. Similarly, loan loss provisions to loan & advance ratio of the bank is in decreasing trend over the study period. The highest ratio is 2.97% and lowest ratio is 1.91% in the fiscal year 2064/065 and 2068/069 respectively. The average ratio of the bank is 2.41%, which fulfill the NRB requirements. The standard deviation 0.42% shows the less variation in the ratio of respective year.

Figure: 4.7

Trend of Loan Loss provisions to Loan & Advance Ratio of EBL

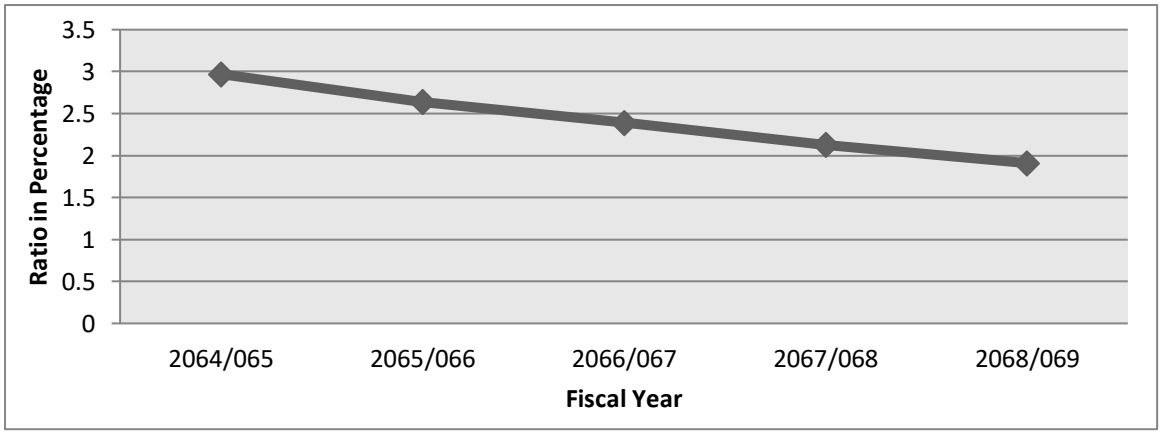


Table: 4.11

Loan Loss provisions to Loan & Advance Ratio of NABIL Bank

(Rs. In Millions)

Year	Total Loan & Advance	Loan Loss provisions	Loan Loss provisions to Loan & Advance Ratio (%)
2064/065	15903.02	357.25	2.25
2065/066	21759.46	394.41	1.81
2066/067	27999.01	409.07	1.46
2067/068	33030.97	762.09	2.31
2068/069	38905.49	871.39	2.24
Average			2.01
S.D			0.37

Source: Annual reports FY 2064/065 to 2068/069

Table 4.11 and Figure 4.8 show the loans & advances and loan loss provisions of NABIL are growing in volume. The lowest amount of loan and advance and loan loss provisions of NABIL are Rs.15903.02 & Rs. 357.25 millions in the fiscal year 2064/065 and the highest amount is Rs. 38905.49 & 871.39 millions in the fiscal year 2068/069 respectively. Similarly, loan loss provisions to loan & advance ratio of the bank is in fluctuating trend over the study period. The highest ratio is 2.25% and lowest ratio is 1.46% in the fiscal year 2064/065 and 2066/067 respectively. The average ratio of the bank is 2.01%, which fulfill the NRB requirements. The standard deviation 0.37% shows the less variation in the ratio of respective year.

Figure: 4.8

Trend of Loan Loss provisions to Loan & Advance Ratio of NABIL Bank

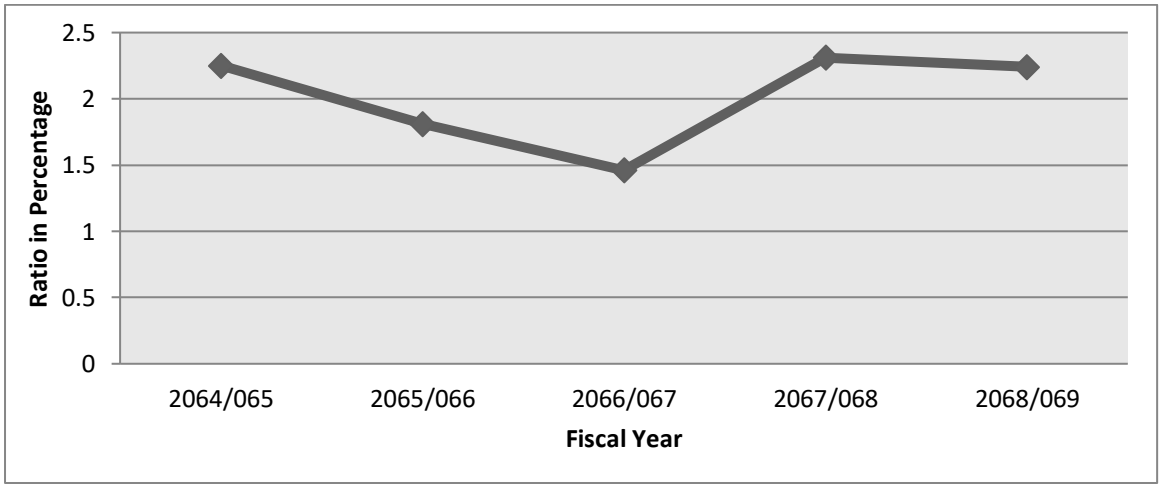


Table: 4.12

Loan Loss provisions to Loan & Advance Ratio of SCBNL

(Rs. In Millions)

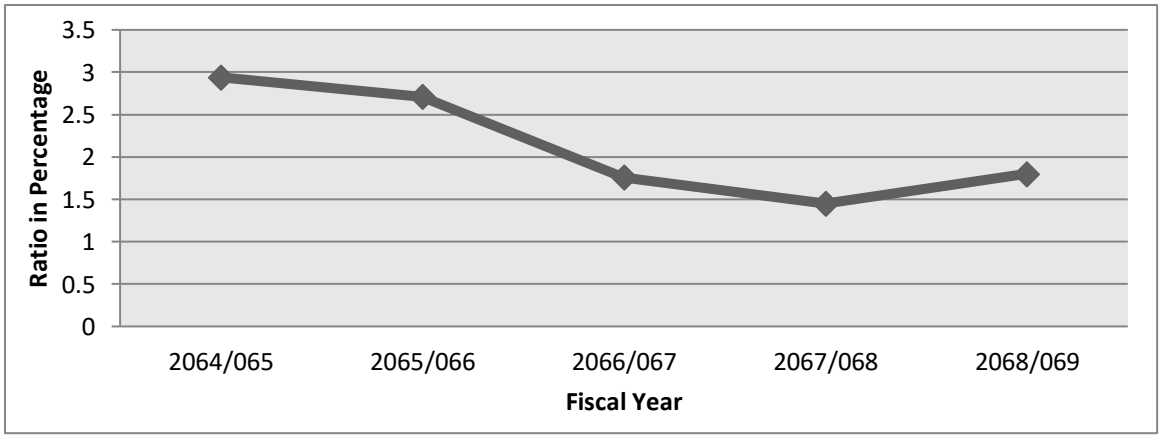
Year	Total Loan & Advance	Loan Loss provisions	Loan Loss provisions to Loan & Advance Ratio (%)
2064/065	9206.28	270.86	2.94
2065/066	10593.13	287.51	2.71
2066/067	13963.98	245.39	1.76
2067/068	13880.7	200.95	1.45
2068/069	16176.58	291.63	1.80
Average			2.13
S.D			0.65

Source: Annual reports FY 2064/065 to 2068/069

The above table shows that loans & advances of SCBNL is increasing except the year 2067/068 and loan loss provisions of SCBNL is in fluctuating trend. The lowest amount of loan and advance and loan loss provisions of SCBNL are Rs.9206.28 & Rs. 200.95 millions in the fiscal year 2064/065 & 2067/068 and the highest amount is Rs. 16176.58 & 291.63 millions in the fiscal year 2068/069 respectively. Similarly, loan loss provisions to loan & advance ratio of the bank is in fluctuating trend. The highest ratio is 2.94% and lowest ratio is 1.45% in the fiscal year 2064/065 and 2067/068 respectively. The average ratio of the bank is 2.13%, which fulfill the NRB requirements. The standard deviation 0.65% shows the less variation in the ratio of respective year. It is shows in the following figure.

Figure: 4.9

Trend of Loan Loss provisions to Loan & Advance Ratio of SCBNL



4.4 Analysis of NPL and Provision for NPL

Non Performing Loan means the loan provided by commercial bank and the consumer has not paid it until the time is already matured which has been classified by a bank or financial institution as sub-standard, doubtful or loss loan, in accordance with the directions or guidelines relating to loan classification issued by Nepal Rastra Bank. Non-performing Loan loss provision shall be maintained based on the remaining amount of principal.

Table: 4.13

Provision for NPL to NPL Ratio of EBL

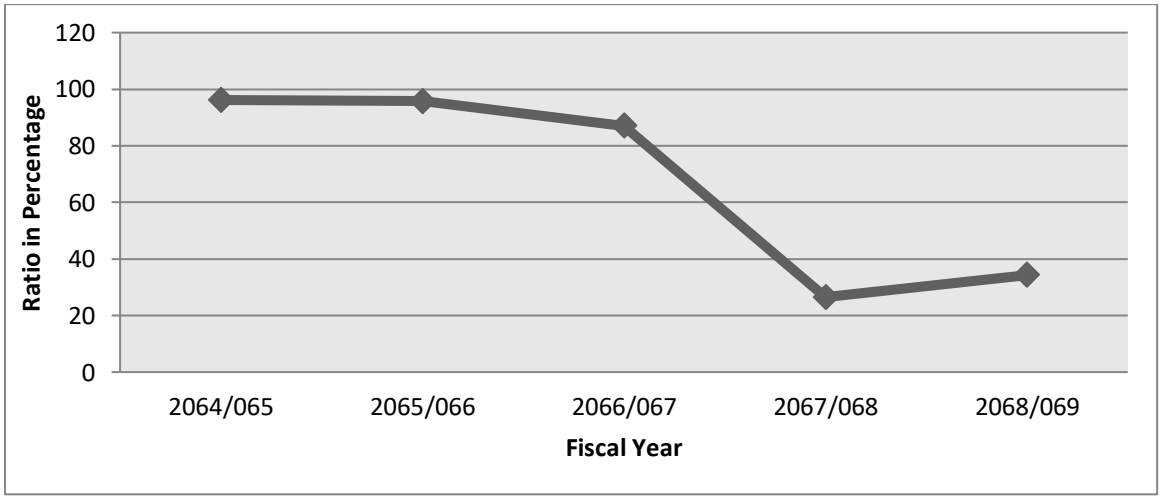
(Rs. In Millions)

Year	NPL	Provisions for NPL	Provision for NPL to NPL Ratio (%)
2064/065	113.17	108.83	96.17
2065/066	127.31	121.95	95.79
2066/067	117.98	102.7	87.05
2067/068	125.56	33.27	26.50
2068/069	108.40	37.26	34.37
Average			67.97
S.D			34.57

Source: Annual reports FY 2064/065 to 2068/069

Figure: 4.10

Trend of Provision for NPL to NPL Ratio of EBL



The above table 4.13 and figure 4.10 shows that NPL of EBL is fluctuating trend over the study periods and provisions for NPL is in also fluctuating trend. The lowest amounts of NPL and provision foe NPL are Rs. 108.40 & Rs. 33.27 millions in the fiscal year 2068/069 & 2067/068 and the highest amount is Rs. 125.56 & 121.95 millions in the fiscal year 2067/068 and 2065/066 respectively. Similarly, a provision for NPL to NPL ratio of the bank is in decreasing trend except the fiscal year 2068/069. The highest ratio is 96.17% and lowest ratio is 26.50% in the fiscal year 2064/065 and 2068/069 respectively. The average ratio of the bank is 67.97% and standard deviation is 34.57%, which shows the more variation in the ratio of respective year.

Table: 4.14

Provision for NPL to NPL Ratio of NABIL Bank

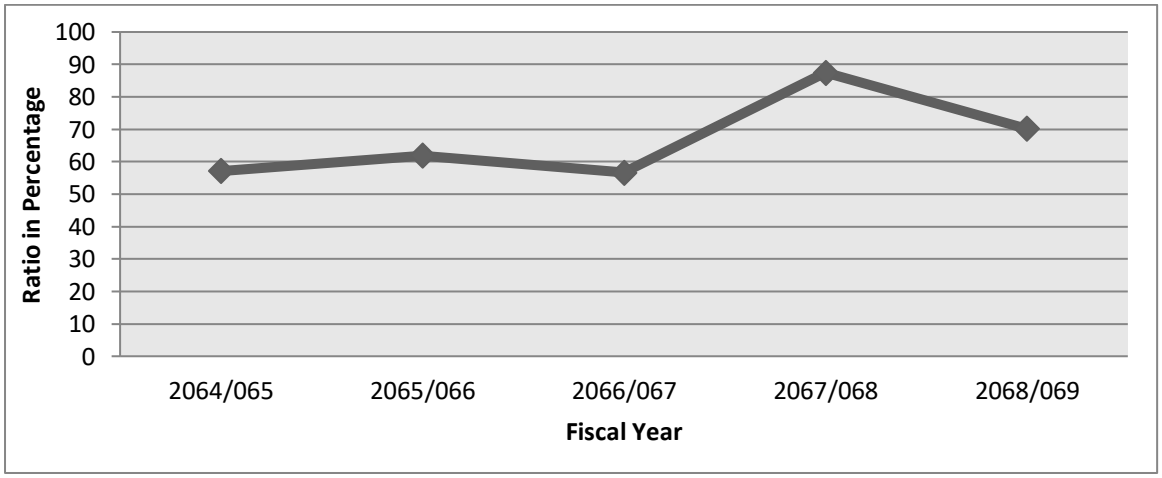
(Rs. In Millions)

Year	NPL	Provisions for NPL	Provision for NPL to NPL Ratio (%)
2064/065	178.29	101.90	57.15
2065/066	161.08	99.66	61.87
2066/067	224.82	127.43	56.68
2067/068	487.54	426.51	87.48
2068/069	689.85	483.77	70.13
Average			66.66
S.D			12.83

Source: Annual reports FY 2064/065 to 2068/069

Figure: 4.11

Trend of Provision for NPL to NPL Ratio of NABIL



The above table 4.14 and figure 4.11 shows that NPL of NABIL is increasing trend except the fiscal year 2065/066 and provisions for NPL is in also increasing trend except the fiscal year 2065/066. The lowest amounts of NPL and provision foe NPL are Rs. 161.08 & Rs. 99.66 millions in the fiscal year 2065/066 and the highest amount is Rs. 689.85 & 483.77 millions in the fiscal year 2068/069 respectively. Similarly, a provision for NPL to NPL ratio of the bank is in fluctuating trend. The highest ratio is 87.48% and lowest ratio is 56.68% in the fiscal year 2067/068 and 2066/067 respectively. The average ratio of the bank is 66.66% and standard deviation is 12.83%, which shows the less variation in the ratio of respective year.

Table: 4.15

Provision for NPL to NPL Ratio of SCBNL

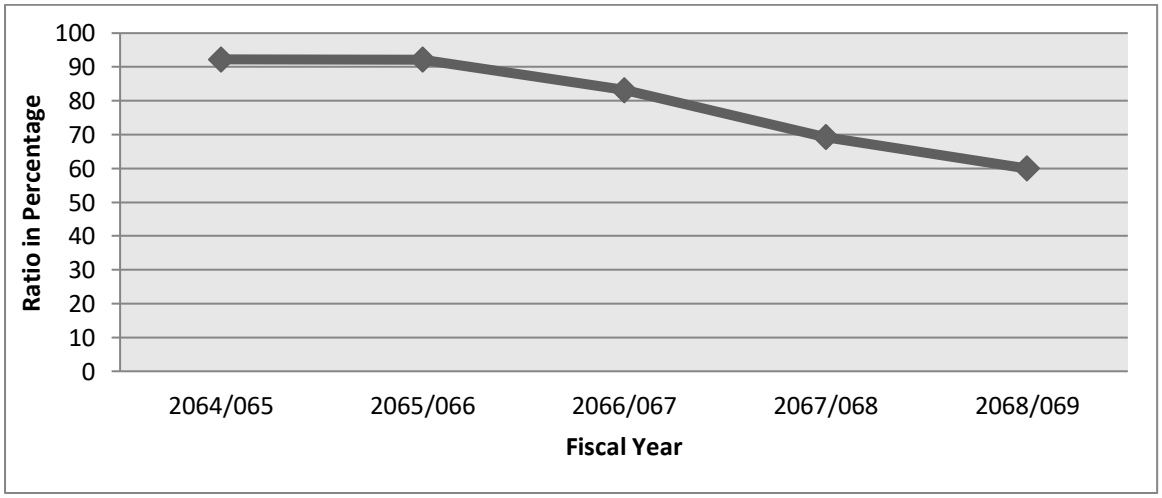
(Rs. In Millions)

Year	NPL	Provisions for NPL	Provision for NPL to NPL Ratio (%)
2064/065	195.93	180.75	92.25
2065/066	197.01	181.59	92.17
2066/067	128.72	107.03	83.15
2067/068	91.04	63.05	69.26
2068/069	98.14	58.84	59.96
Average			79.36
S.D			14.35

Source: Annual reports FY 2064/065 to 2068/069

Figure: 4.12

Trend of Provision for NPL to NPL Ratio of SCBNL



The above table shows that NPL of SCBNL is fluctuating trend over the study periods and provisions for NPL is in decreasing except the year 2065/066. The lowest amounts of NPL and provision foe NPL are Rs. 91.04 & Rs. 58.84 millions in the fiscal year 20666/067 & 2068/069 and the highest amount is Rs. 197.01 & 181.59 millions in the fiscal year 2065/066 respectively. Similarly, a provision for NPL to NPL ratio of the bank is in decreasing trend. The highest ratio is 29.25% and lowest ratio is 59.96% in the fiscal year 2064/065 and 2068/069 respectively. The average ratio of the bank is 79.36% and standard deviation 14.35% shows the more variation in the ratio of respective year.

4.5 Correlation Analysis

Correlation is a statistical tool design to measure the degree of association between two or more variables. In other word if the changes in one variable affects the changes in other variable, then the variable are said to be co-related when it is used to measure the relationship between two variables, then it is called simple correlation. The coefficient of correlation measures the degree of relationship between two sets of figures. One of the very convenient and useful way of interpreting the value of coefficient of correlation (r) between the two variables is coefficient of determination, which is denoted by r^2. It explains the total variation in dependent variable is explained by independent variable.

The significant of coefficient of correlation (r) is tested with the help of 't' test. If calculated 't' is less than or equal to tabulated value of 't' it falls in the accepted region and null hypothesis is accepted or 'r' is not significant of correlation in the population and if calculated 't' is greater than tabulated 't' null hypothesis is rejected or 'r' is significant of correlation in the population.

4.5.1 Relationship between Total Loan (TL) & Loan Loss provision (LLP)

Coefficient of correlation measures the degree of relationship between two variables, TL & LLP. TL is independent variable (X_1) and LLP is dependent variable (X_2). The purpose of computing is to find out the relationship between TL and LLP is going to same direction or opposite direction.

Table 4.16

Correlation between TL and LLP

Factors	Banks		
	EBL	**NABIL**	**SCBNL**
r	0.9556	0.9103	-0.1758
r^2	0.9193	0.8287	0.0309
Calculated 't' Value	5.608	3.805	0.2295
Tabulated 't' Value	2.201	2.201	2.201
Remarks	Significant	Significant	Insignificant
Relationship	High Degree of Positive Correlation	High Degree of Positive Correlation	Low Degree of Negative Correlation

Source: Appendix-I, II & III

The above table describes the relationship between total loan and total loan loss provisions during the period of study. The coefficient of correlation (r) of EBL between total loan and total loan loss provision is 0.9556. This figure shows the positive association between total loan and loan loss provision. It means total loan and loan loss provision both move towards same direction. The coefficient of determination (r^2) is 0.9193 it shows that 91.93% of the variation in the dependent variable (i.e. loan loss provision) has been explained by the independent variable (i.e. total loan). The calculated 't' value of EBL is greater than the tabulated value i.e. 5.608 > 2.201, therefore it reveals that the relationship between total loan and loan loss provision is significant.

The coefficient of correlation (r) of NABIL between total loan and total loan loss provision is 0.9103. This figure shows the positive association between total loan and loan loss provision. It means total loan and loan loss provision both move towards same direction. The coefficient of determination (r^2) is 0.8287 it shows that 82.87% of the variation in the dependent variable (i.e. loan loss provision) has been explained by the independent variable (i.e. total loan). The calculated 't' value of NABIL is greater than the tabulated value i.e. 3.805 > 2.201, therefore it reveals that the relationship between total loan and loan loss provision is significant.

The coefficient of correlation (r) of SCBNL between total loan and total loan loss provision is -0.1758. This figure shows the negative association between total loan and

loan loss provision. It means total loan and loan loss provision both move towards opposite direction. The coefficient of determination (r^2) is 0.0309 it shows that 3.09% of the variation in the dependent variable (i.e. loan loss provision) has been explained by the independent variable (i.e. total loan). The calculated 't' value of SCBNL is less than the tabulated value i.e. 0.2295 < 2.201, therefore it reveals that the relationship between total loan and loan loss provision is significant.

4.6 Trend Analysis

Trend analysis has been a very useful and commonly applied statistical tool to forecast the future events in quantitative terms. On the basis of tendencies in the dependent variables in the past periods, the future trend is predicted. This analysis takes the historical data as the basis of forecasting. This method of forecasting the future trend is based on the assumptions that the past tendencies of the variable are repeated in the future or the past events affect the future events significantly The future trend is forecasted by using the following formula.

$$Y = a + bx$$

where,

Y = the dependent variable

a = Y intercept

b = the slope or the rate of change of Y per unit change in x

x = the independent variable

Under this topic, trend analysis of loan loss provisions is studied during the period. The objective of this topic is to forecast the LLP for the next two years. The projections are based on the following assumptions.

- The bank will run in the present style.
- Nepal Rastra Bank and the Government of Nepal will not make any amendments in the guidelines for the operation of commercial banks.
- Other all the things also remain constant.

The following table describes the actual and trend values of LLP of sampled banks for five years.

Table: 4.17

Actual value & Trend Value of LLP

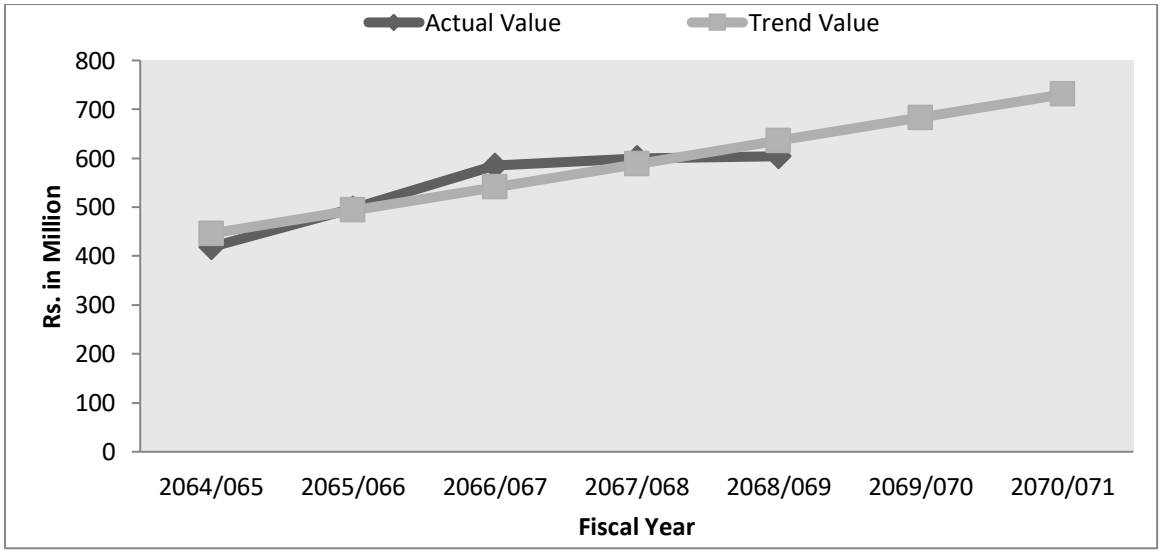
(Rs. In millions)

Year	EBL		NABIL		SCBNL	
	Actual Value	Trend Value	Actual Value	Trend Value	Actual Value	Trend Value
2064/65	418.6	446.24	357.25	279.66	270.86	268.27
2065/66	497.35	493.62	394.41	419.25	287.51	263.77
2066/67	584.88	541	409.07	558.84	245.39	259.27
2067/68	600.04	588.38	762.09	698.43	200.95	254.77
2068/69	604.15	635.76	871.39	838.02	291.63	250.27
2069/70	-	683.14	-	977.61	-	245.77
2070/71	-	730.52	-	1117.2	-	241.27
Mean (a)	541		558.84		259.27	
Intercept (b)	47.38		139.59		(4.5)	
Trend Line (Y)	Y = 541 + 47.38 X		Y = 558.84 + 139.59 X		Y = 259.27 – 4.5 X	

Source: Appendix IV, V & VI

Figure: 4.13

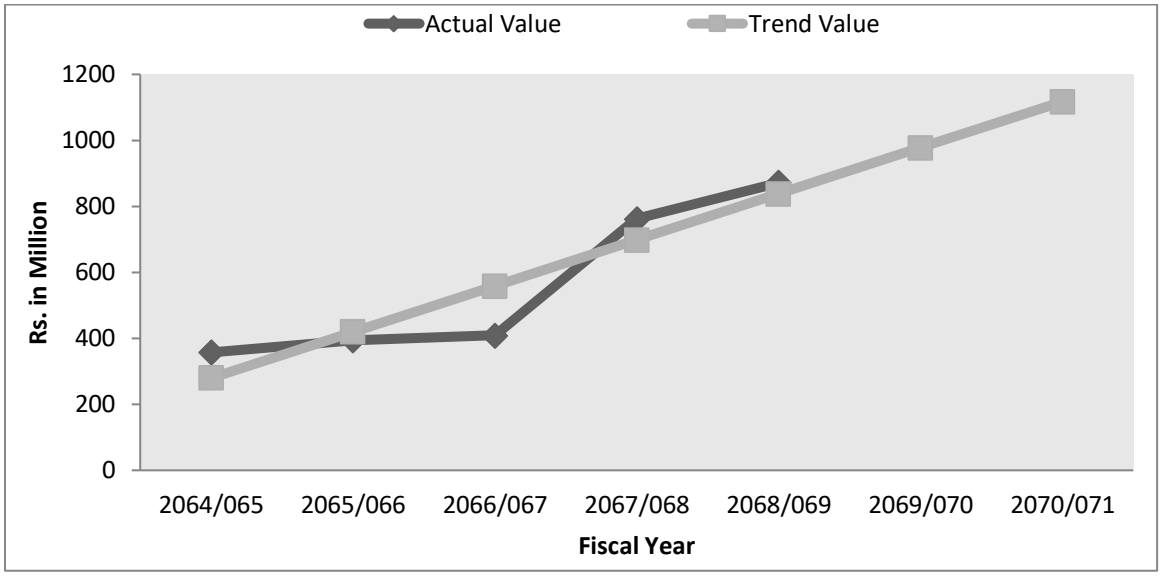
Actual & Trend Line of LLP of EBL



The above table 4.15 and figure 4.13 shows that the trend line of loan loss provision is in increasing trend of EBL. Since, the calculated value of 'b' is positive it is found that the bank's loan loss provisions are increasing with time. If other things remaining the same, it shows that the loan loss provisions increasing by Rs. 47.38 million Every year and it will be Rs. 683.14 & Rs. 730.52 million in the fiscal year 2069/70 and 2070/71 respectively.

Figure: 4.14

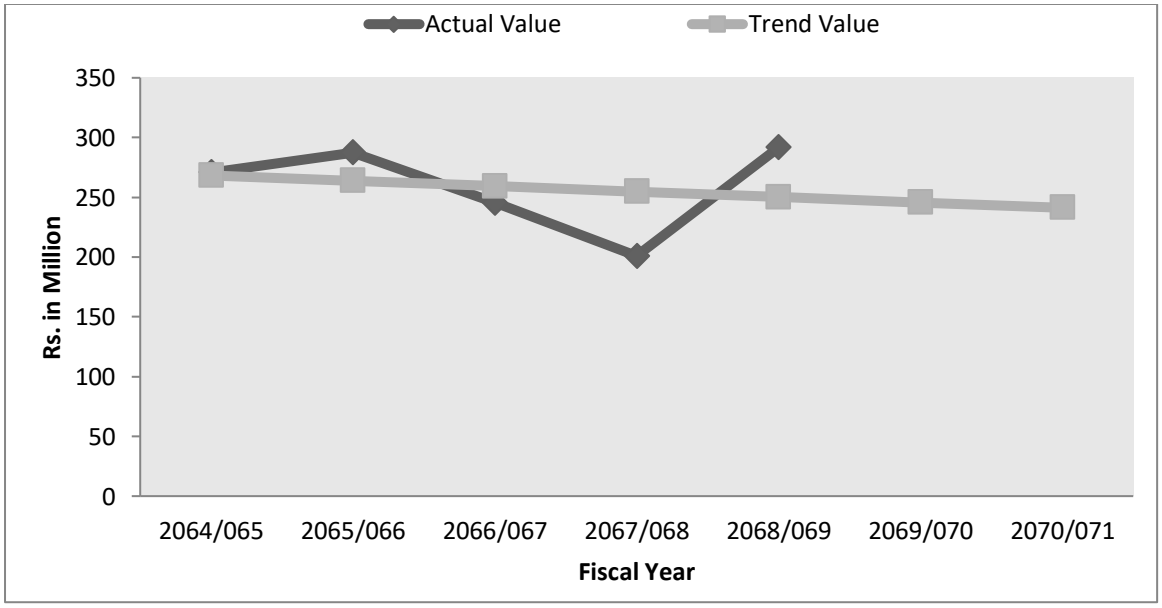
Actual & Trend Line of LLP of NABIL



The above table 4.15 and figure 4.13 shows that the trend line of loan loss provision is in increasing trend of NABIL. Since, the calculated value of 'b' is positive it is found that the bank's loan loss provisions are increasing with time. If other things remaining the same, it shows that the loan loss provisions increasing by Rs. 47.38 million Every year and it will be Rs. 977.61 & Rs. 1117.2 million in the fiscal year 2069/70 and 2070/71 respectively.

Figure: 4.15

Actual & Trend Line of LLP of SCBNL



The above table 4.15 and figure 4.13 shows that the trend line of loan loss provision is in decreasing trend of SCBNL. Since, the calculated value of 'b' is Negative it is found that the bank's loan loss provisions are decreasing with time. If other things remaining the same, it shows that the loan loss provisions decreasing by Rs. 4.5 million Every year and it will be Rs. 245.77 & Rs. 241.27 million in the fiscal year 2069/70 and 2070/71 respectively.

4.7 Major Findings

- The core capital, total capital fund and total risk weighted assets of EBL are in increasing trend over the study period but the supplementary capital is decreasing after the fiscal year 2065/066 and that of SCBNL and NABIL are in increasing trend over the study period.
- As per BASEL I capital adequacy norms, core capital should be 6% of total risk weighted assets and Capital Fund should be not less than 10% of total risk weighted assets. All the sample banks meet the regulatory requirement as per the norms.
- Out of total risk weighted exposure, EBL has higher percentage of Credit Risk and lower percentage of market risk. It has 93.73 percent of credit risk, 6.92 percent of operational risk and only 0.35 percent of market risk.
- SCBNL has higher percentage of Credit Risk and lower percentage of market risk. It has 85.92 percent of credit risk, 12.65 percent of operational risk and only 1.43 percent of market risk.
- NABIL has credit risk exposure constitute large portion in total RWA, which equal to 92.82% of total risk exposure. Other two risk; operational and market risk constitute 7.03% and 0.15% of total RWA respectively.
- The loans & advances and loan loss provisions of EBL is growing in volume. The average loans & advances and loan loss provisions ratio of the bank is 2.41%, which fulfill the NRB requirements. The standard deviation 0.42% shows the less variation in the ratio of respective year.
- The loans & advances and loan loss provisions of NABIL are growing in volume but loan loss provisions to loan & advance ratio of the bank is in fluctuating trend over the study period. The average ratio of the bank is 2.01%, which fulfill the NRB requirements. The standard deviation is 0.37%.

- The loans & advances of SCBNL are increasing except the year 2066/067 and loan loss provisions of SCBNL are in fluctuating trend. Similarly, loan loss provisions to loan & advance ratio of the bank is in fluctuating trend.
- NPL of EBL is fluctuating trend over the study periods and provisions for NPL are in fluctuating trend. Similarly, a provision for NPL to NPL ratio of the bank is in decreasing trend except the fiscal year 2068/069. The average ratio of the bank is 67.97% and standard deviation is 34.57%.
- NPL of NABIL is increasing trend except the fiscal year 2065/066 and provisions for NPL is in also increasing trend except the fiscal year 2065/066. Similarly, a provision for NPL to NPL ratio of the bank is in fluctuating trend. The average ratio of the bank is 66.66% and standard deviation is 12.83%.
- NPL of SCBNL is fluctuating trend over the study periods and provisions for NPL is in decreasing except the year 2065/066. Similarly, a provision for NPL to NPL ratio of the bank is in decreasing trend. The average ratio of the bank is 79.36% and standard deviation is 14.35%.
- The coefficient of correlation (r) between total loan and total loan loss provision of EBL is 0.9556, NABIL is 0.9109 and SCBNL is -0.1758.
- There is significant relationship between total loan and loan loss provisions of EBL & NABIL. Similarly, there is insignificant relationship between total loan and loan loss provisions of SCBNL.
- The trend Analysis shows that the loan loss provisions increasing by Rs. 47.38 million each year and it will be Rs. 683.14 & Rs. 730.52 million in the fiscal year 2069/70 and 2070/71 respectively of EBL.
- Loan loss provisions increasing by Rs. 47.38 million each year and it will be Rs. 977.61 & Rs. 1117.2 million in the fiscal year 2069/70 and 2070/71 respectively of NABIL.
- The loan loss provisions decreasing by Rs. 4.5 million each year and it will be Rs. 245.77 & Rs. 241.27 million in the fiscal year 2069/70 and 2070/71 respectively of SCBNL.

CHAPTER V

SUMMARY, CONCLUSION & RECOMMENDATION

5.1 Summary

As the Basel-II capital accord are being imposed internationally as the capital adequacy framework of all financial institutions, Nepalese financial market is also began to be affected by the rules. Nepal Rastra Bank also started imposing capital regulation framework with amendment in every successive. Capital adequacy describes the risk management and risk absorbing capacity of the bank. There must be enough equity capital with the bank to take the risky ventures, this equity capital acts as cushion to absorb loss before it passes on to the deposit holders. These measures also affect the profitability of the banks, which induces banks to invest in less risky ventures.

Banks must maintain capital fund based on amount of assets held and riskiness of the assets held. They must maintain certain percentage of capital fund of the total risk weighted exposure. Risk weight is assigned according to the riskiness of the exposure. For example, risk weight of loan against residential property is lower than risk weight against commercial property. So with the same amount of capital banks can lend lower amount against commercial property vis-à-vis against residential property.

Nepalese banks have started adopting the norms from 2065/066. In order to ensure a smooth transition to new approach prescribed by this framework, a parallel run for the whole year from Mid July 2007 (Fiscal Year 2064/065) was conducted. The returns submitted by the banks during this period were minutely reviewed by NRB to identify any anomalies. The identified shortcoming on the returns was advised to the bank management so that they could be rectified before we move onto fully fledged implementation. Based on the findings of the parallel run, amendments and modifications have been incorporated in the framework wherever deemed necessary. However, there was no penalty for not meeting norms of Basel II during FY 2064/065.

Loan is the major assets of a bank commanding higher proportion of total assets of any bank. This is also a primary function of bank. Primarily, banks are there to accept deposit and to advance credit. Legally, a loan is a contractual promise between two parties where

one party, the creditor, agrees to provide a sum of money to a debtor, who promises to return the money to the creditor either in one lump sum or in parts over a fixed period in time. In addition to the principal, the lending institution generally charges the borrower a fee, referred to as interest on the debt, for the privilege of using this newly-created money. This interest is the major source of income for any bank, which covers interest to be paid to deposit holders and other operational costs like staff salary, rent, utility bills, stationeries etc. Where there is lending there always is risk of default.

According to NRB Directive, all loans are classified in to four categories. The principal or interest of which are not past due or past due for a period up to three months is called pass loan and the banks should make a loan loss provisioning of minimum 1% on outstanding loan for this category of loan. The principal or interest of which are past due for a period of more than 3 months and up to 6 months is called substandard loan and the banks should make a loan loss provisioning of minimum 25% on outstanding loan for this category of loan. The principal or interest of which are past due for a period of more than 6 months and up to 12 months (1 year) is called doubtful loan and the banks should make a loan loss provisioning of minimum 50% on outstanding loan for this category of loan. Similarly, the principal or interest of which are past due for a period of more than 1 year is called loss loan and the banks should make a loan loss provisioning of 100% on outstanding loan for this category of loan.

Therefore, this study is concerned to find out the capital adequacy and level of loan loss provision of Nepalese commercial bank. This study especially focuses on three commercial banks of Nepal, viz. EBL, NABIL and SCBNL only, out of the 32 commercial banks operating in the banking industry of Nepal. To fulfill the research objectives this study is divided into five main chapters. The first chapter includes general background of the study, statements of the problems, objectives of the study, significances of the study, limitations of the study and organization of the study. The second chapter deals with review of the different literature in regards to the theoretical analysis and review of books, articles and thesis related to the study field. The third chapter includes research design, population and sample, sources of the information used, period of the study, financial indicators and the statistical tools used. Similarly, the fourth chapter includes presentation of the financial variables and statistical tools used while interpreting the data so collected from the different sources and major findings of the

study is also include in this chapter and the last chapter briefly represents the summery of the whole study and the conclusions and the recommendations for the effective and smooth running of the concerned commercial banks under the study.

5.2 Conclusion

After detail analysis of capital adequacy directives issued by NRB Basel-II recommendations, international practice in capital adequacy and loan loss provision , the current status of Nepalese commercial banks and their management effort to built strong capital base and loan loss provision. Following conclusions are drawn based on quantitative and qualitative analysis on the sampled data of selected commercial banks related to capital adequacy and loan loss provisions. During the study period, the risk management system of the commercial banks as well as the operating environment of the commercial banks has improved significantly. Accordingly, a revised capital adequacy framework and loan loss provision is justified in order to capture the various factors affecting banks risk exposures. However, the proposed changes assess capital adequacy little bit more complex procedure than under the existing condition before July 2008. Since there are the provisions for supervisory response and the banks themselves would be granted more discretionary power on the application of provisions, it is therefore, assumed to be more relevant frame as it is revised.

Previously about 25% of the total commercial banks were unable to maintain capital adequacy norms based on core capital to risk weighted assets. However, the rate of banks maintaining low or negative capital fund has been significantly decreased by the end of 2008. Sample banks seem satisfactory in terms of their capita condition with respect to total risk weighted exposure and loan loss provision. One of the challenges of Commercial banks to maintain capital standard is found to be non-performing assets that are growing in volume and magnitude. This is mainly due to defective lending policies there is also challenge created from increase in loan loss provision and non-banking assets provisions. This has made regulation to undertake shock monitoring and supervision.

As per the analysis of Basel, capital regulation framework it has been concluded that it has helped in developing suitable prudential norms to save the banks and financial institutions from financial crisis and signals of failure. It has become important to prevent

unfavorable impact on the economy. During the study period, the operating environment of the banks has changed radically, and their risk management systems have also improved. In the new conditions, the calculation of capital charges under the current regime has proved insufficient because it covers only risk. Accordingly, a revision of the capital adequacy framework is justified in order to capture the various factors affecting banks risk exposure. Due to the ever-changing investment pattern of the commercial banks and the inconsistency in the bank's management and policies, despite the continuous growth in the capital fund from its components but the rate of growth is very volatile and there is no consistency in the trend of capital fund.

Analyzing the relationship of the capital fund with the non-performing loan, Correlation of capital fund with the non-performing loan is found to be perfectly negative. As the analysis has been made about the trend of nonperforming loan and the capital of the past 5 Years, Total capital fund tends to be increasing in all the years where the NPL tend to decrease. Majority of the bankers and experts believe that the present capital adequacy framework prescribed by the central bank is adequate and the commercial banks should follow the standards for the betterment of every concerned parties associated directly or indirectly with the performance and risk of the bank. The capita standard framework is somehow complicated in the sense that, it is difficult to compute and update the ever-changing RWA and the risk components. Most of the respondents believe that the framework is complicated as well as the training provided by the regulatory body (NRB) is not well enough to change the existing composition of capital components. One of the new directives of the NRB about the maintenance of the paid up capital at least 2 billion by 2010 is not good for the development of the commercial banking industry in Nepal. Moreover, the same capital standard for the all banks operating in the demographic variation is not good for the health and performance of the commercial banks.

5.3 Recommendations

After detail analysis of the capital adequacy framework and loss provision by the NRB, Basel-II report and other related sources, following recommendations are made to fill the leakage and improve the capital adequacy of the commercial banks of Nepal. To develop prudent capital adequacy norms and to make strong capital base in commercial banks, based on the findings of the study, following suggestions are forwarded.

- Commercial banks are seem to be focused only on minimization of credit risk, but low focus on the effect of the market risk and operational risk, so they are suggested to give appropriate weighted for the market and operational risk as well. By the end of 2010 branches of the international banks can be established in Nepal as the globalization and membership of Nepal with WTO, adequate capital and risk assessment provide the base to compete with the international financial institutions.

- To maintain the adequate capital, the creditworthiness of the commercial banks should be assessed which is not currently available in Nepalese financial market. Therefore, in the direction of the NRB, a national level credit rating agency should be established and the capital adequacy framework should be imposed according the credit rating of the institutions. This will prevent the burden of the banks having high credit worthiness to maintain more capital.

- Adequate rules and capital adequacy should be issued for nonbank thrift institutions as well, because they are the institutions competing with the commercial and other banks and the customers of both industries are same. So to protect the savers, along with the banking industry, other financial institutions are also should be complied with the new framework of capital adequacy.

- Good management information's system and risk management technique should be implemented. Supervisory response should be done regularly and huge negative net worth problem should be solved by introducing reasonable tools by the regulatory body. For risk management, banks should always focus on efficient portfolio of assets and maturity matching of liabilities with the assets.

- Commercial banks should also focus on the supplementary capital as the major component of the capital fund. Moreover, it has been found that only few commercial banks are using the risk mitigation techniques, so they are advised to make a move towards the risk mitigation to make more of their fund eligible for capital fund.

- In course of action of maintaining capital adequacy, NABIL bank should prepare clear capital plan and maturity matching of its assets and liability portfolio. To

increase its capital adequacy it should open the path of two short of capital fund inflow. One is to increase the internal fund mobilization and another is external fund mobilizations. Internal fund mobilization can be possible through improving profitability position of the bank and retaining the more fund in risk reserves. Revaluation of assets and displacement of risky securities investment to treasury bills can also improve the capital adequacy problem. Likewise, capital fund can also be improved through external sources, like issue of additional equity shares in premium and issue of nonredeemable preference shares.

- As per the new regularity issue of the commercial Banks, NRB has disclosed that, all commercial banks to be eligible for operating as commercial bank, should have at least 2 billion paid up capital by 2010 A. D. None of the commercial bank of Nepal has been able to maintain the paid up capital as mentioned in the directives. So, various alternatives of the capital improvement should be analyzed. To increase the paid up capital the banks can go for stock dividend and bonus shares rather than cash dividend payment.

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Appendix I

Calculation for Mean Value & Correlation Between Total Loan & Loan Loss Provision of EBL

Year	TL (X_1)	LLP (X_2)	$x_1=X_1-\bar{x}_1$	$x_2=X_2-\bar{x}_2$	$x_1 . x_2$	x_1^2	x_2^2
2064/65	14082.67	418.6	-9,358.71	-122.40	1,145,543.05	87,585,377.99	14,982.74
2065/66	18836.43	497.35	-4,604.95	-43.65	201,024.31	21,205,527.66	1,905.67
2066/67	24,469.55	584.88	1,028.17	43.88	45,112.16	1,057,141.77	1,925.10
2067/68	28,156.39	600.04	4,715.01	59.04	278,355.57	22,231,357.02	3,485.25
2068/69	31,661.84	604.15	8,220.46	63.15	519,089.42	67,576,028.38	3,987.42
$N_1 = 5$ $N_2 = 5$	**$\sum X_1$ =117206.88**	**$\sum X_2$ = 2705.02**			**$\sum x_1.x_2$ = 2189124.51**	**$\sum x_1^2$= 199655432.83**	**$\sum x_2^2$= 26286.18**

For TL,

$$\text{Mean } (\bar{X}) = \frac{\sum X_1}{N_1} = \frac{117206.88}{5} = 23441.38$$

For LLP,

$$\text{Mean } (\bar{X}) = \frac{\sum X_2}{N_2} = \frac{2705.02}{5} = 541.00$$

Correlation between TL & LLP,

$$(r_{12}) = \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \ \sum x_2^2}}$$

$$= \frac{2189124.51}{\sqrt{199655432.83 \times 26286.18}} = 0.9556$$

$$r^2 = 0.9556^2 = 0.9131 \text{ Or, } 91.31\%$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

$$= \frac{0.9556}{\sqrt{1-0.9556^2}} \times \sqrt{5-2} = 5.608$$

Appendix II

Calculation for Mean Value & Correlation Between Total Loan & Loan Loss Provision of NABIL

Year	TL (X_1)	LLP (X_2)	$x_1=X_1-\bar{x}_1$	$x_2=X_2-\bar{x}_2$	$x_1 . x_2$	x_1^2	x_2^2
2066/65	15903.02	357.25	-11,616.57	-201.59	2,341,807.58	134,944,698.56	40,639.33
2065/66	21759.46	394.41	-5,760.13	-164.43	947,149.70	33,179,097.62	27,037.88
2066/67	27,999.01	409.07	479.42	-149.77	-71,803.69	229,843.54	22,431.65
2067/68	33,030.97	762.09	5,511.38	203.25	1,120,176.96	30,375,309.50	41,309.75
2068/69	38,905.49	871.39	11,385.90	312.55	3,558,640.27	129,638,718.81	97,686.25
$N_1 = 5$ $N_2 = 5$	**$\sum X_1$ =137597.95**	**$\sum X_2$ = 558.84**			**$\sum x_1.x_2$ = 7895970.82**	**$\sum x_1^2$= 328367668.03**	**$\sum x_2^2$= 229104.87**

For TL,

$$\text{Mean } (\bar{X}) = \frac{\sum X_1}{N_1} = \frac{137597.95}{5} = 27519.59$$

For LLP,

$$\text{Mean } (\bar{X}) = \frac{\sum X_2}{N_2} = \frac{2794.21}{5} = 558.84$$

Correlation between TL & LLP,

$$(r_{12}) = \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \ \sum x_2^2}}$$

$$= \frac{7895970.82}{\sqrt{328367668.03 \times 229104.87}} = 0.9103$$

$$r^2 = 0.9103^2 = 0.8287 \text{ Or, } 82.87\%$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

$$= \frac{0.9103}{\sqrt{1-0.9103^2}} \times \sqrt{5-2} = 3.805$$

Appendix III

Calculation for Mean Value & Correlation Between Total Loan & Loan Loss Provision of SCBNL

Year	TL (X_1)	LLP (X_2)	$x_1=X_1-\bar{x}_1$	$x_2=X_2-\bar{x}_2$	$x_1 . x_2$	x_1^2	x_2^2
2064/65	9206.28	270.86	-3,557.85	11.59	-41,242.64	12,658,325.09	134.37
2065/66	10593.13	287.51	-2,171.00	28.24	-61,313.49	4,713,258.37	797.61
2066/67	13,963.98	245.39	1,199.85	-13.88	-16,651.46	1,439,630.42	192.60
2067/68	13,880.70	200.95	1,116.57	-58.32	-65,115.90	1,246,719.63	3,400.99
2068/69	16,176.58	291.63	3,412.45	32.36	110,433.58	11,644,787.70	1,047.30
$N_1 = 5$ $N_2 = 5$	**$\sum X_1 =$ 63820.67**	**$\sum X_2 =$ 1296.34**			**$\sum x_1.x_2 =$ - 73889.92**	**$\sum x_1^2=$ 31702721.21**	**$\sum x_2^2=$ 5572.87**

For TL,

$$\text{Mean } (\bar{X}) = \frac{\sum X_1}{N_1} = \frac{63820.67}{5} = 12764.13$$

For LLP,

$$\text{Mean } (\bar{X}) = \frac{\sum X_2}{N_2} = \frac{1296.34}{5} = 259.27$$

Correlation between TL & LLP,

$$(r_{12}) = \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \ \sum x_2^2}}$$

$$= \frac{-73889.92}{\sqrt{31702721.21 \times 5572.87}} = -0.1758$$

$$r^2 = 0.1758^2 = 0.0309 \text{ Or, } 3.09\%$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

$$= \frac{0.1758}{\sqrt{1+0.1758^2}} \times \sqrt{5-2} = 0.2295$$

Appendix IV

Calculation of Trend Value of LLP of EBL, NABIL & SCBNL

Fiscal Year	t	X=t-3	x^2	EBL		NABIL		SCBNL	
				Y_1	XY_1	Y_2	XY_2	Y_3	XY_3
2064/065	1	-2	4	418.6	-837.2	357.25	-714.5	270.86	-541.72
2065/066	2	-1	1	497.35	-497.35	394.41	-394.41	287.51	-287.51
2066/067	3	0	0	584.88	0	409.07	0	245.39	0
2067/068	4	1	1	600.04	600.04	762.09	762.09	200.95	200.95
2068/069	5	2	4	604.15	1208.3	871.39	1742.78	291.63	583.26
Total	**0**		**10**	**2705.02**	**473.79**	**2794.21**	**1395.96**	**1296.34**	**-45.02**

Calculation of intercept of 'y' when t = 0

$$a_1 = \frac{Y_1}{N_1} = \frac{2705.02}{5} = 541.00$$

$$a_2 = \frac{Y_2}{N_2} = \frac{2794.21}{5} = 558.84$$

$$a_3 = \frac{Y_3}{N_3} = \frac{1296.35}{5} = 259.27$$

Calculation of Slope of Trend Line

$$b_1 = \frac{XY_1}{x^2} = \frac{473.79}{10} = 47.38$$

$$b_2 = \frac{XY_2}{x^2} = \frac{1395.96}{10} = 139.59$$

$$b_3 = \frac{XY_3}{N_3} = \frac{-45.02}{10} = -4.5$$

Therefore the trend line equations are:

$$Y_1 = a_1 + b_1 x$$

$$Y_2 = a_2 + b_2 x$$

$$Y_3 = a_3 + b_3 x$$

Appendix V

Forecasted Value

Rs. In millions

Year	X	NABIL			SCBNL
		Actual Value	Trend Value	Actual Value	Trend Value
2064/65	-2	357.25	558.84 + 139.59 × (2) = 279.66	270.86	259.27 – 4.5 × (2)= 268.27
2065/66	-1	394.41	558.84 + 139.59 × (1)= 419.25	287.51	259.27 – 4.5 × (1)= 263.77
2066/67	0	409.07	558.84 + 139.59 × 0 = 558.84	245.39	259.27 – 4.5 × 0= 259.27
2067/68	1	762.09	558.84 + 139.59 × 1= 698.43	200.95	259.27 – 4.5 × 1= 254.77
2068/69	2	871.39	558.84 + 139.59 × 2 = 838.02	291.63	259.27 – 4.5 × 2= 250.27
2069/70	3	-	558.84 + 139.59 × 3 = 977.61	-	259.27 – 4.5 × 3 = 245.77
2070/71	4	-	558.84 + 139.59 × 4 = 1117.2	-	259.27 – 4.5 × 4 = 241.27
Mean (a)			558.84	259.27	
Intercept (b)			139.59	(4.5)	
Y = a + bX			Y = 558.84 + 139.59 X	Y = 259.27 – 4.5 X	

Appendix VI

Forecasted Value

Rs. In millions

Year	X	EBL	
		Actual Value	Trend Value
2064/65	-2	418.6	541 + 47.38 × (2)= 446.24
2065/66	-1	497.35	541 + 47.38 × (1)= 493.62
2066/67	0	584.88	541 + 47.38 × 0 = 541
2067/68	1	600.04	541 + 47.38 × 1= 588.38
2068/69	2	604.15	541 + 47.38 × 2 = 635.76
2069/70	3	-	541 + 47.38 × 3 = 683.14
2070/71	4	-	541 + 47.38 × 4 = 730.52
Mean (a)			541
Intercept (b)			47.38
Y = a + bX			Y = 541 + 47.38 X