

CREDIT RISK MANAGEMENT OF COMMERCIAL BANKS IN NEPAL  
WITH SPECIFIC REFERENCE TO KUMARI BANK LIMITED  
AND MACHHAPUCHCHHRE BANK LIMITED

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And found the thesis to be the original work of the student written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for Master's Degree in Business Studies (M.B.S.)

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## DECLARATION

I hereby declare that the work done in thesis entitled CREDIT RISK MANAGEMENT OF COMMERCIAL BANKS IN NEPAL (KUMARI BANK LIMITED AND MACHHAPUCHCHHRE BANK LIMITED) has been submitted to Lumbini Banijya Campus, Faculty of Management, Tribhuvan University, is my own created work reported in the form of partial fulfillment of the requirement of Master's of Business Studies (M.B.S.) course under the guidance of respected supervisor Mr. Krishna Gautam, Associate Professor of Lumbini Banijya Campus.

Amar Kumar Nepali

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## LIST OF ABBREVIATIONS USED

A. D.	: Anno Domini
ALCO	: Assets Liabilities Management Committee
CAR	: Capital Adequacy Ratio
CEO	: Chief Executive Officer
CIC	: Credit Information Centre
CPG	: Credit Policy Guideline
CRR	: Cash Reserve Ratio
ECA	: Export Credit Rating Agencies
EPS	: Earning Per Share
ESC	: Executive Sub Committee
FIs	: Financial Institutions
IPO	: Initial Public Offering
IRR	: Interest Rate Risk
KBL	: Kumari Bank Limited
LBL	: Lumbini Bank Limited
MBL	: Machhapuchchhre Bank Limited
N BA	: Non Banking Asset
NABIL	: Nabil Bank Limited
NBBL	: Nepal Bangladesh Bank Limited
NBL	: Nepal Bank Limited
NIBL	: Nepal Investment Bank Limited
NPL	: Non Performing Loan
NRB	: Nepal Rastra Bank
NSBL	: Nepal SBI Bank Limited
RBB	: Rastriya Bnija Bank
ROE	: Return on Equity
SCBNL	: Standard Chartered Bank Nepal Limited
WTO	: World Trade Organization

# **CHAPTER I**

## **INTRODUCTION**

### **1.1. General Background**

No doubt commercial banks are in the risky business. In the process of providing various banking services including financial service to the customers, they assume various kinds of risks among which credit risk is one of the most important risks that covers the significant portion of the total risk and must be addressed properly in timely manner.

While commercial banks have faced difficulties over the years for a multitude of reasons, the major cause of serious banking problems continues to be directly related to the lax credit standards for borrowers and counterparties, poor portfolio risk management, or a lack of attention to changes in economic or other circumstances that can lead to deterioration in the credit standing of a bank's counterparties. Since the exposure to credit risk continues to be the leading source of problems in commercial banks world-wide, the banks should now have a keen awareness of the need to identify, measure, monitor, manage and control the credit risk as well as determine that they hold adequate capital against these risks and that they are adequately compensated for the risks assumed.

The recent development in last couple of years globally in banking sector, hundreds of small banks were collapsed and some of big banks were protected by the Government in

USA. Recently two major banks in Dubai have declared insolvent themselves who has major portion of lending portfolio in Real Estate Sector. This has occurred due to poor risk management in the concerned sector by bank management. In Nepal also, one of Development Bank named Nepal Development Bank Limited, in the instruction of Central Bank of Nepal, is under process of liquidation due to inefficient management team for lacking of managing various risks involved and safeguard of depositors interest.

Commercial banks, themselves, have taken up precautionary measures in their credit risk management. To boost up their step Central Bank of Nepal, Nepal Rastra Bank, has been issuing guidelines in this regard and doing supervision for the compliance of the same. Looking at the global scenario Nepal Rastra Bank has also enforced commercial bank to strictly implement the BASEL II which is globally effective in banking/financial industry.

Though the banking sector has been facing different types of risks, major banking problems have been either explicitly or indirectly caused by the weaknesses in credit risk management. So, in this study, the researcher has focused mainly on the credit risk management of the commercial banks in Nepal. However, the brief introduction of other risks like liquidity risk, interest risk, operation risk and foreign exchange risk is also included.

### **1.1.1 Banking System in Nepal**

Sound banking system is the crucial means to accelerate the development of a country by strengthening the economic condition in this globalized economy of the twenty-first century. This requires the well-developed corporate culture, proper management of risk and return and healthy competitive environment that facilitate mobilization of small saving in the commercial and industrial sectors that will enhance the economic and social welfare of a country.

Banking when properly organized, aids and facilitates growth on trade and considered not as dealers in money but as the leader of development. Bank are not just the storehouse of the country's wealth but are the reservoirs of resources necessary for economic development (Radhaswami and Vasudevan, 1991: 29).

In Nepal formal banking was started with the establishment of Nepal Bank Limited in 1937 AD having 100% stake of Nepal Government and modern banking was started in Nepal with the operation of Nabil Bank Limited (formerly known as Nepal Arab Bank Limited) in 1984 AD as a First Joint Venture Commercial Bank. Initially commercial banks were involved in limited activities but nowadays banking/financial sectors have been offering wide range of products to its consumers. With rapid growth in establishment of banking/financial institutions in Nepal, the consumers are benefited having various types of products/schemes due to tough competition among them. The banks/financial institutions have to compete among them in limited market space. Due to

the growing numbers of banking/financial institutions and competition as well, their main chunk of income areas of lending portfolio have been facing problem in managing risks associated with the sector because they have to pay back depositors money on demand but they can not get back their lending on demand from their borrowers/customers. In such scenario, if credit risks are not managed and addressed properly, then commercial banks have to go through very disasterous situation which has ultimately adverse effect on national economy.

With the growth rate of banking industry from the 1984 A.D., the risk on banking has also made a mark simultaneously. Virtually all banks have suffered from the credit risk, which is associated with the non-payment of loan by the borrowers. Nepal Bank Limited and Rastriya Banijya Bank are the greatest victims of such risk, leading these banks to have negative net worth. That is why, this study is mainly focused on the credit risk faced by the commercial banks.

Commercial banks collect deposits from individuals and invest/lend them in part as loan and advance to the borrowers and receive interest as the output of the business. Commercial banks' profit and operating cost are borne by these interest income from loans. When these interests as well as the principal are not collected in due time, the existence of the bank and the deposits of individuals will be in threat. So, necessary arrangements must be made and implemented by the banks and government to avert this situation. In addition to the credit risk, the bank also faces other risks. According to the

Nepal Rastra Bank Unified Directives 2009, the major sources of risk are credit risk, liquidity risk, foreign exchange risk, interest rate risk, operation risk etc.

## **1.2 Brief Introduction of Banks under Study**

The study has selected Kumari Bank Limited (KBL) and Machhapuchhre Bank Limited (MBL) as samples for the study. Since their date of establishment and the size of capital are also quiet similar, these two banks are chosen for study. The brief introduction of these banks is as follows:

### **a. Kumari Bank Limited**

Kumari Bank Ltd (KBL) was established in December 10, 1999 as the fifteenth commercial bank in Nepal and started its operation from March 3, 2001. The head office of KBL is located at Putalisadak, Kathmandu. The bank has 28 branches including its head office and 26 Automated Teller Machine (ATM) in different locations of the country. The bank has 364 employed and 9 members Board of Directors including Chief Executive Officer.

The bank has total paid-up capital of Rs.1,306.02 million as on fiscal year 2009/10. The bank has deposit, Loan and Advances and investment of Rs.17.44 billion, Rs.14.77

billion and Rs.2.30 billion respectively in fiscal year 2009/10. The bank has 0.50% Non Performing Loan as on fiscal year 2009/10.

### **b. Machhapuchchhre Bank Limited**

Machhapuchchhre Bank Limited started its operation on December 10, 2000 as the 14th commercial bank and the first commercial bank in the western part of Nepal. The head office of Machhapuchchhre is located in Pokhara and the corporate office is in Kathmandu. The bank has 39 branches and 47 Automated Teller Machine (ATM) located all over the major parts of the country. The bank has 492 employed and 9 members Board of Directors including Chief Executive Officer.

The bank has total paid-up capital of Rs.1,627.10 million as on fiscal year 2009/10. The bank has deposit, Loan and Advances and investment of Rs.18.54 billion, Rs.14.98 billion and Rs.2.76 billion respectively in fiscal year 2009/10. The bank has 2.32% Non Performing Loan as on fiscal year 2009/10.

### **1.3 Statement of Problem**

Banking industry in the eyes of the layman appears as a very profitable sector with the net profit of the whole banking system as Rs.21.26 billion in Mid July 2010 (Source Banking and Financial Statistics, Mid July 2010). However, unlike the general perception, the industry is plagued with immense challenges to sustain it and outpace those within the industry, mainly due to rising competition among commercial banks in

addition to weak economic situation of the country, indicated by the GDP growth rate of 3.50% in the fiscal year 2009/10 according to Monetary Policy for 2010/11.

One of the major challenges is the government's policy of liberalization of the banking industry from January 2010, which has allowed the foreign banks to operate their branch in Nepal without joint venture of Nepalese investors. This has resulted in the increased pressure for Nepalese commercial banks to face the competition of foreign banks. Similarly, Nepal Rastra Bank (NRB) directives to commercial banks to increase the paid up capital to Rs. 2 billion by fiscal year 2013/14 has challenged most of the commercial banks in Nepal (NRB, 2009) (Banking and Financial Statistics, Mid-July 2009).

Another major problem of the banking sector in Nepal is the Credit Risk. Poor lending practices, which are indicated by poor financial analysis of borrowers, inadequate or low quality collateral and improper portfolio analysis, poor tracking of credit and intention of borrowers to default have resulted in the high amount of Non Performing Loan of major commercial banks such as Nepal Bank Ltd (NBL) and Rastriya Banijya Bank (RBB). The whole commercial banks in Nepal have held non-performing loan of 2.54% of Total Gross Loan in fiscal year 2009/10 (Source Banking and Financial Statistics, Mid July 2010).

Present challenges to the banking sector are to invest the money in productive as well as profitable sector and to manage the accumulated non-performing loan. Similarly, there is the problem of high credit concentration risk. The recovery of loan is also the major

challenge for Nepalese Commercial banks. The willful defaulter, that is the client who defaults the loan intentionally, is also one of the major problem of Nepalese commercial banks especially for NBL and RBB.

Further, the issuance of new 21 unified directives by the NRB in 2010 has also provided the commercial banks different measures related to credit risk, interest rate risk, foreign exchange risk, liquidity risk and operation risk coupled with maintaining adequate capital to safeguard the interest of investors, depositors and shareholders. Among these, the loan loss provisioning and capital adequacy measures have been providing the major challenges to Nepalese commercial banks. That's why, the study has mainly focused on the credit risk.

Kumari Bank Limited and Machhapuchhre Bank Limited established as 15<sup>th</sup> and 14<sup>th</sup> commercial banks in Nepal respectively are not isolated with above mentioned challenges and problems faced by the entire banking industry. More specifically, the major problems related to these banks are proper compliance of NRB Directives and international measures.

Therefore, within this liberalized competitive market scenario, the stringent credit risk management, compliance of NRB's prudential and Basel II are the major problems and challenges for these banks to sustain and grow in the industry.

The study is focused on measurement and comparison of credit risks of the selected commercial banks i.e. MBL and KBL, analysis of Credit Risk Management systems and practice followed by the Nepalese Commercial Banks by taking KBL and MBL as the sample banks, the analysis of the directives of Nepal Rastra Bank issued to commercial banks and also is focused on finding out if the banks have taken proper measures to be adequately compensated for the credit risk they hold.

Hence, the present study attempts to address the following issues:

01. How do Nepalese Commercial Banks measures credit (default) risk ?
02. What are the responsible factors affecting the credit risk ?
03. What are organizational structure being followed by Nepalese Commercial Banks in managing credit risk ?
04. Are there any further implication of different policies on credit risk management ?

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

The study aims to examine and analyze how the selected commercial Banks have managed mainly credit risk in this competitive Nepalese banking industry. The specific objectives of this study are:

01. To examine the credit risk position of the selected commercial banks in Nepal (KBL and MBL).
02. To analyze the credit risk management system and practices of KBL and MBL.
03. To evaluate the organizational structure of KBL and MBL to manage the credit risk.
04. To evaluate the policy implication credit risk management.

## **1.5 Significance of the Study**

Banking sector is vital sector for economic growth in a country. For the growth and development of this sector, proper management of credit risk by considering the return is required. In today's competitive scenario, several macro economic factors such as political, economical, social and technological factors have increased the challenges to the banking sector. The success of any organization is largely dependent on how properly the organization can manage the risk. Banking sector involves several risks, which need to be handled promptly for the survival and growth. As this research is made mainly to analyze the credit risks and their management in reference to NRB directives and measures, it will provide valuable insight to different stakeholders about the major problems of banks and bank's action for its management. The key stakeholders who will be largely facilitated by this research includes,

Commercial banks under study will highly be benefited by this research. This research identifies their current credit risk management styles, NRB guidelines on credit risk management and organization of basic compliance of such guidelines etc. Further, the banks will know not only the current performance but also the idea about their strengths and weaknesses.

- Individuals, who have keen interest in Nepalese economy and banking sector and will be benefited. This study provides an insight into the organizational credit risk management patterns within the standards set by NRB.

- Policymakers will also be benefited as this paper identifies the problems in credit risk management and identifies the need for formulation of new policies or amendment of old policies.
- Investors, depositors, borrowers also know about the credit risks with these banks to carry out business.

## **1.6 Limitations of the Study**

The outcome of the study is an individual effort. Therefore management, resource mobilization and time constraints limit the in-depth study of all commercial banks operating except commercial banks under study.

- The study is based on primary and secondary data: primary data were collected especially through personal interview and questionnaire during the period of October 2010 to December 2010. Therefore, any changes in the general view, concepts and behavior of the people before and after the period are not included in the study. Therefore, the accuracy of results and conclusions highly depends on the reliability of these facts and the time and situation of data collection.
- The evaluation is made through the analysis of financial statement published and presented by banks. Therefore generalization of the whole banking industry cannot be made.
- The secondary data of only five years are taken i.e. from 2005/06 to 2009/10. Inaccessibility of sufficient information also limits the conclusion drawn from study.

- The study covers only financial aspects of KBL & MBL. Other aspects are not covered by the study.

## **1.7 Organization of the Study**

The study is organized into five chapters. Chapter I is the introductory part of the study. This chapter describes the general background of the study, focus of the study, statement of the problem, objectives of the study, rationale of the study and limitations of the study. Chapter II includes a discussion on the conceptual framework and review of the related and pertinent literature available. The conceptual considerations and review of related literature conducted in this chapter provides a framework with the help of which the study has been accomplished. Chapter III describes the research methodology employed in the study. In this chapter, research design, nature and sources of data, methods of data collection and tools and techniques of data analysis are discussed. Chapter IV consists of presentation and analysis of data, which deals with the empirical analysis of the study and the major findings of the study. Chapter V is the summary, conclusion and recommendations of the study based on the secondary as well as primary data analysis.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

The study has reviewed various related studies and NRB directives for the study. Firstly, the review on the concept of risk and credit risk management is briefly discussed as below:

#### **2.1 Conceptual Review**

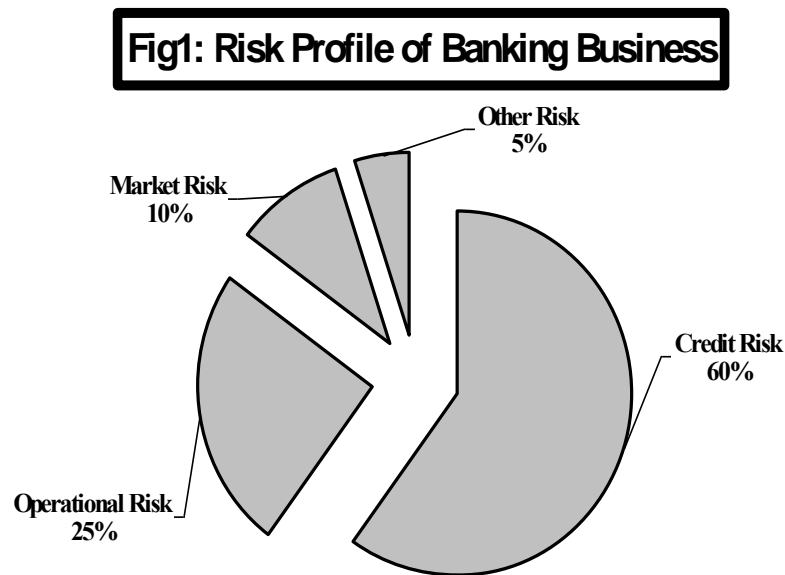
##### **2.1.1 Meaning of Risk**

Risk refers to uncertainty on the investment faced by the investors. It is the possibility that actual outcomes may be different from those expected one. Risk can be defined as the possibility of deviation of the actual return from the expected return. Kupper (2000) defines risk as the volatility of corporation's market value. Risk management, on the other hand, is the process of measuring or assessing risk and then developing strategies for managing the risk. In general, the strategies include transferring or shifting the risk to other parties, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk.

### 2.1.2 Types of Risk Faced by Commercial Banks

Risk and uncertainties are the integral part of banking business. In banking sector, risk refers to the possibility that the bank will turn into liquidation due to various reasons. There are several inherent risks in banking which can be classified into three broad categories i.e. Credit Risk, Market Risk and Operational Risk. (Source Basel II, 2007)

Primarily, risk in the banking context is credit risk through lending in various sectors, which occupies about 60% of total risk portfolio. Therefore, this study is mainly focused on the credit risk. However, the brief introduction of Market Risk and Operational Risk has also been explained. The major sources of risk in banking business are briefly discussed as below:



*Source Economic Survey, Nepal Rastra Bank*

## **i. Credit Risk**

Mr. D. R. Bhandari defines credit risk as Credit risk is most simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms and conditions. Anthony Saunders defines the credit risk as “the risk that the promised cash flows from loans and securities held by FIs (Financial Institutions) may not be paid in full”. Credit risk involves inability or unwillingness of a customer or counterparty to meet commitments in relation to lending, trading, hedging, settlement and other financial transactions. Santomero (1997) views credit risk is generally made up of transaction risk or default risk and portfolio risk. The portfolio risk in turn comprises intrinsic and concentration risk. The portfolio risk depends on both external and internal factors. The external factors are the state of the economy, wide swings in commodity/equity prices, foreign exchange rates, interest rates, trade restrictions, economic sanctions, Government policies, etc. The internal factors are deficiencies in loan policies/administration, absence of prudential credit concentration limits, inadequately defined lending limits for Loan Officers/Credit Committees, deficiencies in appraisal of borrowers’ financial position, excessive dependence on collaterals and inadequate risk pricing, absence of loan review mechanism and post sanction surveillance, etc.

Another variant of credit risk is counterparty risk. Counterparty risk comes from non-performance of a trading partner. The non-performance may arise from counterparty’s refusal to perform due to an adverse price movement caused by systematic factors, or

from some other political or legal constraint that was not anticipated by the principals. Diversification is the major tool for controlling nonsystematic counterparty risk.

Counterparty risk is like credit risk, but it is generally viewed as a more transient financial risk associated with trading than standard creditor default risk. In addition, counterparty's failure to settle a trade can arise from other factors beyond a credit problem.

So, the goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Bank should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization.

## **ii. Market Risk**

As per Basel II, market risk is the risk incurred in the trading of assets and liabilities due to changes in interest rates, exchange rates, and other asset prices. So, Market risk is exposure to the uncertain market value of the firm's asset. Major factors affecting Market risk are Liquidity Risk, Interest Rate Risk and Foreign Exchange Risk.

### **a. Liquidity Risk**

Anthony Saunders says “Liquidity risk arises whenever Financial Institutions’ (FI) liability holders, such as depositors or insurance policyholders, demand immediate cash for their financial claims”. When liability holders demand cash immediately – that is, put their financial claims back to the FI – the FI must either borrow additional funds or sell off assets to meet the demand for the withdrawal of funds or discharging liabilities. An institution is said to have liquidity if it can easily meet its liability holders’ demand for cash either because it has cash on hand or can otherwise raise or borrow cash for discharging liabilities.

In banking sector, Liquidity risk is created when banks hold different sizes of assets and liabilities and mismatch occurs in maturity of the assets and liabilities. Extreme illiquid asset in bank may result in bankruptcy whereas excess liquid asset may carry interest rate risk over the period of time and may be cause of eroding profitability. As it is fatal risk, prudent liquidity management is the primary function of banking sector. Liquidity management is also required to make sure that any shortfall amounts are funded at a reasonable cost, ensure excess fund are invested properly with reasonable returns and without carrying any interest rate risk to the bank.

### **b. Interest Rate Risk (IRR)**

Interest rate risk is the risk incurred by a financial institution when the maturities of its assets and liabilities are mismatched. Interest Rate Risk is the probability of decline in earnings, due to the adverse movements of the interest rates in various markets. The applicable interest earned on assets and liabilities and hence net interest margin is the function of market variables and it may get changed overnight or over a period of time according to the market situation. Changes in the interest rate can significantly alter net interest income depending on the mismatch of assets and liabilities held by the bank. Changes in interest rates also affect the market value of bank's equity.

### **c. Foreign Exchange Risk**

Foreign exchange risk is the risk that any changes in exchange rate may affect the value of a bank's assets and liabilities denominated in foreign currencies. The bank is also exposed to foreign exchange risk, which arises from the maturity mismatching of foreign currency positions. In the foreign exchange business, banks also face the risk of default of the counterparties or settlement risk. While such type of risk crystallization will not cause principal loss, banks may have to undertake fresh transactions in the cash/spot market to replace the failed transactions. Thus, the bank may incur replacement cost, which depends upon the currency rate movements.

### **iii. Operational Risk**

Operational risk *is* associated with the problems of accurately processing, settling, and taking or making delivery on trades in exchange for cash. It also arises in record keeping, processing system failures and compliance with various regulatory regulations. The Basel Committee on Banking Supervision, Basel (2007), defines operational risk as “the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.”

Operational risk arises from inadequate control systems, operational problems and breaches in internal controls, fraud and unforeseen catastrophes leading to unexpected losses for a bank. Many of the operational-risk-related functions such as regulatory compliance, finance management, frauds, IT, legal, and insurance are carried out by the staff and thus human resources itself becomes a cause for operational risk. (Leippoldy2003).

## **2.2 Review of NRB Directives Related to Credit Risk**

The main focus of this study is to analyze the directives of Nepal Rastra Bank related to Credit Risk Management of Commercial Banks. The directives issued from time to time are one of the tools used by the central bank to control and monitor the commercial banks. In the present context, the directives are issued by NRB quite regularly. In 2005, NRB, by using the rights given by the Nepal Rastra Bank Act 2058, has issued unified directives to regulate all four categories of financial sectors in Nepal to ensure that the

banking industry functions as per the international standard and also to have more effective control mechanism for overall financial sector. Nepal Rastra Bank (NRB) had issued unified directive in fiscal year 061/062 having 16 sections to regulate the financial sector. Later the same has been revised by NRB in Ashadh 2066 having 20 sections in the directive. NRB further reviewed such directive in Ashadh 2067 with adding one more section making total 21 sections. In this new unified directive, loan classification and provisioning of loans of financial institutions are mentioned on E. Pra. Directive No. 2/067 with the objective to minimize the possible risks associated with credits extended by financial institutions in the form of overdraft, loans and advances, bills purchased and discounted. Therefore, as per this new unified directive No. 2, banks should classify the loans and advances on the basis of aging of principal amount into the following 4 categories.

### **2.2.1. Directive No. 2 - Classification of Loans and Advances and Loan Loss Provision.**

#### **2.2.1.1. Classification of Loans and Advances**

##### **i. Pass Loan**

Loan and advances whose principal amount payment are not due yet or the due date has not exceeded a period of 3 months from the date of its expiry dates are included under this category. Such loans and advances are defined as Performing Loan.

**ii. Substandard Loan**

All the loans and advances, whose due principal amounts have been exceeded the period of 3 months from the date of its expiry but not exceeded the period of 6 months is included in this category.

**iii. Doubtful Loan**

All the loans and advances, whose principal amounts are due for a period of 6 months to below one year from the date of its expiry, are included under this category.

**iv. Bad Loan**

All the loans and advances whose principal amount has crossed the period of 1 year from the date of its expiry as well as the advances which have least possibility of recovery or

considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category.

- Pass Loans and advances are defined as Performing Loans.
- Loans and Advances falling under the category of Sub-standard, Doubtful, and Bad Loan are classifieds and defined as Non- Performing Loan.

**Notes:**

- There is no restriction to grade the loans and advances from low-risk category to high-risk category. For e.g. Substandard loans and advances can be graded to the Doubtful or Bad Loans Category; and the Doubtful loans and advances can be graded under the Category of Bad Loans on the basis of the internal discretion of the bank's management.
- The term "Loans and advances" also includes the Bills Purchase and Discounts.

**a. Additional arrangements in respect of Pass Loan**

The loans and advances that are fully secured by gold, silver, fixed deposit receipts and Nepal Government securities shall be included under "Good loan/Pass Loan" category. However, where the fixed deposit receipt or government securities or NRB Bonds is placed as secondary collateral for security against loan for other purposes, such loan has to be classified on the basis of ageing.

Working capital loan having maximum one year maturity period can be reported under pass category loans and advances upon its renewal. If the interests of such nature of loans are not regularly serviced then the same should be graded on the basis of interest dues period.

**b. Additional arrangements in respect of “Bad Loan”**

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

- i) Insufficient collateral or reduction of value of the collateral by the time.
- ii) If the borrower has been declared bankrupt.
- iii) The borrower is absconding or cannot be found
- iv) Purchased or discounted bills and non fund based facilities i.e. letter of credit or guarantee facilities which forcefully converted into fund based facilities are not realized within 90 days from the due date.
- v) Misuse of Loan.

**Note:** The misuse of Loans means if the loan has not been used for the original purpose for which it was taken, the business for which the loan is taken is not in operation, the incomes from the concerned business are used for other purposes instead of repaying of loan, and if the misuse of the funds are proved on inspection by the inspector or by the auditor.

- vi) Owing to non-recovery, initiation as to auctioning of the collateral has passed six months and if the recovery process is under litigation.
- vii) Loans provided to the borrowers who are blacklisted by the Credit Information Center.
- viii) If the project or business for which the loan is provided is not in the condition of operating or if it is closed.
- ix) Credit card loan not written off which is due since 90 days.
- x) If letter of credit, guarantee and contingent liabilities are converted in to fund based loan under regular procedure and regular trust receipt loan won't get recovered within 90 days, the same should be booked under non performing loan as per their overdue dates.

**c. Additional arrangements in respect of Term Loan**

In respect of term loans, the classification shall be made against the entire loan outstanding on the basis of the past due period of overdue installment. If non-funded facilities such as letter of credit, guarantees and other contingent liabilities turn into funded liabilities and have to be paid by the financial institutions, these credits have to be categorized into " Bad Loan" and must be settled at the time of quarter end as per Nepalese calendar otherwise bank needs to make provision accordingly.

**Note:** Term Loan means the loans with the maturity period of greater than 1 year and repayment of installment with interest and principle.

**d. Additional arrangement in respect to loan against gold and silver.**

Financial institution registered under class "A, B & C" may extend loan against gold and silver fulfilling following terms and conditions.

- i) Memorandum & Article of association and Credit Policy of concerned financial institutions must be allowed to extend loan against gold and silver.
- ii) The concerned financial institutions should arrange proper security, gold and silver valuator, vault and insurance prior starting the transactions.
- iii) The profitability from lending of gold and silver should be supervision by Board of Directors on annual basis.

**e. The principal and interest amount cannot be recovered by exceeding the overdraft limit of the client.**

The principal and interest amount cannot be recovered by overdrawing the current account of the borrower or exceeding overdraft limit of the borrower.

**f. Arrangement of Grace Period.**

Financial institution, in normal condition, can not extend term loan having grace period more than a year. If such situation arises, the approval for the same must be obtained from their respective Board of Directors with proper justification or the same should be allowed by their respective Credit Policy.

**g. Rescheduling and restructuring of Loan**

1. In respect of loans and advances falling under the category of Substandard, doubtful or loss, banks may reschedule or restructure such loans upon receipt of a written plan of action from the borrower citing the following reasons:
  - a) Evidencing of adequate collateral and documents regarding Loans.
  - b) An evaluation of the borrower/ enterprise's management with particular emphasis on efficiency, commitment and high standards of business ethics.
  - c) Apart from written plan of action for rescheduling and restructuring of loan from the borrower, it is mandatory that atleast 25% of overdue interest should be served by the borrower up to the date of rescheduled and restructured.
2. In respect of loan provided to Government owned entity categorized as sick industry may be rescheduled and restructured with 25% loan loss provision only upon servicing of 12% overdue interest. If the loan is rescheduled and

restructured servicing less than 12% overdue interest, the loan should be categorized as per the overdue period.

3. The separate report should be prepared as per the category of loan under subsection 1 & 2.

**Note:** Rescheduling means to extend the loan repayment period that have been borrowing by the customer.

Restructuring means to change the loan type and terms and conditions and including the changes in loan payment schedule.

### **3.2.1.2. Loan Loss Provisioning**

1. The loan loss provisioning for the outstanding loans and advances and bills purchases as per the new unified directives 2009 are provisioned as follows:

<b>Classification of Loan</b>	<b>Loan Loss Provision</b>
Good	1 Percent
Substandard	25 Percent
Doubtful	50 Percent
Bad/any individual, firm, company who have been black listed	100 Percent

2. Loan Loss Provisioning in respect of reschedule and restructured loan
  - a. For rescheduled/restructured pass category loan, loan loss provision should be at least 12.5%. If rescheduled/restructured loan are graded under sub standard, doubtful or loss category, the loan loss provision should be made according to their present grading. The regular servicing of principle and interest till 2 years of rescheduled/restructured loan may be upgraded to pass category and reporting should be made separately.

In regard to term loan, if reschedule/restructure of loan has been done due to change in interest rate and advance payment of principal amount, the loan should be kept under pass category with 1% provision.
  - b. If interest and principle of rescheduled / restructured loans have been served regularly for two years, such loans can be converted into “Pass Loan” Category.
  - c. Loan provided for Initial Public Offering and loan against pledge of share certificates can not be rescheduled/restructured.
3. Deprived sector loans which are insured with Credit Guarantee Corporation and other loan which are insured for security, for such loans 75% rebate is allowed on loan loss provision.
4. Financial institutions can not extend credit for Initial Public Offering against security of counterfoil of IPO form. In the past, if such loans are provided, the same should attract 100% provision.

5. Where the loan is extended only against personal guarantee, a statement of the assets, equivalent to the personal guarantee amount not claimable by any other shall be obtained. Such loans shall be classified as per above and where the loans fall under category of Pass, Substandard and Doubtful, in addition to normal loan loss provision applicable for the category, an additional provision by 20 percent point shall be provided. Classification of such loans and advances shall be prepared and reported separately. But loan granted to Nepal Oil Corporation, Nepal Food Corporation and the organization listed as per E. Pra. 3.4(Kha) shall not attract additional provisioning of 20%.
6. The additional provisioning of 20% shall not attract for financing provided to Micro Finance Companies and Cooperatives for further financing under deprived sector. Further, financing for education loan shall also not attract additional 20% provisioning.
7. There is no restriction to grade the loans and advances from low-risk category to high-risk category. For e.g. Substandard loans and advances can be graded to the Doubtful or Bad Loans Category; and the Doubtful loans and advances can be graded under the Category of Bad Loans on the basis of the internal discretion of the bank's management.
8. The term "Loans and advances" also includes the Bills Purchase and Discounts.

**Note: Loan loss provision set aside for performing loan is defined as "General Loan Loss Provision" and Loan Loss provision set aside for Non-Performing Loan is defined as "Specific Loan Loss Provision".**

### **2.2.2. Directive No 3 (Single obligor limit)**

Single obligor limit refers to the limit of credit facility to a single person, a firm, a company or a group of borrowers. That means, there is certain limit beyond which a bank cannot provide credit facilities to a borrower or the borrowers who comes under the same group. NRB has provisioned single obligor limit while providing credit facilities by the bank. According to unified directive No 3, the single obligor limit for the fund-based loan is 25 % of core capital whereas non-fund based loan is 50 % of core capital. Nepal Rastra Bank has further made provision for financial institutions that can lend up to 25% of core capital in total of funded and non funded credit facilities under one obligor borrowing limit which has been effective from Shrawan 1, 2067.

Nepal Rastra Bank has made special provision for financing to Hydro power, electricity transmission line and cable car establishment. As per the provision made by Nepal Rastra Bank in unified directives, financial institution can lend up to 50% of core capital for funded and non funded credit facilities. But there is mandatory provision to produce Power Purchase Agreement while financing exceeds 25% of core capital. The financing to hydro power, transmission line and cable car must be supported by projected cash flow statement which can ensure smooth the repayment of loan.

The main reason of this provision is to protect bank from suffering losses due to investing in single client. In another word, this directive is intended to diversify the concentration risk.

### **Loan Loss Provision for Minimizing Concentration Risk**

According to NRB Directives, if any firm, person or group of borrowers is provided the credit more than the limit of single obligor, the bank should have to make 100 % provision for the loan exceeding the limit.

### **Sector wise lending**

NRB has issued a directive for the commercial banks to send sector wise lending report on a monthly basis. The main objective of this report is to identify the different sectors in which the bank has extended its credit.

### **Security wise Lending**

NRB has issued a directive for the commercial banks to send security wise lending report on a monthly basis. The main objective of this report is to identify the different securities on the basis of which the bank has extended its credit.

## **Loan Concentration on Single Sector**

According to NRB directive No. 3, if the commercial bank has extended the credit facilities more than 100 % of core capital in single sector, such loan should have to be approved by the board of directors and reported to Nepal Rastra Bank on annual basis.

### **2.2.3. Directive No. 1-Capital Adequacy Ratio**

Capital Adequacy Ratio (CAR) is the proportion of Capital Fund or Shareholders equity on the total risk weighted asset of a bank. In other words, it is the capital portion, which is used to finance the asset. The total risk weighted asset, on the other hand, includes both on & off balance sheet items, which has been rated with certain percentage of risk. The risk weight of asset ranges from zero for cash, balance at NRB and investment in government bonds to 100 % for loans and advances. The higher the risk weighted asset means lower will be the capital adequacy ratio as CAR is the ratio between Capital fund and Risk Weighted Asset.

According to unified directive 2010, the capital fund includes two types of capital,

#### **A. Primary Capital**

Primary capital refers to core capital of a bank, which includes the share capital employed by the shareholders and all the reserve maintained by a bank. Primary capital includes:

**Table 2.1**

**Primary Capital**

1) Paid Up Capital
2) Proposed Bonus Share
3) Share Premium
4) Non-Redeemable Preference Share
5) General Reserve Fund
6) Retained Earnings
7) Un audited current year cumulative profit
8) Capital Redemption Reserve
9) Capital Adjustment Reserve
10) Dividend Equalization Reserves
10) Other Free Reserve

*(Source Unified Directives 2010, Nepal Rastra Bank)*

**Following items should be deducted while calculating primary capital**

1) Goodwill
2) Excess Lending than prescribed limit
3) Investment in other Financial Institution with profitable motive
4) Fictitious Assets
5) Investment in equity in licensed Financial Institution
6) Investment arising out of underwriting commitments

- |                             |
|-----------------------------|
| 7) Reciprocal crossholdings |
| 8) Other Deductions         |

*(Source Unified Directives 2010, Nepal Rastra Bank)*

## **B. Supplementary Capital**

Supplementary Capital refers to all the reserves that bank has made for specific purpose, such as loan loss, foreign exchange loss etc. The supplementary capital includes:

**Table 2.2**

### **Supplementary Capital**

1) General Loan Loss Provision (Good Loans)
2) Cumulative and/or Redeemable Preference Share
3) Hybrid Capital Instrument
4) Subordinated Term Debt
5) Exchange Equalization Reserve
6) Asset Revaluation Reserve
7) Investment Adjustment Reserve
8) Other Reserve

*(Source Unified Directives 2010, Nepal Rastra Bank)*

## **C. Capital Fund**

Capital Fund includes both the primary and supplementary capital. It can be stated in equation as below:

$$\text{Capital Fund} = \text{Primary Capital} + \text{Supplementary Capital}$$

Risk Weighted Asset, on the other hand, refers to all on and off balance sheet assets, which has provided certain percent of risk weight that ranges from zero for cash, balance with NRB, and investment in government securities to 100 percentage for loans and advances, fixed asset etc depending on their nature of risks.

Risk Weighted Asset includes both on and off balance sheet items. On balance sheet asset includes three types of risk-weighted asset (i.e. 0 %, 20 % and 100%). Zero percentage risk weighted assets include cash and bank balance, gold (tradable), investment in NRB and Government Bonds, loan against own bank's fixed deposit receipts and government bonds, Interest receivable on National Saving Bonds and amount to be deposited by 'B & C' category financial institutions to Youth and Small Entrepreneurs Self Employment Fund under deprived sector lending. 20 % risk weighted asset includes balance with local and foreign banks, loan against other bank's fixed deposit receipts, money at call, loan against internationally rated bank's guarantee, other investment on internationally rated banks and inter bank lending. 100 % risk weighted asset includes investment on shares and debentures, other investment, loans and advances, fixed assets, other accrued interest receivables (total interest receivables, interest on Government Bond and Saving Bond and accrued interest) and all other assets (excluding tax paid and accrued interest receivable).

Off balance sheet assets includes five types of risk-weighted asset (i.e. 0 %, 10%, 20%, 50 % and 100%). Bills collection has 0 % risk. Forward Foreign Exchange Contract has

10% risk. Letter of credit with maturity period less than 6 months and guarantee against counter guarantee of international rated foreign banks have 20 % risk. 50 % risk weighted asset includes letter of credit with maturity period more than 6 months, bid bond, underwriting, performance bond and credit purchase/repurchase and takeover. 100 % risk weighted items include advance payment guarantee, financial guarantee, other guarantee, irrevocable loan commitment, contingent liability on income tax and acceptance and other contingent liability.

The Capital Adequacy ratio of a bank is calculated as below:

**a. Capital Adequacy Ratio for Core Capital**

$$\text{Capital Adequacy Ratio} = \frac{\text{Core Capital}}{\text{Total Risk Weighted Asset}} \times 100$$

**b. Capital Adequacy Ratio (CAR) for Total Capital Fund**

$$\text{Capital Adequacy Ratio} = \frac{\text{Capital Fund}}{\text{Total Risk Weighted Asset}} \times 100$$

According to NRB directive 2010, the statutory Capital Adequacy Ratio (CAR) for core capital is 6 %, whereas CAR for total capital fund is 10% for Commercial Banks.

## 2.3 Review of Related Studies

### 2.3.1 Review of Articles and Journals

**Santomero (1997)** in his study entitled "Commercial Bank Risk Management: An analysis of the process" has analyzed the various risks such as credit risk, market risk, interest risk, counterparty risk and liquidity risk faced by commercial banks. The study states that the main reason for the risk management are managerial self interest, non linearity of tax structure, cost of financial distress and existence of capital market imperfection.

The main method prescribed in the study for credit risk management includes:

- Sound evaluation of credit rating and making rating system compatible.
- Credit losses, currently regularly related to credit rating, need to be closely monitored.
- Sound analysis of the evaluation of the diversified portfolio.

**Basel Committee on Banking Supervision (2000)**, has mentioned that the main reason of serious problems in banking sector is related to lack of credit standards for borrowers and counterparties, poor portfolio risk management or lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank's counterparties. This phenomenon is common for both G 10 and non G 10 Countries.

In this publication, the credit risk has been defined as the potential that a bank borrower or counterparty will fail to meet its obligation in accordance with the agreed terms. Five principal has been laid down for the credit risk management. They are:

- i. Establishing appropriate credit risk environment
- ii. Operation under sound credit granting process
- iii. Maintaining appropriate credit administration, measurement and monitoring process
- iv. Ensuring adequate controls over credit risk
- v. Effective role of supervisor

**Kupper (2000)**, in his study "Risk Management in Banking" has made a study to identify the different types of risk and prescribes the method to handle those risks. The study has identified three types of risk in the banking business (i.e. credit risk, market risk and operation risk) According to his study, credit risk has almost 70 % of shares in total banking risks. The typical credit risk share of total capital is 80% in Wholesale Banking, 50 % on Personal Banking and 10 % on financial Market.

The study has presented the role of a banks' risk management function in the context of the need to break the vicious cycle of risk. The cycle refers to the process by which a bank assumes uneconomic risks and by definition, key large losses. As a consequence, the risk appetite of the bank is reduced, lending and trading risks are foregone and the bank loses market share. In turn, the bank adopts an aggressive marketing strategy to

regain market share and the cycle starts over. His vicious cycle aptly describes the risk taking practices observed in the industry time and time again.

**Rana (2001)**, alerts commercial banks of the directives issued by Nepal Rastra Bank in 2002. The article gives bird's eye view of major changes made in the new directive and suggests measures to be taken by commercial bank to comply with the new directives.

Mr. Rana has highlighted the following points in his article:

- Capital adequacy ratio for commercial bank prescribed by Nepal Rastra Bank is even higher than the requirement in India.
- Classification of loans and advances into four category instead of six categories prescribed earlier.
- The newly prescribed change in income recognition system will require most of the banks to either upgrade or change their banking software.
- Banks will find it very difficult to maintain records of all persons, who are included in the definition of family/ relative.

In order to comply with NRB directives, he has suggested following measures:

- Upgrade/ change the banking software, which facilitates generating numerous reports required by Nepal Rastra Bank.
- Foresee capital adequacy position for a number of years ahead and initiate measures for increasing the capital if required.

- Review and revise overall credit policies to address new directives governing loan classification and loan loss provisioning.
- Strengthen banks' monitoring and follow-up department". Time has come to inculcate financial discipline to the customers. A number of interaction programs should be organized with credit customers so that NRB's new directives could be explained to them.
- Update their record with Credit Information Center (CIC). Also Banks should timely submit required return to CIC for its effective functioning.

**Sharma (2002)**, states that NRB has instructed to then Chairman of Machhapuchchhre Bank to step down from his position, as chairman. The decision was taken after the central bank's Monitoring and Supervision Department found out that the chairman was the Managing Director of another Company that was blacklisted by the Credit Information Center Ltd. (CIC). The decision goes by the latest directives of the central bank, which clearly states that no person involved in the firms blacklisted by the CIC, will be allowed to hold a sensitive and responsible post in the Board of Directors of Financial Institutions.

Irony to this action of NRB, the then chairman claims that the blacklisting of the said company was done only in 1998 and he was associated with that company only until 1996. Hence, he opined that he need not step down of his position as chairman and that NRB was wrong in instructing to him to do so.

**Lawrence (2006)**, has taken Basel II as a big opportunity for risk management. There are three stages in the credit process: the first is the simple risk control of the business-avoiding being over concentrated in any one sector, estimating the probability of defaulting and assessing recovery. The second phase is the link between economic capital and return. Clearly banks would like to set minimum rates of return they expect to earn on their portfolios after provisioning. The link between economic profit and risk is the next stage in advancing the practice of credit risk management. Finally, the third stage is when risk management is used as a strategic management tool to align Risk Adjusted Return on Economic Capital (RAROC) with ROE. In most emerging markets, where many commercial banks have been protected from foreign banking invasion, the landscape is now changing. In Malaysia, new legislation will allow regional banks to bank locally and in China, the new foreign bank regulations will allow investment banks, commercial banks and fund managers to enter the market, putting stress on the current “big four” oligopolistic structure. It is precisely in emerging markets where Basel II is an invaluable tool to go through the three stages set out above. This regulation is thus an important catalyst to implement all processes including analytic modeling – this includes better predictability of probability of default, exposure at default and loss given default - the business architecture that goes with it including the right corporate governance, the organization, the risk monitoring and reporting.

Banks that fail to have deep understanding of credit risk management will continue being caught in the time warp of the old banking paradigm and be targets for acquisitions by larger banks that have stronger risk management policies in place. The only key to

survival and sustainable success is to reengineer and reform the risk strategy that maximizes shareholder value. It would thus be fallacious for the CEO to think of Basel II as just a compliance issue but he should rather use it as an opportunity to really get on top of using risk management as a cornerstone of strategic decision making.

### **2.3.2 Review of Thesis**

**Pandey (2002)**, in his study "NRB Directives, their implementation and impact on commercial banks: A case study of Himalayan Bank Limited" has carried out study with the objectives to find out the impact of changes in NRB directives on the performance of the commercial banks and to find out whether the directives were implemented or not. According to his findings the directives if not properly addressed have potential to wreck the financial system of the country. The directives in themselves are not that important unless properly implemented. The implementation part depends upon the commercial banks. In case commercial banks are making such huge profit with full compliance of NRB directives, then the commercial banks would deserve votes of praise because they would then be instrumental in the economic development of the country.

Pandey has made his study on the impact on changes in new directives. In his study, he has studied only the provision related to loan provisioning and capital adequacy. However, besides Loan Loss Provision and capital adequacy, the other factors like concentration risk, sector-wise lending risk can further be discussed. A study on the

organizational structure or management techniques applied for the proper implementation of NRB directives and for management of credit risk can also be made.

**Shrestha (2003)**, in her thesis “Impact and Implementation of Nepal Rastra Bank (NRB)’s Guidelines (Directives) on commercial banks. A study of Nabil Bank Ltd. and Nepal SBI Bank Ltd.” has tried to find out impact of NRB Directives on commercial banks and whether the directives are actually implemented and are being monitored by NRB or not.

She has stated that both NABIL and Nepal SBI are implementing the NRB directives.

She concludes that all the changes in NRB Directives made both positive and negative impacts on the commercial banks. Even though this study is limited to only two sample (i.e. Nabil Bank and Nepal SBI Bank, among the entire population, it clears the new directives issued by NRB make good impact to more than bad impact on the various aspect of the banks.

In this thesis as well, researcher has studied the impact of NRB directive, especially related to loan loss provisioning, on selected banks. There exists a gap regarding the study of management teams formed by the commercial banks to manage the credit risk besides those NRB directives. Similarly, commercial banks compliance in regard to those directives as well as banks policy and procedure to manage credit risks can be studied further.

**Bhattarai (2004)**, in her study “Implementation of Directives Issued by Nepal Rastra Bank: A comparative Study of Nepal SBI Bank Ltd and Nepal Bangladesh Bank Ltd”, has made an attempt to analyze various aspects of NRB directives with respect to Capital Adequacy and Loan Classification and Provisioning..

She concluded that with the new provisions, the banks will have its provision amount increasing in coming years and subsequently profitability of the banks will also come down. However, the true picture of the quality of the asset will be painted in the coming years to come.

More research can be made on the whole credit risk such as concentration risk, collateral risk, exposure risk, organization’s credit risk management system etc. Similarly, capital adequacy can also be studied as measure against the credit risk of commercial banks.

**Regmi (2004)**, conducted a thesis “A study on credit practices of joint venture commercial banks with reference to Nepal SBI Bank Ltd. and Nepal Bangladesh Bank Ltd.” The basic objectives of this thesis are to determine impact of deposit in liquidity and its effect on lending practices and to examine lending efficiency and its contribution in profit.

The major findings of this study are in terms of liquidity ratio, current ratio of NSBL is higher than that of NBBL. The ratio of liquid fund to current liability of NSBL is higher than NBBL. This shows that NBBL has less consistency than NSBL. The ratio of cash

and bank balance to deposit of NSBL is higher than that of NBBL. Cash and bank balance to interest-sensitive deposit measures the liquidity risk arising from fluctuation of interest rate in the market. The ratio of cash and bank balance to interest sensitive deposit of NSBL is higher than NSBL. NSBL has poor position due to high volume of interest sensitive liability in deposit mix. The ratio of loans and advances to total assets of NBBL is higher than NSBL. Likewise mean ratio of loans and advances to total deposit of NBBL is higher than NSBL. The mean ratio of investment to loans and advances and investment of NSBL is higher than that of NBBL. Likewise the ratio of total investment to total deposit of NSBL is higher than that of NBBL. The ratio of credit to government enterprises to total credit of NBBL is higher than that of NSBL. The mean ratio of credit to bills paid and discount to total credit ratio of NBBL is higher than that of NSBL.

This study is mainly focused on the lending practices and the volume of credit in comparison to the deposits. Therefore, the major gap in this research is study of the risk involved in the lending practices or the study of credit risk. Therefore, further study on the risk involved in creating credit can be made.

**Shrestha (2005)**, on “A study of Non Performing Loan & Loan Loss Provision of Commercial Bank, A case study of NABIL, SCB and NBL” has made study about a part of credit risk associated with those banks. The main objectives of her study were to find out the proportion of non-performing loan in the selected commercial banks and 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 SCBNL shows the risk-averse attitude. Likewise the non-performing loan to total loan is found highest in NBL, NABIL and SCBNL. Likewise the Loan Loss Provision is also highest in NBL where as the SCBL has the least Loan Loss Provision.

Likewise, the NBL has the highest portion of Loss loan followed by NABIL and SCBL. This study is more concentrated on non-performing loans; however, there exists lots of areas in credit risk management where further research is called for. In context of credit risk, collateral risk, concentration risk, organization risk management system can be studied.

**Subba (2006)** has carried out the study to analyze how the selected commercial banks (i.e. Machchhapuchhre Bank Ltd. and Kumari Bank Ltd.) have managed different types of risk in this competitive Nepalese banking Industry. The major objective of this thesis was to analyze Credit Risk, Market Risk and Operation Risk.

The major finding of his study was that in commercial banks, minimizing the risk is the major challenge. For combating the risk, both the banks have taken several measures. One of the major measures is capital adequacy ratio. The capital adequacy ratio depicts that both KBL and MBL has higher CAR than statutory requirement. He concludes that for credit risk management, both banks have Credit Policies Guidelines (CPG). Similarly, NPL is regularly monitored by both the banks on regular basis and provisioning is done

on quarterly basis by categorizing the loan as per NRB guidelines. Similarly, sector wise and security wise lending is being analyzed by these banks on monthly basis.

For minimizing the loss arising due to occurrence of the above risks, capital and reserve have been maintained by these banks within the standard prescribed by NRB. However, the trend of Capital Adequacy ratio of these banks suggests that both the banks need to increase their capital fund, which is possible mainly by issuing shares, debentures or preference share. This research has been made on the study on different types of risk including market risk and operational risk. However, the credit risk covers the major portion of the total risk i.e. almost 60% of the total risk. Therefore, additional study can be made for the detailed study of credit risk and the organizational structure of the commercial banks to manage the credit risk.

**Shrestha (2007)**, on "A study of Credit Risk Management of Nepalese Commercial Banks comparative study between Kumari Bank Limited and Machhapuchchhre Bank Limited" has made study about a part of credit risk associated with those banks.

The study aims to examine and analyze how the selected commercial banks have managed mainly credit risk in this competitive Nepalese banking industry. The main objectives of this study were to examine credit risk position of the selected commercial banks in Nepal (KBL & MBL).

From the above analysis of credit risk it is found that the major problems in credit risk are related to the broad areas of concentrations, credit processing, market and liquidity – sensitivity credit exposures. From the analysis of primary data, it is found that the majority of the respondents of both the banks have favored with the bank's single sector. In regard to concentration risk, KBL has more risk in manufacturing and others sector whereas MBL has more risk on manufacturing and whole seller and sectors as the single sector credit to core capital ratio in these sectors has at higher side From the personal interview of the key respondents it was found that both banks have been extending credit in those highly concentrated sectors after getting approval from the Board of Directors. This clarifies that concentration risk is the main source of credit risk for KBL & MBL. Similarly the problems in credit processing include lack of thorough credit assessment, absence of testing and validation of new lending techniques, subjective decision making by senior management, lack of effective credit review process, failure to monitor borrowers or collateral values and failure of banks to take sufficient account of business cycle effects etc. Likewise, the market sensitivity and liquidity sensitivity exposures also increase the credit risk of these banks. Similarly, it is found that both banks have their own rating system of the credit client and the sectors. Both banks have ranked 1st to the manufacturing sector whereas agricultural sector has been ranked the last on the basis of priority. KBL has chosen others sector and real estate business in 2nd and 3rd position respectively whereas MBL has just opposite preference in these sectors.

**Shrestha (2009)**, on "A study of Credit Risk Management of Nabil Bank Limited and Nepal Investment Bank Limited" has made study about a part of credit risk associated

with those banks. The main objective of the study is to evaluate the credit risk management of sampled banks. The specific objectives of this study are to evaluate the status of the loan portfolio and problem and weakness in credit risk management of selected commercial banks in Nepal (NABIL & NIBL).

His major findings were that Commercial banks to have maintained adequate liquid assets in order to discharge maturing liabilities on time. It is found that some banks are below the standard of 1:1 for managing liquidity ratio. The mean current ratio of NABIL is 1.89 and NIBL is 1.99. Cash and Bank balance to total deposit of NIBL is higher than NABIL which indicates that NIBL is in more comfortable position than NABIL. Further, Loan and advances to total deposit is within NRB cap of NABIL and NIBL is slightly higher than the minimum cap marked by NRB. The credit risk ratio shows that proportion of non performing loan in total Loan and Advances. Average credit risk ratio of NIBL is higher than NABIL i.e.  $2.15 > 1.58$ . NABIL has efficient operating of credit management system than that of NIBL from the mean point of view. However, the ratios show that more efficient operating of credit management of both the banks according to NRB directives because according to NRB directives NPL ratio must be below 5%. In totality credit risk management of both the bank is satisfactory and they have utilized their resources at optimum level in order to generate income.

## **2.4 Research Gap**

From the review of various literatures, it has been found many study work have been done being within guidelines of NRB Directives and its compliance and analysis of credit management through loan loss provision, non-performing loans and capital adequacy; however, very few thesis have been found on the credit risk management which is the most important aspect of the banking sector. So, the researcher can make further research on capital adequacy, concentration risk, collateral risk, and the actual practices followed by the management of Nepalese commercial banks from its own side besides the NRB directives to manage and control the credit risks etc.

Hence the study had attempted to fill this gap by measuring the credit risk of KBL and MBL and by studying their credit risk management system. This study also aims to find out the organizational structure of KBL and MBL for the proper implementation and compliance of NRB Directives and to manage the credit risk.

# **CHAPTER III**

## **RESEARCH METHODOLOGY**

### **3.1 Introduction**

Research methodology describes the methods and process applied in the entire aspect of the study. The main objective of this study is to measure the credit risk of the selected commercial banks and to study the various management techniques and principles used by the Nepalese commercial banks to manage the credit risk. Thus, this chapter consists of the research methodology applied in the study for the fulfillment of the stated objectives. Thus, the overall approach to the study is presented in this chapter. This chapter consists of research design, sample size and selection process, data collection procedure and data processing and presentation techniques and tools.

### **3.2 Research Design**

This study is the combination of descriptive and analytical type of research. Historical data are used to identify and analyze the credit risk of a bank in the past. Similarly, management system, organizational structure and policies for mitigating credit risk and credit risk management procedures have been presented in descriptive form so as to identify current status from which pitfalls can be identified. The descriptive design has used to explore and find out the existing condition and necessary suggestion in solving the basic problems of sampled banks. From collection of past data and information from key informants, the credit risk management system has been analyzed and

recommendations have been made for improving the credit risk management of selected sample banks. Since only two banks have been selected for the study, this study is a comparative study between these two banks in credit risk and their management system.

### **3.3 Population and Samples**

Since the study topic is about credit risk management of commercial banks, all 32 commercial banks of Nepal form population of the study. The population for the study comprises all the Nepalese commercial banks. Among the total population only two commercial banks are taken as sample for the comparative study. The sample is chosen with an objective to find out the credit risk management system of new commercial banks, which have completed minimum 10 years. MBL and KBL are taken for the study as there exists similarities between these banks in many respects such as capital base, profit, deposit, lending and date of establishment etc.

The study has selected Kumari Bank Ltd (KBL) and Machhapuchhre Bank Limited (MBL) as the samples for the study. Since their date of establishment and the size of capital are also quiet similar, these two banks are chosen for study. Both the banks are in the growing stage; but in order to achieve their expected growth target, these banks must be able to manage the various risks, especially, the credit risk.

### **3.4 Sources of Data and Collection Procedure**

For this study, both primary and secondary data are used. Secondary data are collected mainly from published sources like annual reports, prospectus, newspaper, journal, Internet and other sources. Secondary data published in the annual reports of concerned organizations are collected through personal visit in respective organization as well as from their web sites. Whereas, primary data are mainly collected through questionnaire, interview and direct observation. For the credit risk analysis, information is collected through questionnaire from 10 staffs each from both KBL and MBL working in Credit and Credit Administration and Control Departments. While collecting the data, in KBL, the total staffs in Credit and Credit Administration and Control Departments is 12, out of which 10 staffs have responded to the questionnaire, where as in MBL 10 staffs from Credit and Credit Administration and Control Departments has filled up the questionnaire. Besides this, interview has also been taken from 3 key officials of KBL and MBL respectively.

### **3.5. Data Processing and Presentation**

The data obtained from the different sources are in raw form. The raw data is processed and converted into required form. For this study, required data are taken from the secondary source (bank's publication) and presented in this study. For presentation, different tables and charts are used. Besides this, primary data collected from different

sources, are also presented whenever required. Raw data are attached in annexure.

Computation has been done with the help of scientific calculator and computer software program.

### **3.6. Data Analysis Tools**

In order to get the concrete results from the study, data are analyzed by using different types of tools. As per topic requirements, emphasis is given on statistical tools rather than financial tools. So for this study following statistical tools are used:

#### **3.6.1 Statistical Tools**

##### **3.6.1.1 Arithmetic Mean**

Arithmetic Mean has been widely used in this study. It has been used to calculate the average for 5 years data. This tool has been used to calculate the single figure that can represent the whole data for the period. The Arithmetic Mean of loan, deposits, non-performing loan, loan loss provision etc. have been calculated in this study. It is computed by using following formula:

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n} \quad \text{Where, } \bar{X} = \text{Mean}$$

$$\sum X = \text{Sum of all the Variable X}$$

n = Variables involved

### 3.6.1.2 Standard Deviation

Standard Deviation is a tool to measure the risk. Standard Deviation has been used wherever the mean is calculated to study the deviation of the data from the mean. Here, standard deviation is used as a measure of dispersion. It has also been used as a measure to identify the risk. Higher the deviation greater the risk and vice versa. Mathematically, it is defined as the positive square root of their arithmetic mean of squares of the deviation of the given observations from their arithmetic mean of a set of value. Here, it is denoted by the letter sigma S.D. and ( $\delta$ ).

It can be computed by using following formula

$$S.D(\delta) = \sqrt{\frac{1}{n} \sum (X - \bar{X})^2}$$

Greater the magnitude of standard deviation, higher will be the fluctuation and vice versa.

(Gupta, 2002).

### 3.6.1.3 Default Probability

Default probability is the probability that the borrowing client will default or the probability of non-repayment by the borrowing client. In the loan market, the adverse

selection is the situation that occurs as the interest rate rises and the honest borrowers decide not to borrow. Therefore, the bank with higher interest rate on loans is left with an adverse pool of borrowers – those who know they are more likely to default. We can calculate the Default Probability by using the following formula:

- $P(1+K) = 1+i$

Or,

$$P = \frac{(1+i)}{(1+K)}$$

Where,

$K$  = Promised Interest on Loan/Average Interest on Loan

$i$  = Risk Free Rate of return

$P$  = Repayment Probability

&

Default Probability =  $1 - P = 1 - \text{Repayment Probability}$

#### 3.6.1.4 Hypothesis Test

In this study, hypothesis test has been used as one of the important aspects of decision-making. It consists of decision rules required for drawing probabilistic inferences about the population parameter. Hypothesis is a quantitative statement about the population parameter, where as hypothesis test is the act of verification of such statement. While testing a hypothesis, two complementary hypotheses are set up at one time. If one of the hypotheses is accepted, then the other hypothesis is rejected.

The two types of hypotheses include,

**a. Null Hypothesis**

Null hypothesis is a statistical hypothesis made about the population parameter to test its validity for the purpose of possible acceptance. It is usually denoted by  $H_0$  or “H sub- zero”.

**Null Hypothesis** - There is no significant difference between observed and expected frequencies.

**b. Alternative Hypothesis**

A complementary hypothesis to null hypothesis is called alternative hypothesis. In other words, a hypothesis test, which is set up against the null hypothesis, is called an alternative hypothesis. It is indicated by  $H_1$ .

**Alternative Hypothesis** - There is significant difference between observed and expected frequencies.

**3.6.1.5  $\chi^2$  – Test (Chi- square test)**

$\chi^2$  – Test is a non-parametric test, which describes the magnitude of difference between observed frequencies and expected (theoretical frequencies). In other word, it describes the magnitude of the discrepancy between theory and observation. It is defined as,

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

E

Where, O = Observed frequencies

E = Expected Frequencies

The calculated value is compared with the table value. The table value is determined by referring to the  $\chi^2$  tables in certain degree of freedom and level of significance. Here, the level of significance is assumed 5 % (Sharma and Chaudhary, 2001).

In this study,  $\chi^2$  – Test has been used to test the magnitude of the discrepancy between observed and expected frequencies related to preference of banks staffs regarding various factor for lending and sector for lending.

### **3.6.1.6 Ratio Analysis (Financial Indicators)**

In this study, various ratios have been used as per requirement. The major ratios used in this study include:

- i. Loans and advances to Total Risk Weighted Assets Ratio
- ii. Non-performing Loan to Total Loans and advances Ratio
- iii. Loan Loss Provision to Non Performing Loan Ratio
- iv. Loan Loss Provision to Total Loans and Advances
- v. Core Capital to Total Risk Weighted Asset (RWA)
- vi. Supplementary Capital to Total Risk Weighted Asset
- vii. Capital Fund to Total Risk Weighted Asset (RWA)

## CHAPTER IV

### DATA PRESENTATION AND ANALYSIS

#### **4.1 Introduction**

This is the section where, the filtered data are presented and analyzed. This is one of the major chapters of this study because it includes detail analysis and interpretation of data from which concrete result can be obtained. This chapter consists of various calculation made for the analysis of credit risks of the sample banks. To make our study effective, precise and easily understandable, this chapter is categorized in three parts; presentation, analysis and interpretation. The analysis is fully based on secondary data. In presentation section, data are presented in terms of table and charts. The presented data are then analyzed using different statistical tools mentioned in chapter three. At last the results of analysis are interpreted. Though there is no distinct line of demarcation for each section (like presentation section, analysis section & interpretation section). In this thesis primary data, which is collected through questionnaires and personal interview with the various staffs, are also used equally.

#### **4.2 Comparative Analysis of Credit Risk**

The goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or

transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization (Basel Committee on Banking Supervision, 2005).

In order to manage credit risk, it has to be measured. Measurement of credit risk requires thorough assessment of credit appraisal by applying various statistical tools and techniques.

The key credit performance indicators of KBL and MBL have been analyzed using various financial and statistical tools which are as follows:

#### 4.2.1. Ratio Analysis

##### 4.2.1.1. Total Loans, Advances & Bills Purchased to Risk Weighted Assets (RWA)

###### Ratio

The ratio of loans, advances and bills purchased to total risk weighted assets measures the volume of loans and advances in the structure of total risk weighted assets (i.e. the total assets after the adjustment of certain degree of risk or the risk assets). The total RWA do not include the risk-free assets like cash because they hold 0% risk. The high degree of ratio of Total loans & advances to Total RWA indicates the proportion of the loans and advances in the total RWA. This indicates the high degree of risks for the bank because

loans and advances except against Fixed Deposit Receipt, government securities and against guarantees of internationally rated banks are considered as 100% risky assets. Further, the high degree of the ratio is representative of low liquidity ratio. Granting Loans and advances always carry a certain degree of risk. Thus this asset of banking business is regarded as risky assets. Hence this ratio measures the management attitude towards risky assets. The lower ratio is indicative of lower proportion of income generating assets, high degree of safety in liquidity and low degree of risk and vice versa.

**Table 4.1**

**Loans, Advances and Bills Purchased to Total Risk Weighted Asset Ratio (%)**

**(Rs. in Million)**

Fiscal year	KBL			MBL		
	Loan & Advances	Total Risk Weighted Asset	Ratio (%)	Loan & Advances	Total Risk Weighted Assets	Ratio(%)
2005/06	7,007.79	7,625.05	91.90	6,146.57	7,631.99	80.54
2006/07	9,062.43	9,959.91	90.99	7,326.01	9,200.66	79.62
2007/08	11,522.38	13,688.72	84.17	8,964.07	10,746.24	83.42
2008/09	14,795.26	16,983.99	87.11	12,984.46	14,588.51	89.19
2009/10	14,966.08	21,350.66	70.10	14,972.53	16,765.20	89.31
		<b>Mean</b>	<b>84.85</b>		<b>Mean</b>	<b>84.42</b>
		<b>S.D.</b>	<b>7.88</b>		<b>S.D.</b>	<b>4.39</b>

*Source: Annual Reports*

Table 4.1 exhibits the loans and advances to total risk weighted assets of two commercial banks for five consecutive years. This ratio shows the fluctuating trend of both KBL and MBL. The overall ratio of KBL is 84.85% where as ratio in MBL is 84.42%. From this, it is clear that out of total risk weighted assets in balance items the proportion of loans and advances is negligible lower in MBL as compared to KBL. This means that the credit risk is slightly higher side in KBL as compared to MBL. Likewise, the standard deviation of KBL and MBL are 7.88 and 4.39 % respectively. This indicates that the ratio deviate more from the average in case of KBL than MBL.

#### 4.2.1.2. Non-Performing Loan to Total Loans and Advances Ratio

This ratio determines the proportion of non-performing loans in the total loan portfolio. As per Nepal Rastra Bank directives the loans falling under category of substandard, doubtful and bad loan are regarded as non-performing loan. Higher the ratio implies the bad quality of assets of banks in the form of loans and advances. Hence the lower NPL to total credit ratio is preferred.

**Table 4.2****Non-Performing Loan to Total Loans and Advances****(Rs. in Million)**

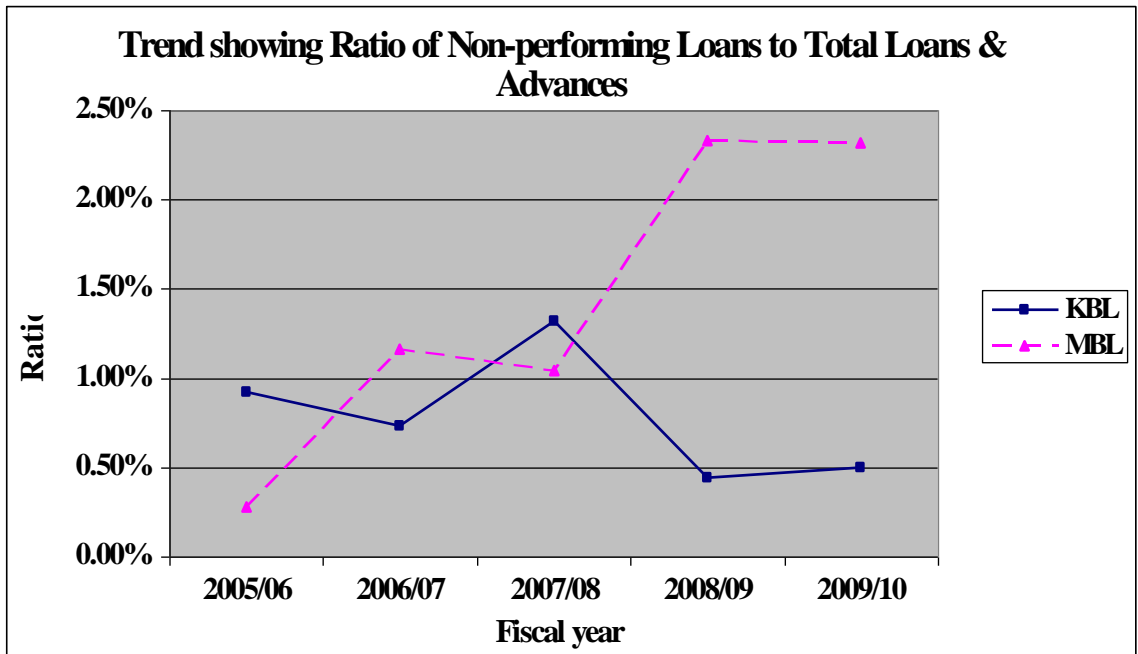
<b>Fiscal Year</b>	<b>KBL</b>			<b>MBL</b>		
	<b>NPL</b>	<b>Loan &amp; Advances</b>	<b>Ratio (%)</b>	<b>NPL</b>	<b>Loan &amp; Advances</b>	<b>Ratio (%)</b>
2005/06	64.35	7007.79	0.92	16.92	6,146.57	0.28
2006/07	66.19	9,062.43	0.73	85.17	7,326.01	1.16
2007/08	152.48	11,522.38	1.32	92.92	8,964.07	1.04
2008/09	64.54	14,795.26	0.44	302.84	12,984.46	2.33
2009/10	75.51	14,966.08	0.50	347.58	14,972.53	2.32
		<b>Mean</b>	<b>0.78</b>		<b>Mean</b>	<b>1.43</b>
		<b>S.D.</b>	<b>0.32</b>		<b>S.D.</b>	<b>0.79</b>

*Source: Annual Reports*

Table 4.2 exhibits the ratio of non-performing loans to total loans and advances of KBL and MBL for five consecutive years. It is found that the NPL of KBL is fluctuating as first three years NPL has been in increasing trend, in fourth year NPL has decreased and again NPL has increased in fifth year whereas loan and advances are in increasing trend in all sampled five years. In case of MBL, NPL and loan & advances both has been in increasing trend in all five years. The average NPL ratios of KBL and MBL are 0.78% and 1.43 % respectively. It can be inferred that the average NPL of MBL is higher than that of KBL. This is due to the highest amount of NPL in fiscal year 2008/09 (i.e. 2.33%).

The standard deviation of KBL and MBL are 0.32 and 0.79. Thus, it portrays that KBL ratios deviate less from the average ratio than that of MBL, which refers to less risk to KBL.

**Figure 4.1**



*Source: Annual Reports*

Figure 4.1 is the graphical presentation of the Table No. 4.2 which shows that the ratio of NPL to Total loans and advances of MBL was very high in the FY 2008/09 whereas earlier it was at very lower side i.e. 0.28% in FY 2005/06. NPL of MBL has been increasing trend in all sampled five fiscal years. However, the ratio of KBL is in a fluctuating trend.

#### 4.2.1.3. Loan Loss Provision to Non Performing Loan (NPL) Ratio

This ratio determines the proportion of provision held to non-performing loan and advances of the bank. This ratio measures up to what extent of risk inherent in NPL is covered by total loan loss provision. The higher the ratio, the better cushion that the bank provides for recovering from loss caused by NPL. Hence higher ratio signifies the better arrangement for the credit risk of a bank.

**Table 4.3**

**Loan Loss Provision to Non-Performing Loan (%)**

**(Rs in Million)**

<b>Fiscal Year</b>	<b>KBL</b>			<b>MBL</b>			
	<b>LLP</b>	<b>NPL</b>	<b>Ratio (%)</b>	<b>LLP</b>	<b>NPL</b>	<b>Ratio (%)</b>	
2005/06	115.93	64.35	180.16	78.15	16.92	461.88	
2006/07	133.42	66.19	201.57	190.05	85.17	223.14	
2007/08	187.29	152.48	122.83	321.75	92.92	346.27	
2008/09	201.91	64.54	312.84	468.45	302.84	154.69	
2009/10	201.17	75.51	266.42	682.74	347.58	196.43	
		<b>Mean</b>	216.76			<b>Mean</b>	188.60
		<b>S.D.</b>	66.47			<b>S.D.</b>	104.75

*Source: Annual Reports*

Table 4.3 shows the ratio of provision held to non-performing loan of KBL and MBL for five consecutive years. The figure represented in the table depicts that the MBL has the

higher ratio in first three years except last two years than KBL. The NPL ratio of KBL is more fluctuating than the MBL. NPL ratio of MBL is highest of 461.88% in fiscal year 2005/06 whereas the provisioning of KBL is highest of 312.84% in fiscal year 2008/09. The overall ratios of NPL of KBL and MBL are 216.76% and 188.60 % respectively. This shows that KBL has provided higher cushion of provisioning to non-performing loan compared to MBL. The standard deviation of KBL and MBL are 66.47 and 104.75 respectively. This means that there exists the higher deviation in the ratio from the average ratio in context of MBL than KBL.

#### 4.2.1.4. Loan Loss Provision to Total Loans and Advances

This ratio indicates the amount of Loan Loss Provision, a cushion for the possibility of default, to total loans and advances of the bank. Since high provision has to be made for non-performing loan according to their grading as per regulatory requirement, higher provision for loan loss reflects increasing non-performing loan in volume of total loans and advances. The low ratio signifies the good quality of assets in the volume of loans and advances and makes efforts to cope with probable loan loss. Higher ratio implies that the bank has the higher proportion of NPL in bank's loan portfolio and thus the bank is greater exposed to the credit risk.

**Table 4.4****Loan Loss Provision to Total Loan and Advances (%)****(Rs. in Million)**

<b>Fiscal Year</b>	<b>KBL</b>			<b>MBL</b>			
	<b>LLP</b>	<b>Loan &amp; Advances</b>	<b>Ratio (%)</b>	<b>LLP</b>	<b>Loan &amp; Advances</b>	<b>Ratio (%)</b>	
2005/06	115.93	7007.79	1.65	78.15	6,146.57	1.27	
2006/07	133.42	9,062.43	1.47	190.05	7,326.01	2.59	
2007/08	187.29	11,522.38	1.63	321.75	8,964.07	3.59	
2008/09	201.91	14,795.26	1.36	468.45	12,984.46	3.61	
2009/10	201.17	14,966.08	1.34	682.74	14,972.53	4.56	
		<b>Mean</b>	1.49			<b>Mean</b>	3.12
		<b>S.D.</b>	0.13			<b>S.D.</b>	1.12

*Source: Annual Reports*

From above table, it is found that the both banks have least portion of loan loss provision. This means that both banks have least amount of non-performing loan. The average LLP to total loan and advances ratio is 1.49% and 3.12 % of KBL and MBL respectively. The ratio is higher in MBL than KBL. This higher ratio reflects that MBL has higher non-performing loan in comparison to KBL.

Likewise the Standard deviation of KBL and MBL are 0.13 and 1.12 respectively, From this, it is clear that the ratio of MBL has higher deviation from its average ratio and so has higher risk than that of KBL.

#### **4.2.2. Collateral/Security-wise Lending**

Security wise lending refers to the lending of banks to the client against the various collateral. As the collateral is also key aspect as a partial remedy for the credit risk while lending, the analysis of security helps to identify the credit risk position of the bank. The collateral can be anything ranging from the more liquid and secure collateral such as government bonds, bills, Fixed deposit Receipt to Illiquid Fixed asset and Immovable property. Banks even can lend without collateral for the trustworthy customers. The analysis of security wise lending is as below,

##### **4.2.2.1 Collateral/ Security wise Lending of KBL**

This analysis will help to identify the various types of securities on the basis of which loans have been provided by KBL. This also assists to analyze the credit risk of a bank. As more liquid the collateral, low credit risk to the bank. Here, security wise lending includes 12 types of securities, including without collateral lending.

**Table 4.5**

Ranking of KBL Collateral on the basis of amount of loan extended

**(Rs. In million)**

<b>S. No.</b>	<b>Security against lending</b>	<b>Average Lending Against Each Collateral</b>	<b>Rank</b>
	<b>A. Secured</b>		
1.	Movable/Non Movable Property	51,190.64	1
2.	Guarantee of Local Licensed institutions	137.49	4
3.	Government Guarantee	0	9
4..	Guarantee of internationally rated bank	0	9
5.	Against export Documents	119.23	5
6.	Own bank's Fixed Deposit Receipts	106.51	6
7.	Other bank's Fixed Deposit Receipts	1,261.30	3
8.	Against Government Bonds	7.41	8
9.	Counter Guarantee	0	9
10	Loan against Personal Guarantee	17.88	7
11	Other Securities	5,467.41	2
	<b>B. Unsecured</b>	0	9
	<b>Total</b>	<b>58,307.86</b>	

*Source: Annual Reports (See Annex 4 (A) for details)*

From the table 4.5, it is clear that over the five years the KBL has extended the credit mostly against the Movable/non Movable Property. The average lending against the movable/ non-movable property is Rs.51,190.64 million, which is the highest among the

lending against all securities. The bank has not granted any loan without collateral, which is the good sign of lending practice. The bank even does not have lending against the guarantee of internationally rated bank and counter guarantee. The bank has extended least credit against the personal guarantee, which is ranked 7<sup>th</sup> position on the basis of average amount of lending. The bank has also been granting loan against the more liquid and secured collateral such as Government bonds, own bank's Fixed Deposit Receipt (FDR) and other banks FDR, which has ranked 8<sup>th</sup>, 6<sup>th</sup> and 3<sup>rd</sup> respectively. Besides the above-mentioned collateral, the bank has granted credit against the other collaterals, which is ranked 2<sup>nd</sup> position. The bank has also granted the credit against the Guarantee of local institutions which has ranked at 3<sup>rd</sup> position on the basis of average amount of loan extended against above security whereas the bank has not granted any credit against Government guarantee. This means that the bank has been granting the loan and advances against diversified collateral. However, the large portion of loan has been granted against the movable/non movable property.

#### 4.2.2.2. Collateral/Security-wise Lending of MBL

**Table 4.6**

#### **Ranking of MBL Collateral on the basis of amount of loan extended**

**(Rs. in million)**

<b>S. No.</b>	<b>Security against lending</b>	<b>Average Lending Against Each Collateral</b>	<b>Rank</b>
	<b>A. Secured</b>		
1.	Movable/Non Movable Property	45,932.04	1
2.	Guarantee of Local Licensed institutions	1,018.43	3
3.	Government Guarantee	182.06	6
4..	Guarantee of internationally rated bank	0	9
5.	Against export Documents	0	9
6.	Own bank's Fixed Deposit Receipts	110.15	7
7.	Other bank's Fixed Deposit Receipts	904.51	4
8.	Against Government Bonds	2.46	8
9.	Counter Guarantee	0	9
10	Loan against Personal Guarantee	501.03	5
11	Other Securities	1,742.95	2
	<b>B. Unsecured</b>	0	9
	<b>Total</b>	<b>50,393.64</b>	

*Source: Annual Reports (See Annex 4 (B) for details)*

Table 4.6 depicts that the MBL has extended credit against the 8 Securities. The MBL has granted the highest amount of loan against the Movable/ Non- Movable property, the average lending against this collateral for the past five years is Rs.45,932.04 million. Likewise the average loan against the other securities than above mentioned is Rs.1,742.95 million, which is ranked at 2<sup>nd</sup> position. The loan granted against the guarantee of local licensed institutions, other bank's FDR and own bank's FDR has ranked at 3<sup>rd</sup> , 4<sup>th</sup> and 7<sup>th</sup> position respectively. The bank has also granted loan against Personal Guarantee, Government guarantee and Government bonds. The bank has not provided any loans against counter guarantee, guarantee of internationally rated bank and export documents and counter guarantee. The bank has also not provided unsecured loan.

#### **4.2.3. Risk Weighted Lending Analysis**

Risk Weighted lending refers to weight provided to the bank loan according to the level of risk. The inherent risk level of the loan can be categorized on the basis of the collateral. The lending against own bank Fixed deposit receipt and government securities are considered as risk free lending or possess 0% risk weight. Similarly, the loan against other banks Fixed Deposit Receipt and Counter guarantee of internationally rated banks are considered as moderate level risk lending, and the loan against all other securities or without collateral are taken as high level risk lending. The risk weighted for moderate level and high-level risk lending is 20 % and 100 % respectively. The higher the risk-free and moderate-level lending, the lower is the credit risk of the bank and vice versa. The

loan has been categorized on the basis of NRB Risk weighted Asset basis. The proportion of different category of risk weighted lending of both banks is presented below:

**Table 4.7**  
**Proportion of different category of risk weighted lending of KBL**

Security	Risk Weighted ( %)	2005/06	2006/07	2007/08	2008/09	2009/10	Average
Risk Free Lending to Total Loan	0%	0.32	0.24	0.06	0.02	0.37	0.20
Moderate Level Risk Lending to Total Loan	20%	0.92	0.95	0.93	0.31	0.00	0.62
High Level Risk Lending to Total Loan	100%	98.76	98.81	99.01	99.67	99.63	99.18

*Source: Annual Reports*

Table 4.7 exhibits the percentage of different categories of risk lending of KBL for 5 years. The table further reveals that KBL has the highest lending on 100 % risk weighted lending i.e. on high-risk category lending. The bank has extended 0.32%, 0.24%, 0.06%, 0.02% and 0.37% of total lending against the risk-free collateral (i.e. own banks FDRs and Government bonds) in fiscal year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. Likewise the bank has extended 0.92%, 0.95%, 0.93%, 0.31% and 0% of total loan against the moderate-level risk collateral in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. In five years, the bank has made lower

amount of high-level risk lending (i.e. 98.76 %) in fiscal year 2005/06. The average lending in 5 years on risk free, moderate level and high risk level lending is 0.20%, 0.62% and 99.18 % respectively.

**Table 4.8**

**Proportion of different category of risk weighted lending of MBL**

<b>Security</b>	<b>Risk Weight</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Average</b>
Risk Free Lending to Total Loan	0%	0.71	0.26	0.05	0.13	0.17	0.27
Moderate Risk Lending to Total Loan	20%	1.38	2.96	2.71	1.83	0.63	1.90
High Risk Lending to Total Loan	100%	97.91	96.78	97.24	98.04	99.20	97.83

*Source: Annual Reports*

Table 4.8 table exhibits percentage of lending of different categories of risk of MBL for 5 years. The table further reveals that MBL has the highest lending on 100 percent risk level (i.e loan against fixed asset and guarantee). The bank has extended 0.71%, 0.26%, 0.05%, 0.13% and 0.17 % of total lending against the risk free collateral (i.e. own banks FDRs and Government bonds) in fiscal year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. Likewise the bank has extended 1.38%, 2.96%, 2.71%, 1.83% and 0.63% of total loan against the moderate-level risk collateral in the fiscal year 2005/06, 2006/07, 2007/08, 2008/09 and 2009/10 respectively. In five years, the bank has made

lower amount of high-level risk lending (i.e. 96.78 %) in fiscal year 2006/07. The average lending in 5 years on risk free, moderate level and high risk level lending is 0.27 %, 1.90% and 97.83 % respectively. From the table 4.8, it is clear that both banks have extended least amount of loan against the lower level risk collateral. Between these two banks, MBL has made more lending in risk free and moderate level risk. It can also be said that MBL has been providing more loan against own & other banks FDRs and government bonds than KBL. This indicates that the MBL has slightly less riskier lending than KBL.

#### **4.2.4. Credit Concentration on Single Sector**

This analysis helps to find out the credit concentration of banks in different sectors. The higher the concentration of bank's credit in one sector, the higher will be the risk for a bank and vice versa. It is because when there is a problem or crises in that particular sector, it will result in a significant loss to the bank. The proportion of sector wise lending to total loan has been presented in table below:

Table 4.9

**Credit Concentration on different Sector on fiscal year 2009/10**

<b>Sector</b>	<b>KBL (%)</b>	<b>Rank for KBL</b>	<b>MBL (%)</b>	<b>Rank for MBL</b>
Agriculture	2.75	9	0.41	12
Fishery	0	0	0	0
Mines	1.86	11	0.39	13
Manufacturing	17.98	1	24.53	2
Construction	11.39	4	9.79	4
Electricity, Gas & Water	1.34	13	5.83	5
Metal Productions, Machinery & Electric Tools & Fittings	1.99	10	0.98	10
Transportation, Storage & Communication	8.18	7	5.40	6
Whole Seller & Retailer	8.89	6	2.13	9
Finance, Insurance & Fixed Assets	17.10	2	11.40	3
Hotel & Restaurants	1.69	12	0.83	11
Other Service	3.62	8	4.62	7
Consumable Loan	10.15	5	2.78	8
Local Government	0	0	0	0
Others	13.04	3	30.90	1
<b>Total</b>	<b>100.00</b>		<b>100.00</b>	

*Source: NRB, Banking & Financial Statistics; Mid July, 2010 and Annex 5.*

Table 4.9 shows that KBL and MBL has extended more than 10 % of their total loan in 5 sectors and 3 sectors respectively. Similarly, KBL & MBL have invested highest of 17.98% and 30.90% of total loan in Manufacturing sector and Others category sector respectively. KBL has extended least credit in Electricity, Gas & Water sector whereas MBL has extended least credit in Mines sector. Loan to Local Government is the neglected area in both the banks. It seems that MBL is highly concentrated with 30.12% of its loan in Others category. MBL has extended lower level of Consumable Loan sector in comparison to KBL. It is also clear that credit concentration on single sector of MBL is more than that of KBL. This indicates that MBL has higher concentration risk on Others and manufacturing sector as the exposures on these two sectors has 30.90 % and 24.53% of total loan respectively.

#### **4.2.5. Sector-wise Loan to Core Capital**

This is the ratio between loans extended by bank in a sector and core capital. Core capital includes share capital, retained earning, general reserve, capital adjustment fund, non-redeemable preferred stock etc. According to NRB directive no. 3 of Unified Directive 2010, the loan exposure on single sector more than 50% of core capital needs to be verified at least quarterly as there exists the concentration risk. Similarly, single sector loan concentration more 100% of core capital needs to be approved by the board of

directors as it involves very high risk. The core capital of KBL and MBL is Rs.1,772.19 million and Rs.1,750.04 million respectively in fiscal year 2009/10.

**Table 4.10**

**Sector-wise loan to Core Capital in fiscal year 2009/10**

**(Rs. In million)**

S.No.	Sector	Loan-KBL	Sector-wise loan to Core Capital (%)	Loan-MBL	Sector-wise loan to Core Capital (%)
1	Agriculture	4,114	232.15	514	29.37
2	Fishery	0	0	0	0
3	Mine	2,780	156.87	495	28.29
4	Manufacturing	26,852	1515.23	30,968	1769.56
5	Construction	17,016	960.20	12,361	706.33
6	Electricity, Gas & Water	2,007	113.25	7,357	420.39
7	Metal production, Machinery, Electrical Tools & Fittings	2,972	167.71	1,237	70.68
8	Transportation, Storage and Communications	12,227	689.96	6,822	389.82
9	Wholesalers & Retailers	13,277	749.21	2,688	153.60
10	Finance, Insurance & Fixed Assets	25,546	1441.53	14,394	822.50
11	Hotel & Restaurants	2,526	142.54	1,048	59.88
12	Other Services	5,415	305.56	5,837	333.54
13	Consumable Loan	15,166	855.80	3,504	200.22
14	Local Government	0	0	0	0
15	Others	19,486	1099.57	38,996	2228.29
	<b>Total</b>	<b>149,384</b>		<b>126,221</b>	

*Source: NRB, Banking & Financial Statistics, Mid July 2010*

Table 4.10 exhibits the percentage of loan on single sector to core capital of KBL and MBL in fiscal year 2009/10. Above table depicts that the ratio of KBL has crossed 50% in all sectors and MBL has crossed 11 sectors. Out of them, the sector wise loan to core capital ratio of KBL has crossed 100% in all cases whereas MBL has crossed 100 % in 9 sectors. The above table indicates that KBL has higher concentration risk than MBL as KBL has extended more loans in all sectors than KBL. KBL has highest ratio in manufacturing sector whereas MBL has highest ratio in others sector, which is 1515.23% and 2228.29% respectively. In this sector also, the ratio of MBL is higher than that of KBL. There is wide range of differences in the ratio of different loan sectors between KBL and MBL.

#### **4.2.6. Default Probability**

The default probability is the probability that the borrowing client will default and will not repay the loan. Therefore, higher default probability shows the higher credit risk of the banks and vice-versa. Default probability can be calculated on the basis of the interest rate on loans.

**Table 4.11**

**Calculation of Default Probability**

	<b>KBL (%)</b>	<b>MBL (%)</b>	<b>Remarks</b>
Average Interest Rate on Loan	10.7159	10.3295	
Risk Free rate of return	3.25	3.25	T-bill rate 3.25% for 90-days & 3.95 for 364 days.
Repayment Probability	0.9326	0.9258	= (1.0325/1.1097159) & (1.0325/ 1.116023)
Default Probability	0.0674 i.e. 6.74%	0.0748 i.e. 7.48%	

*Source: “Annual Report, NRB” & “Banking & Financial Statistics, Mid-July 2010) (see Annex-6and Annex-7for details)*

The Default probability of MBL is higher than that of KBL (7.48 % > 6.74%). Therefore, we can say that MBL has higher credit risk or default risk than that of KBL in terms of its interest on loan. This is due to the situation of adverse selection. In the loan market, the adverse selection is the situation that occurs as the interest rate rises and the honest borrowers decide not to borrow. The bank is left with an adverse pool of borrowers – those who know they are more likely to default. Thus due to the higher average interest rate of KBL, it has more default probability than MBL

#### **4.2.7. Organizational Structure for Credit Risk Management**

As the credit risk occupy the highest proportion of risk in banking sector, the bank should have a well-defined mechanism to analyze and manage the credit risk. For handling the credit function of bank, both banks have Credit Department headed by their Head – Credit. The final credit decisions are taken by their designated authority of Credit Risk Management/Department being under delegated lending authority. If the bank has to extend credit to single borrowers above 25 % of fund based and 50 % of non fund based loan, the final credit decision must be taken by the Board of Directors.

For the effective credit risk management, KBL has divided approval authority in two distinct units, namely Business Bank and Risk Management. While the Business Unit concentrates more on optimum utility of assets, every lending decision of this Unit is e-assessed and revaluated by the Risk Management Unit for final approval. The Risk Management Unit applies its objective judgment on risk variables deemed appropriate in each instance of lending decision. Accordingly MBL also has the Risk Management system but it is in process of formulating Risk Management Department. For time being, internal arrangements have been made for Credit Risk Management of the bank through separate Committees which monitors the risk associated with the lending practice and develop strategies and plans to minimize the credit risk.

**a. Kumari Bank Ltd (KBL)**

Khanal, B. (Personal Interview, December 19, 2010) states that Board of Directors of KBL will have the overall responsibility for formulating policies on Credit Risk Management and the ultimate authority for deciding the overall credit risk monitoring and management. The credit decision-making authority goes up in hierarchy, in which some lending decisions are to be approved by General Manager, Chief Executive Officer and other by even the Board of Directors as each case may require. The credit decisions which are beyond the jurisdiction of Chief Executive Officer are taken by the Executive Sub Committee (ESC) and the decisions even beyond the jurisdiction of ESC are taken by the Board of Directors. The Executive Sub Committee reviews credit, operational and other banking facilities in timely and accurate manner. It is chaired by the Chairman of the bank and constitutes other 2 non executive members.

At the management level, Asset Liability Management Committee (ALCO) is the main committee concerned with development and implementation of strategy and plans related to management of various risks. The Chief Executive Officer of the bank heads the ALCO with all the head of the various departments (such as credit, marketing, operations, strategy and planning and treasury). CEO may invite additional members in ALCO, according to business needs. ALCO is required to meet on regular interval and major decisions made to be briefed to the Board. There is also an Operations Committee to

manage and discuss upon Banks Operations, Credit and Marketing issues. In KBL all the credit activities is governed by the Credit Policies Guidelines and the corporate credit and retail department perform the credit functions. These departments are headed by the Senior Manager, Assistant Manager or Deputy Manager.

The bank also has set up a Risk Assessment Division independent of the normal Credit Relationship Unit to analyze the potential risk associated with both funded and non-funded credit exposures and to ensure credit facilities are within the risk appetite of the bank. The Department consists of 2 distinct units, Risk Approval Department which facilities final decision after duly adjusting risks as mitigated to an acceptable level, and Credit Administration and Control Department, which evaluates the endorsed paperwork prior to actual sanction, and also after it. The Division carries out independent credit proposal reviews and assessment, ensures NRB Directives and Internal Guidelines relating to Credit are properly followed. It also handles recovery issues related to credit. The Credit Administration and Control Department also monitors all the credit documentations and post-credit performance of the credit client. This department has responsibility to monitor the credit client once the credit department has extended the loan in order to maintain the high-quality risk assets. The existing practice of obtaining adequate collateral (Fixed assets) is the major strength of KBL to manage the credit risk.

**b. Machhapuchchhre Bank Ltd (MBL)**

Shrestha, D. (Personal Interview, December 18, 2010) states that a special Credit Committee exists for formulating credit policies in the bank. Besides this, committee also takes the credit decisions beyond the limit of chief Executive officer. The committee includes Chief Executive Officer, 3 Board of Directors, Deputy General Manager, Assistant General Manager and Credit Manager. The main responsibility of this committee is to take decision beyond the jurisdiction of the management of MBL, to provide support to the board of directors.

In MBL, all the credit decision is governed by the Credit Policies Guidelines. Under the management level, all the credit decisions are taken by the credit manager but for the credit decision beyond his jurisdiction; Deputy General Manager and CEO take the decision. Credit approval process of MBL routed channel wise. In credit approval process initially proposal prepared by Relationship Manager then it goes upward approving authorities like Branch Manager – Corporate Credit Deputy Manager – Chief Credit – Deputy General Manager – Chief Executive Officer – Credit Committee/Board of Directors. The approval process completed depending on the limit of credit proposal. The credit proposal up to Rs.5 million will be approved by Chief Credit, up to Rs.10 million by Deputy General Manager, up to Rs.30 million by CEO, up to Rs.50 million Credit Committee and above Rs.50 million by Board of Directors.

For the legal issue while granting credit, the legal department is responsible for all the documentations part. There is also a Credit Administration Department, which handles all the administrative aspect of credit such as monitoring credit, recovery etc. Regarding

Document Risks, document risk refers to the risk, which arises from the acceptance of false/mistake document by the bank. If a bank provides loan against the false documents, the bank will have to suffer loss in case of default by the client. Similarly, while purchasing the cheques and bills, if the document is not genuine, this leads a bank to suffer a huge loss. This document risk is associated with human error of banks' staff as well as the intention of the client. When interviewed to key employees of both banks, it is found that banks have taken a high precaution for the document risk. There is no such a case that banks have suffered a huge loss due to fraud or mistaken documents. To minimize the risk, both the banks have provided hierarchy wise authority to take Credit Decision and set up legal department and credit administration department for proper documentation.

#### **4.2.8. Common Sources of Major Credit Problems**

Major banking problems have been either explicitly or indirectly caused by weaknesses in Credit Risk Management. According to the experience of key respondents of KBL, MBL as well as Nepal Rastra Bank, certain key problems tend to recur in the banking industry that results in the high credit losses. Severe credit losses in a banking system usually reflect simultaneous problems in several areas, such as concentrations, failures of due diligence and inadequate monitoring. According to the key respondents of KBL, MBL and NRB, some of the most common problems are related to the broad areas of concentrations, credit processing, and market- and liquidity-sensitive credit exposures.

#### **4.2.8.1. Concentration**

Concentrations are the one of the most important cause of major credit problems. Credit concentrations are viewed as any exposure where the potential losses are large relative to the bank's capital, total assets, and overall risk level. Relatively large losses may reflect not only large exposures, but also the potential for unusually high percentage losses.

Credit concentrations can further be grouped roughly into two categories as follows:

- **Conventional credit concentrations** include concentrations of credits to single borrowers or counterparties, a group of connected counterparties, and sectors or industries, such as commercial real estate, oil and gas etc.
- **Concentrations based on common or correlated risk factors** reflect more situation-specific factors, and often cannot be covered through analysis. Disturbances in economic sector because of strikes, curfew, and blockade have also slowed down the business of the banks as well as the borrowers. Similarly, a highly leveraged borrower will produce larger credit losses for a given severe price or economic shock than a less leveraged borrower whose capital can absorb a significant portion of any loss.

#### **4.2.8.2. Credit Process Issues**

- Many credit problems reveal basic weaknesses in the credit granting and monitoring processes. While shortcomings in underwriting and management of market-related credit exposures represent important sources of losses at banks, many credit problems would have been avoided or mitigated by a strong internal credit process.
- According to the key respondents, carrying out a thorough credit assessment (or basic due diligence) is a substantial challenge for all banks. For traditional bank lending, competitive pressures and the growth of loan syndication techniques create time constraints that interfere with basic due diligence.
- The absence of testing and validation of new lending techniques is another important problem. Adoption of untested lending techniques in new or innovative areas of the market, especially techniques that dispense with sound principles of due diligence or traditional benchmarks for leverage, have led to serious problems at banks. Sound practice calls for the application of basic principles to new types of credit activity. Any new technique involves uncertainty about its effectiveness. That uncertainty should be reflected in somewhat greater conservatism and corroborating indicators of credit quality.
- Some credit problems arise from subjective decision-making by senior management of the bank. This includes extending credits to companies they own or with which they are affiliated, to personal friends, to persons with a reputation for financial acumen or to meet a personal agenda, such as cultivating special relationships with celebrities.

- Lack of effective credit review process is also one of the major sources of credit risk in the commercial banks. Credit review at banks usually is a department made up of analysts, independent of the lending officers, who make an independent assessment of the quality of a credit or a credit relationship based on documentation such as financial statements, credit analysis provided by the account officer and collateral appraisals. The purpose of credit review is to provide appropriate checks and balances to ensure that credits are made in accordance with bank policy including compliance of regulatory requirement and to provide an independent judgment of asset quality, uninfluenced by relationships with the borrower. So, the lack of the effective credit review is also the key factors for higher credit risk.
- A common and major source of the credit risk is the failure to monitor borrowers or collateral values. The negligence by the banks to obtain periodic financial information from borrowers or real estate appraisals in order to evaluate the quality of loans on their books and the adequacy of collateral has resulted banks failure to recognize early signs that asset quality was deteriorating and missed opportunities to work with borrowers to stem their financial deterioration and to protect the bank's position. This lack of monitoring led to a costly process by senior management to determine the dimension and severity of the problem loans and resulted in large losses.
- In some cases, the failure to perform adequate due diligence and financial analysis and to monitor the borrower can result in a breakdown of controls to detect credit-related fraud. For example, banks experiencing fraud-related losses have

neglected to inspect collateral, such as goods in a warehouse or on a showroom floor, have not authenticated or valued financial assets presented as collateral, or have not required audited financial statements and carefully analyzed them.

- A related problem is that many banks do not take sufficient account of business cycle effects in lending. As income prospects and asset values rise in the ascending portion of the business cycle, credit analysis may incorporate overly optimistic assumptions. Industries such as retailing, commercial real estate and real estate investment trusts, utilities, and consumer lending often experience strong cyclical effects. Sometimes the cycle is less related to general business conditions than the product cycle in a relatively new, rapidly growing sector, such as health care and telecommunications. Effective stress testing which takes account of business or product cycle effects is one approach to incorporating into credit decisions a fuller understanding of a borrower's credit risk.

#### **4.2.9. Banking Risk and Capital Adequacy Measures**

Capital Adequacy Ratio (CAR) is one of the major tools of minimizing the overall risk of a bank including the credit risk through adequate arrangement of capital. In other words, it is the cushion to cover the loss suffered by the bank. The higher the CAR of a bank, more safe the bank will be. It is because in case of losses, the capital will be used to cover those losses. So it is the great safeguard measure for the bank, depositors and investors. For the management of default risk of bank, NRB has prescribed capital adequacy ratio for primary capital and total capital fund. All the commercial banks need to maintain the

required ratio. If any bank fails to maintain the required ratio, bank is not allowed to increase its assets, disburse loans, to open new branches, collect deposits and distribute dividend.

#### **4.2.9.1. Core Capital to Total Risk Weighted Asset (RWA)**

Core Capital to Total Risk Weighted Asset (RWA) ratio measures the proportion of funding of total Risk Weighted Asset from the core capital. Risk weighted asset refers to all the on balance sheet and off balance sheet asset which has been weighted by some portion of risk. The assets have been weighted on the basis of their risk level (e.g. 0 % for cash & investment on government bills to 100% on loans and advances). The total loans, advances and overdrafts covers more than 70% in average of the total risk weighted assets in case of KBL; and in MBL, more than 89% of the total risk weighted assets is covered by the total loans, advances and overdrafts. Core Capital, on the other hand, refers to the shareholders equity, which includes Share Capital, Retained Earning, General Reserve, Net profit & Non redeemable Preference Share). The higher ratio does a bank maintain, the better position a bank has and vice versa. Higher ratio also means more use of equity while financing the asset, which means lower use of debt (i.e. borrowings and deposit). As we know the lower the use of the debt, the less risk a bank has and vice versa; the higher ratio is always preferred.

**Table 4.12****Core Capital to Total Risk Weighted Asset****(Rs in million)**

Fiscal Year	Statutory Ratio (%)	KBL				MBL			
		Core Capital	Total RWA	Core Capital/RWA (%)	Excess/Shortfall	Core Capital	Total RWA	Core Capital/RWA	Excess/Shortfall
2005/06	5.50	858.52	7,625.05	11.28	5.78	911.54	7,631.99	11.94	6.44
2006/07	5.50	1,019.89	9,959.91	10.26	4.76	982.58	9,200.66	10.68	5.18
2007/08	5.50	1,359.03	13,688.72	10.40	4.90	1,053.19	10,746.24	10.97	5.47
2008/09	6.00	1,612.80	16,983.99	9.08	3.08	1,676.87	14,588.51	10.96	4.96
2009/10	6.00	1,772.14	21,350.66	10.29	4.29	1,750.04	16,765.20	9.94	3.94
		<b>Average</b>		<b>10.26</b>	<b>4.56</b>	<b>Average</b>		<b>10.90</b>	<b>5.20</b>
		<b>S.D</b>		<b>0.70</b>		<b>S.D</b>		<b>0.64</b>	

Source: Annual Reports

Table 4.12 exhibits the ratio of core capital to total risk-weighted asset of KBL and MBL for 5 years. Both banks have maintained the ratio more than that of statutory requirement prescribed by NRB. Both banks have maintained higher ratio in earlier years which is also because of bank's lower risk weighted asset. The average core capital to RWA ratio of KBL and MBL is 10.26 % and 10.90 % respectively. This indicates that MBL has

employed higher capital than KBL to finance the risk-weighted asset. MBL has higher amount of cushion against the losses. However, there is very slight difference between the ratio of core capital to RWA of the two banks. The average excess ratio than the statutory requirement of both KBL and MBL is 4.56% and 5.20% respectively. This ratio indicates that MBL can slightly increase its risk-weighted asset more than KBL. The higher capital ratio does a bank maintain, the higher amount of asset can be increased by the bank and vice versa, which also means higher income and profit. This above figures shows almost similar position of KBL and MBL in terms of the ratio of Core Capital to Total RWA but MBL is in slightly less risky position than KBL. The standard deviation of the ratio of Core Capital to RWA of KBL and MBL is 0.70 and 0.64 respectively. These figures indicate that the actual ratios of MBL are slightly more fluctuating from the average than KBL which shows inconsistency.

#### **4.2.9.2. Supplementary Capital to Total Risk Weighted Asset**

This ratio measures how much supplementary Capital a bank has to finance the total RWA. Supplementary Capital refers to the reserve maintained by the bank for specific purpose such as loan loss, foreign exchange loss etc. The higher ratio does a bank maintain, the higher will be the capital cushion for a bank to cover the risk and vice versa.

**Table 4.13****Supplementary Capital to Total Risk Weighted Asset****(Rs. In million)**

<b>Fiscal Year</b>	<b>KBL</b>			<b>MBL</b>		
	<b>Supplementary Capital</b>	<b>RWA</b>	<b>Supplementa ry Capital/ RWA</b>	<b>Supplementar y Capital</b>	<b>RWA</b>	<b>Supplementary Capital/ RWA</b>
2005/06	82.46	7,625.05	1.08	64.52	7,631.99	0.85
2006/07	95.31	9,959.91	0.96	119.15	9,200.66	1.30
2007/08	523.89	13,688.72	4.01	136.83	10,746.24	1.31
2008/09	438.11	16,983.99	2.47	135.00	14,588.51	0.88
2009/10	352.49	21,350.66	2.05	229.20	16,765.20	1.37
	<b>Mean</b>		<b>2.11</b>	<b>Mean</b>		<b>1.14</b>
	<b>S.D</b>		<b>1.11</b>	<b>S.D</b>		<b>0.23</b>

*Source: Annual Reports*

Table 4.13 exhibits Supplementary Capital to Total Risk Weighted Asset ratio of KBL and MBL for 5 years. KBL has below 5% supplementary capital to finance total RWA whereas MBL has very low percentage i.e. below 2% of supplementary capital to finance the total RWA. The average ratio of KBL and MBL for 5 years is 2.11% and 1.14% respectively. This indicates that KBL has higher amount of supplementary capital than MBL. The higher amount of supplementary capital indicates that KBL has maintained

higher amount of reserve to combat the specific risk such as loan loss, asset revaluation loss and foreign exchange loss etc.

The standard deviation of the ratio of KBL and MBL is 1.11% and 0.23 % respectively. This indicates that the ratio of KBL fluctuates more than that of MBL, which depicts the less consistency in part of KBL.

#### **4.2.9.3. Capital Fund to Total Risk Weighted Asset (RWA)**

Capital fund to total RWA ratio measures how much RWA is financed from the Capital Fund. Capital Fund includes Core Capital plus Supplementary Capital. The higher the ratio does a bank have, the better is the bank's financial position and the bank will be in less risky position and can increase its asset, which ultimately will increase bank's overall profit.

**Table 4.14**

**Capital Fund to Risk Weighted Asset**

**(Rs. In million)**

Fiscal Year	Statutory Ratio (%)	KBL				MBL			
		Total Capital Fund	RWA	Capital Fund/RWA	Excess/Shortfall	Total Capital Fund	RWA	Capital Fund/RWA	Excess/Shortfall
2005/06	11	940.98	7,625.05	12.36	1.36	976.06	7,631.99	12.79	1.79
2006/07	11	1,115.21	9,959.91	11.22	0.22	1,101.73	9,200.66	11.97	0.97
2007/08	11	1,882.93	13,688.72	14.41	3.41	1,279.80	10,746.24	12.29	1.29
2008/09	11	2,050.91	16,983.99	11.56	0.56	1,811.87	14,588.51	11.84	0.84
2009/10	10	2,124.63	21,350.66	12.34	2.34	1,795.56	16,765.20	11.25	1.25
		<b>Mean</b>		<b>12.38</b>	<b>1.58</b>	<b>Mean</b>		<b>12.03</b>	<b>1.03</b>
		<b>S.D</b>		<b>1.11</b>		<b>S.D</b>		<b>0.58</b>	

*Source: Annual Reports*

Table 4.14 exhibits Total Capital fund to Risk Weighted Asset (RWA) of KBL and MBL for 5 years. Both banks have capital adequacy ratio higher than the statutory requirement in all 5 years. The average ratio of KBL and MBL is 12.38% and 12.03% respectively. This shows that KBL has slightly higher Capital Adequacy Ratio than MBL, which signals that KBL is in a little bit better position than MBL. The ratios of both the banks have been fluctuating in above five years. Similarly, the average excess of ratio than statutory requirement of KBL and MBL is 1.58% and 1.03% respectively. This figure indicates that KBL has higher excess ratio than MBL. The standard deviation of the ratio of Total Capital fund to RWA of KBL and MBL is 1.11 and 0.58 respectively which indicates that the ratios of KBL fluctuate more from the average than that of MBL.

#### **4.2.10 Analysis of Primary Data**

Under the analysis of primary data, a questionnaire and personal interview has been conducted to the staffs of the concerned departments of both KBL and MBL. The questionnaires have been filled by 10 employees each from both KBL and MBL. The responses of the questionnaire have been analyzed as below:

- **Proportion of credit risk:** The 9 staffs of KBL have responded that the proportion of credit risk is more than 60 % of total banking risk. This means that in KBL, the credit risk has the highest proportion on total risk. In MBL, 8 Staffs have agreed that the proportion of credit risk is more than 60 % of total banking risk. From this response, it is clear that in both commercial banks, the proportion of credit risk is very high.

- **Credit Risk Rating System:** All the 20 staffs have answered that both banks have risk rating system for the credit clients. Ranking of different characteristics (5Cs) while granting credit has been made on the basis of majority ranks for each attribute given by the respondent.

**Table 4.15**

**Ranking of different characteristic while lending**

<b>Attributes</b>	<b>KBL</b>	<b>MBL</b>
Character	1	2
Collateral	2	4
Capital	4	3
Condition	4	5
Capacity	3	1

*Source: Field study (See Annex 8 for detail)*

Table 4.15 clearly shows that KBL prefers character and collateral as the most important attributes while extending the credit where as the MBL gives more importance to capacity of credit client than the collateral.

- **Credit Concentration / Single Sector Lending:** The 8 staffs of KBL has responded that KBL should lend 0-10% of total loan on single sector, where as 2 have responded that it should lend 10-20 % of total loan in single sector. Likewise, out of total 10 staffs of MBL, 6 have agreed that the bank should lend 0-10 % of total loan, where as 1 has

agreed that the bank should lend 20- 30 % of total loan and rest have agreed on 10-20% of total loan.

- **Risk Attributes:** For the credit risk analysis of the corporate borrowing clients, all the 20 respondents agreed that following attributes must be taken into considerations:
  - a) Financial risk, b) Market risk, c) Management risk, d) Labor risk,
  - e) Government/policy risk, f) Succession risk, g) Liquidity Risk, h) Default risk, i) Pricing risk, j) Security Risk, k) Technological Risk.

Various internal and external environmental factors impact the overall business of the corporate credit clients. Therefore, the strengths, weaknesses, opportunities and threats associated with the business should be analyzed by considering the above Risk Attributes.

- **NPL:** When asked about to what extent today’s banking industry is effected by problem of NPL, 90% of the respondents were of the view that it is severely affected. Whereas 10 % were of the view that today’s banking industry is moderately affected by the problem of NPL
- **Preference on Sector:** Regarding ranking of preference on sector wise loan, following responses have been made by the staffs of KBL and MBL.

**Table 4.16**

**Ranking of Sector for lending**

Sector	KBL	MBL
Agriculture	6	6

Mines	5	5
Construction	3	2
Manufacturing	1	1
Consumable loans	4	3
Hotel & Restaurant	2	4

*Source: Field study (See Annex 8 for detail)*

Table 4.16 exhibits that KBL prefers Manufacturing, Service Industry, Real Estate, Consumer loans, mine and minerals and agriculture in first, second, third, fourth, fifth, sixth respectively. In contrast, MBL prefers Construction in second priority, where as KBL takes it into third priority. MBL takes both the Consumable loans and Hotel & Restaurant in third and fourth priority respectively. KBL and MBL both have ranked at least priority for Agriculture sector. Both the bank would like to invest more on the manufacturing sector and least to the agriculture sector.

- **Importance of NRB Directives:** Regarding an importance of the directives related to loan classification and provisioning, 100 % of the respondents agreed that the directives are very important. Regarding an impact of new directives on provision for loan loss of commercial bank, 100 % of the respondents are of the view that newly issued directives regarding loan classification and provisioning will increase the provision. When asked about the effect of present loan classification and provisioning directive on the shareholders of the bank, 100 % of the respondents think the shareholders will enjoy lesser dividend and will have their EPS decreased however everyone believes that is only for short term.

#### 4.2.10.1. Test of Hypotheses

##### Hypothesis- I

In 20 random samples of respondents, it contains the following ranking distribution. The test is to draw the ranking of sector wise lending by the staffs of both banks.

**Table 4.17**

##### Hypothesis test regarding the ranking of sector of lending

Bank	Agriculture	Mines	Construction	Manufacturing	Consumable loans	Hotel & Restaurant	Total
KBL	35	43	72	83	70	79	<b>382</b>
MBL	41	42	78	82	74	71	<b>388</b>
<b>Total</b>	<b>76</b>	<b>85</b>	<b>150</b>	<b>165</b>	<b>144</b>	<b>150</b>	<b>770</b>

*Source: Field study (See Annex 8 for detail)*

**Null Hypothesis (Ho):** There is no significant difference between observed and expected frequencies regarding the choice of sector of lending

**Alternative Hypothesis (H1):** There is significant difference between observed and expected frequencies regarding the choice of sector of lending.

Fixing the level of significance at 5 %

Calculation of expected frequencies (E):

$$\begin{aligned} \text{Expected frequency of R1C1} &= \frac{\text{Row Total} \times \text{Column Total}}{\text{Grand Total}} \\ &= \frac{382 \times 76}{770} = \mathbf{37.70} \end{aligned}$$

Similarly,

$$R1C1 = 37.70 \quad R2C1 = 38.30$$

$$R1C2 = 42.17 \quad R2C2 = 42.83$$

$$R1C3 = 74.72 \quad R2C3 = 75.58$$

$$R1C4 = 81.86 \quad R2C4 = 83.14$$

$$R1C5 = 71.44 \quad R2C5 = 72.56$$

$$R1C6 = 74.42 \quad R2C6 = 75.58$$

**Chi- Square Test:**

<b>Observed Frequencies (O)</b>	<b>Expected Frequencies (E)</b>	<b>(O-E)</b>	<b>(O-E)<sup>2</sup>/E</b>
35	37.70	-2.70	0.19
43	42.17	0.83	0.02
72	74.42	-2.42	0.08
83	81.86	1.14	0.02
70	71.44	-4.44	0.26
79	74.42	4.58	0.28
41	38.30	2.70	0.19
42	42.83	-0.83	0.02
78	75.58	2.42	0.08
82	83.14	-1.14	0.02
74	72.56	1.44	0.03

71	75.58	-4.58	0.28
<b>Total</b>			<b>1.46</b>

**Test Statistics:**

$$\chi^2\text{- Calculated} = \frac{\sum(O-E)^2}{E} = 1.46$$

**Degree of Freedom:**

$$\begin{aligned} \text{d.f.} &= (R-1) (C-1) \\ &= (2-1) (6-1) \\ &= 5 \end{aligned}$$

$\chi^2$ - tabulated at 5 % level of significance for 5 d.f. is 11.07

**Decision:-** Since tabulated value of  $\chi^2$  is greater than calculated value of  $\chi^2$  ( i.e. 11.07 > 1.46), null hypothesis is accepted which means that there is no significant difference between observed and expected ranking of lending on different sectors.

**Hypothesis- II**

In 20 random samples of respondents, it contains the following ranking. The test is to identify the ranking of various factors to be considered while lending.

**Table 4.18**

**The ranking of various factors to be considered while lending**

<b>Rank</b>	<b>Character</b>	<b>Collateral</b>	<b>Capital</b>	<b>Condition</b>	<b>Capacity</b>	<b>Total</b>
KBL	74	63	51	51	62	<b>301</b>
MBL	62	53	61	43	75	<b>294</b>
<b>Total</b>	<b>136</b>	<b>116</b>	<b>112</b>	<b>94</b>	<b>137</b>	<b>595</b>

*Source: Field Study (See Annex 8 for detail)*

**Null Hypothesis (H<sub>0</sub>):** There is no significant difference between observed and expected frequencies regarding the ranking of various factors.

**Alternative Hypothesis (H<sub>1</sub>):** There is significant difference between observed and expected frequencies regarding the ranking of various factors.

Fixing the level of significance at 5 %, calculation of expected frequencies (E):

$$\begin{aligned} \text{Expected frequency of R1C1} &= \frac{\text{Row Total} \times \text{Column total}}{\text{Grand Total}} \\ &= \frac{301 \times 136}{595} = \mathbf{68.80} \end{aligned}$$

**Similarly,**

$$R1C1 = 68.80 \quad R2C1 = 67.20$$

$$R1C2 = 58.68 \quad R2C2 = 57.32$$

$$R1C3 = 56.66 \quad R2C3 = 55.34$$

$$R1C4 = 47.55 \quad R2C4 = 46.45$$

$$R1C5 = 69.31 \quad R2C4 = 67.69$$

**Chi- Square Test:**

Observed Frequencies (O)	Expected Frequencies (E)	(O-E)	(O-E) <sup>2</sup> /E
74	68.80	5.20	0.39
63	58.68	4.32	0.32
51	56.66	-5.66	0.57
51	47.55	3.45	0.25
62	69.31	-7.31	0.77
62	67.20	-5.20	0.40
53	57.32	-4.32	0.33
61	55.34	5.66	0.58
43	46.45	-3.45	0.26
75	67.69	7.31	0.79
<b>Total</b>			<b>4.65</b>

#### Test Statistics

$$\chi^2\text{- Calculated} = \frac{\sum(O-E)^2}{E} = 4.65$$

#### Degree of Freedom:

$$\text{d.f.} = (R-1) (C-1)$$

$$= (2-1) (5-1)$$

$$\text{d.f} = 4$$

$\chi^2$ - tabulated at 5 % level of significance for 4 d. f. is 9.49

**Decision:** - Since tabulated value of  $\chi^2$  is greater than calculated value of  $\chi^2$  (i.e. 9.48 > 4.65), null hypothesis is accepted which means that there is no significant difference

between observed and expected ranking of different factors to be considered while lending.

### **4.3 Major Findings of the Study**

From the above analyses of credit risks, following major findings have been obtained:

1. The major problems in credit risk are related to the broad areas of concentrations, credit processing, timely formulation of required risks department and market- and liquidity-sensitive credit exposures. From the analysis of primary data, it is found that the majority of the respondents of both banks have favored with the bank's single sector, which is up to 10 % of total loan. Table 4.9 shows, the sector wise lending analysis portrays that KBL and MBL have extended up to 17.98 % and 30.98% of loan in a single sector respectively in FY 2009/10. Similarly, the exposure on the single sector of KBL and MBL exceeds 10 % of total loan in 5 and 3 sectors respectively. The single sector loan to core capital shows that the ratio crossed 100% in all sectors of KBL whereas in case of MBL, 9 sectors have crossed 100%. In regard to concentration risk, KBL and MBL both have more risk in manufacturing and others sector as the single sector credit to core capital ratio in these sectors is more than 100%. As per table 4.10, MBL has very high loan concentration on others sector of 2228.29% of the core capital. From the personal interview of the key respondents it was found that both banks have been extending credit in those highly concentrated sectors after getting approval from the board of director. This clarifies that concentration risk is the main source of credit risk for KBL and MBL.

2. Similarly lack of systematic and thorough credit processing is also the major source of credit risk in these banks. The problems in credit processing include lack of thorough credit assessment, absence of testing and validation of new lending techniques, subjective decision-making by senior management, lack of effective credit review process, failure to monitor borrowers or collateral values, and failure of banks to take sufficient account of business cycle effects etc. Likewise the market-sensitive and Liquidity-sensitive exposures also increase the credit risk of these banks. Similarly, table 4.16 depicts that both banks have their own rating system of the credit client and the sectors. Both banks have ranked 1<sup>st</sup> to the manufacturing sector whereas the Agriculture sector has been ranked the last on the basis of priority. KBL has chosen Hotel & Restaurant and Construction sector in 2<sup>nd</sup> and 3<sup>rd</sup> position respectively, where as the MBL has just opposite preference in these sectors.
3. Table 4.15 shows KBL has ranked Character, Collateral and Capacity of borrower first, second and third criterion for granting credit where as MBL ranked Character, Capacity and Capital first, second and third priority respectively. The hypothesis test on the preference of the bank's staff also proves that there is no significant difference between observed and expected frequency of ranking.
4. As per table 4.5 and 4.6 related to the analysis of lending against various collaterals, it has been found that both the banks have lent highest amount of loan against the movable/ immovable property. The average lending over 5 years period of KBL and MBL against movable/ immovable property is Rs.51,190.64 million and Rs.45,932.04 million respectively. Similarly, the lending against others securities (i.e. other than prescribed by NRB) is second position for both banks, whereas the lending against

other bank's fixed deposit receipt is in third position in case of KBL and Guarantee of Local Licensed Institution is in third position in case of MBL. Both banks have granted loan without any collateral i.e. in Personal Guarantee. The such lending has ranked at fifth and seventh position respectively for KBL and MBL.

5. Table 4.11 shows the Default probability of MBL is higher than that of KBL (7.48 % > 6.74%). Therefore, we can say that MBL has higher credit risk or default risk than that of KBL in terms of its interest on loan. This is due to the situation of adverse selection. In the loan market, the adverse selection is the situation that occurs as the interest rate rises and the honest borrowers decide not to borrow. The bank is left with an adverse pool of borrowers – those who know they are more likely to default. Thus due to the higher average interest rate of KBL, it has more default probability than MBL

#### **4.3.1. The key performance indicators**

The key performance indicators of the two banks in regard to credit management are found as follows,

1. Table 4.1 shows the average loans and advances to total risk weighted assets of KBL and MBL during the study period are 84.85% and 84.42% respectively. Over this five years period, the proportion of loan on total risk weighted assets of MBL was in fluctuating trend till FY 2006/07 but it has increased then onward and reached up to 89.31% in 2009/10 whereas the proportion of loan on total risk weighted asset of KBL is decreasing trend except in 2008/09. From this, it can be said that KBL has been frequently adjusting the proportion of loan and MBL also has started to adjust

the proportion of loan. Lower average loan and advances to total risk weighted assets of MBL than that of KBL (i.e.  $84.42\% < 84.85\%$ ) suggests that MBL management is more risk averse than KBL but negligibly because average is about at par of both the banks.

2. Table 4.2 depicts, Analysis of non- performing loans to total loans revealed that average NPL to Total loans and advances of KBL and MBL is 0.78% and 1.43% respectively. This means that average performing loan of KBL and MBL is 99.22% and 98.57% respectively. Hence MBL has higher percentage of non-performing loan than KBL, which means that MBL has more credit risk than KBL. With higher amount of non- performing loan of MBL, the impact of it will be on the net profit of the bank. In recent years, ratio of non-performing loan to total loan of MBL has further increased which is not good for the MBL and needs to give due attention by the management of the bank for reducing non-performing loans.
3. Table 4.3 shows, average ratio of Loan Loss Provision to Non-performing Loan of KBL and MBL was found to be 216.76% and 188.60% respectively. Hence KBL has higher ratio than MBL, which depicts that the bank has higher provision against the non- performing loan. This also indicates that in case of default, the bank can cover the loss amount without any problem, as there is sufficient amount of reserve for non-performing loan. However, on the other side, the comparative low ratio of MBL also suggests that out of non-performing loan, the proportion of bad loans is lower than that of KBL. The higher amount of bad loan does a bank have, the higher will be the provision.

4. Table 4.4 depicts, the average Loan loss Provision to total loan ratio of KBL and MBL is 1.49% and 3.12% respectively. The higher percent of LLP of MBL indicates that the bank has higher amount of non-performing loan than KBL. Because of the higher amount of non-performing loan of MBL in total, the provisioning amount is in higher side. This figure indicates that KBL is in better credit position than MBL.
5. As per personal interview with KBL and MBL officials, analyzing the organizational structure for the credit risk management, it has been found that KBL has more rigorous organization structure for credit risk management than MBL. In KBL, Asset Liabilities Management Committee (ALCO), mainly concerned with all types of risks management including credit risk. In MBL, Credit Committee, which includes the member of both board of directors and management, is the main body for managing credit risk. Similarly, the establishment of Credit Administration, Control & Recovery Department, Risk Assessment department in KBL portrays that KBL has been giving more importance to the control and recovery aspects of the loan as well as credit risk rating of borrowers. In MBL there is no separate department for assessing the risk as well as recovery of loan. As per table 4.2, it is evidenced by gradually increasing ratio of NPL to total loans. In the recent year the ratio of NPL to total loan has increased to 2.32% in fiscal year 2009/10 which was at lower side at previous years of sample date. Therefore, it is very necessary to MBL that as early as possible it needs to formulate separate body for the administration, control and recovery of the growing NPL.
6. From table 4.7 and 4.8, the risk weighted lending analysis, it has been found that KBL & MBL both banks have been lending against the risk-free and moderate-level

risk category even though the proportion to them in total lending is very small. The major portion of the total lending of both banks is against the collateral of High-level risk category. But in comparison, the proportion of lending of KBL against Risk-free and moderate-level risk collateral is very small than that of MBL. So, KBL is exposed to higher credit risk than MBL in totality.

#### **4.3.2 Banking Risk and Capital Adequacy Measures**

Analysis of capital adequacy measures of the both banks reveals following findings:

As per table 4.12, the average Core Capital to Total Risk Weighted Asset of KBL and MBL is 10.26% and 10.90 % respectively. Both the banks have higher percentage of core capital than the statutory requirement made by NRB. The average ratio indicates that MBL has slightly higher proportion of Core Capital to finance the risk-weighted asset than KBL.

Table 4.14 depicts, the average Capital Fund to Total Risk Weighted Asset of KBL and MBL is 12.38% and 12.03% respectively. Both the banks have higher capital adequacy ratio than NRB statutory requirement. The average ratio indicates that KBL has slightly higher proportion of Capital Fund to finance the risk-weighted asset than MBL. However, in fiscal year 2008/09, the CAR of both KBL and MBL is just 0.56% and 0.84% above than NRB statutory requirement. But in FY 2009/10, both the banks have further increased its capital in greater proportion than the RWA.

From table 4.13, it is clear that in both KBL and MBL, the portion of supplementary capital is fluctuating. The average supplementary capital to total RWA is 2.11% and 1.14% in KBL and MBL respectively. This ratio indicates that both the banks have been fulfilling the Capital Adequacy Requirement more by core capital than supplementary capital.

### **4.3.3. Credit Risk Management Procedure**

From the analysis of interview of key respondents of both KBL and MBL and the facts of annual reports, following credit risk management procedures are in use in these commercial banks:

#### **1. Standard & Reports**

In both the banks, the risk management techniques involve two different sets of conceptual techniques (i.e. setting standard and financial reporting). Both the banks apply consistent evaluation and rating scheme to all its investment opportunities. Most of the investment decisions are guided by the standard set by top-level management and NRB directive.

In regard to credit risk management, a substantial degree of standardization of process and documentation has been set in both the banks to make credit decision in a consistent manner and for the resultant aggregate reporting of credit risk exposure to be meaningful. Both the banks have their own standard for rating both to borrowers and credit portfolio

that presents meaningful information on overall quality of the credit portfolio. Interview with the respondents have revealed that both the banks have a dual system for credit rating, where both the borrowers and credit facilities are rated. While rating borrowers, the general worthiness of borrower is rated, this is the most important aspect in both banks to extend the credit. In case of the corporate borrowing clients, analysis of the various aspects of the risk like financial risk, management risk, market risk, succession risk, operational risk, security risk etc are analyzed. Similarly, the credit facilities rating include rating of collateral and covenants. In regard to collateral, both banks have granted highest loan against the movable and non-movable property. However, both the banks have also granted loan without backing any collateral i.e. on the basis of Personal Guarantee. This indicates that both the banks have some extent rely on borrowers' credibility also.

The basis standard and guidelines for credit decision in both banks is Credit Policy Guidelines (CPG). CPG clearly set standard of various documents required from the customer and approval procedure to be followed by the concerned Relationship Offices/Managers of the bank before granting credit.

Further, both the banks have been weighting the pros and cons of specialization and concentration by industry group and establish subjective limit for their exposure. This is carried out with both limits and guidelines set by senior management.

## **1. Position Limit**

From personal interviews the study has found that for the proper management of credit risk both the banks have set different organizational position to take decision. Similarly the limit of jurisdiction has also been provided in consistent with position. In KBL, the main committee for overall risk management is Asset Liabilities Management Committee (ALCO). It is concerned with asset liabilities management, analysis of various risks such as credit, interest rate risk, liquidity risk, foreign exchange risk and operation risk. ALCO includes the member of top-level management. In MBL, the decision about credit risk is taken by Credit Committee, which includes the member of both Board of Director and Management. For the overall risk management, top-level management and board of director make overall decision.

## **2. Monitoring and Control**

As per personal interview, Credit Administration & Control Department is mainly concerned with monitoring the credit facilities and borrowers. It continuously reassesses the borrowers' financial condition, business conditions, loan repayment capability, compliance of terms and conditions and health of the risk assets. It also frequently reevaluate the collateral as well as its marketability to ensure that collateral is enough to cover the loss if any. More over in KBL, there exist a Recovery Department under the Risk Assessment Division, which is mainly concerned with prompt recovery of loan. However, in MBL, Credit Department in cooperation with Credit Administration Department performs the function of recovery. Similarly, there exist risk assessment

department also under Risk Assessment Division in KBL that analyze the risk of borrowers before granting credit to the clients. This department also makes portfolio analysis of different loans (such as Overdraft, Term Loan, and Consumer Financing etc.) under different sectors. However in MBL, Credit Department itself performs all the risk assessment function. In MBL there is no separate credit risk assessing body formulated whereas in KBL such separate cell is existed which has helped to KBL down sizing NPL of the bank.

From the above analysis, it is found that both the banks have common procedure for risk management. However, in regard to organizational structure, KBL has more defined and structured department than MBL in regard to managing credit risk. It has been found that MBL has traditional types of organizational structure for credit risk management whereas the recent organization restructuring of KBL has made organization more stringent for credit risk management.

## CHAPTER V

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 5.1 Summary

Economic Development in the country can not be imagined without the proper and systematic development of financial sector especially in banking sector, as banks are the real facilitator for mobilizing the available resources in the country for economic development activities. In the context of current competitive scenario, banks may face challenges from all around. In the study we have identified problems and challenges in these banks to sustain and grow in the industry are liberalized competitive market scenario, the stringent credit risk management, compliance of NRB's prudential and Basel II implementation. In order to over come from above problems the main objectives i.e. to examine credit risk position, to analyze credit risk management system and practices, evaluation of the organizational structure and evaluation of the policy implication credit risk management are set as main objectives. One of the major challenges for Nepalese commercial banks is to properly manage the risk. Considering the importance of credit risk management in commercial banks, this study aimed at studying the Credit Risk Management system of selected commercial banks. For this purpose, descriptive cum analytical research design was adopted.

In the process of carry out research procedure various books, website, published article & journals and unpublished thesis were studied. Both primary and secondary data have been used in this study. Apart from above NRB directives which are related to our thesis works and Basel II statements are also studied to make this study more realistic and result

oriented. In order to analyze the various data collected from different sources, the statistical and financial tools i.e. Arithmetic Mean, Standard Deviation, Default Probability, Hypothesis Test and Ratio Analysis were used. Likewise, to collect the various data field survey were done, questionnaire was provided to 10 staffs each of KBL & MBL and personal interview was taken with responsible staffs of both banks.

The major risk in KBL and MBL is associated with credit decision as the proportion of credit risk on total risk is high. The credit risk of these banks mainly arises due to non-payment of loan by borrowers, poor appraisal of borrowers' financial condition and substandard collateral. The major problems in credit risk can be categorized into three areas of concentrations; credit processing, and market- and liquidity-sensitive credit exposures. The main indicators of loan default (i.e. Non Performing Loan) indicate that average NPL of MBL is more than KBL. In reverse of that NPL of KBL has been fluctuating

Collateral is also one of the important factors while extending credit. When the borrowers default, collateral is only last resort to recover such losses by disposing off mortgaged collateral because there is least chance of recovering loan by selling primary collateral i.e. hypothecated goods. Similarly, credit concentration on single sector of KBL and MBL shows that both the banks have very high amount of concentration in single sector. Comparatively MBL is in risk. In case of non performance of above sector MBL will be in high risk due to non-servicing of banks dues.

Both the banks have Credit Policies Guidelines (CPG) and organizational structure for proper management of credit risk. The organizational structure of KBL is found more

stringent, systematic & advanced than MBL. In KBL, Asset Liabilities Management Committee (ALCO) is concerned with all types of risks management including credit risk. There is also an Executive Sub Committee to review credit facilities in timely manner. In MBL, Credit Committee, which includes the members of board of directors and management, is the main body for managing credit risk. Similarly, the establishment of Recovery Department and Risk Approval Department under Risk Assessment Division in KBL portrays that KBL has been giving more importance to the recovery aspects of the loan as well as credit risk rating of borrowers. However, in MBL there is no separate department for assessing the credit risk and loan recovery.

In commercial banks, minimizing the credit risk is the major challenge. For combating the credit risk, both the banks have taken several measures. One of the major measures is Capital Adequacy Ratio. The Capital Adequacy Ratio depicts that both KBL and MBL has higher CAR than statutory requirement. Similarly, in total capital fund, the portion of supplementary capital in both banks is low but KBL is in good position than MBL. Therefore these banks are fulfilling the capital fund requirement mainly from the core capital.

The credit risk management procedure in these banks includes four basic procedures. The major outlines for credit risk management include setting standards for all the transactions such as lending, borrowing etc, and preparing financial reports. A substantial degree of standardization of process and documentation has been set in both the banks to make decision in a consistent manner and for the resultant aggregate reporting of credit risk exposure to be meaningful. Similarly, the position for managing the credit risk as

well as jurisdiction limit is also set. Investment policy is prepared in consistent with the NRB guidelines and this is the major guideline for making investment decisions. Likewise, to ensure the proper implementation and functioning of credit policies of the bank, the monitoring and controlling body of the bank frequently monitors all the jobs performed. The main body for monitoring & controlling the credit facilities is Credit Administration.

## **5.2 Conclusion**

Based on the findings, the study has following conclusions.

MBL has extended lower level of Consumable Loan sector in comparison to KBL. It is also clear that credit concentration on single sector of MBL is more than that of KBL.

This indicates that MBL has higher concentration risk on Others and manufacturing sector as the exposures on these two sectors has 30.90 % and 24.53% of total loan respectively.

KBL has higher concentration risk than MBL as KBL has extended more loans in all sectors than KBL. KBL has highest ratio in manufacturing sector whereas MBL has highest ratio in others sector.

KBL prefers Manufacturing, Service Industry, Real Estate, Consumer loans, mine and minerals and agriculture in first, second, third, fourth, fifth, sixth respectively. In contrast, MBL prefers Construction in second priority, where as KBL takes it into third priority. MBL takes both the Consumable loans and Hotel & Restaurant in third and forth priority

respectively. Both the bank would like to invest more on the manufacturing sector and least to the agriculture sector.

The average lending of KBL against the movable/ non-movable property is the highest among the lending against all securities. The bank has not granted any loan without collateral. The bank has extended least credit against the personal guarantee. The bank has also been granting loan against the more liquid and secured collateral such as Government bonds, own bank's Fixed Deposit Receipt (FDR) and other banks FDR. This means that the bank has been granting the loan and advances against diversified collateral.

The MBL has granted the highest amount of loan against the Movable/ Non- Movable property, The loan granted against the guarantee of local licensed institutions, other bank's FDR and own bank's FDR. The bank has also granted loan against Personal Guarantee, Government guarantee and Government bonds. The bank has not provided any loans against counter guarantee, guarantee of internationally rated bank and export documents and counter guarantee. The bank has also not provided unsecured loan.

The credit risk is slightly higher side in KBL as compared to MBL. This indicates that the ratio deviate more from the average in case of KBL than MBL.

The average NPL ratios of KBL and MBL , it is higher in MBL than that of KBL. This is due to the highest amount of NPL. The standard deviation of KBL and MBL portrays that

KBL ratios deviate less from the average ratio than that of MBL, which refers to less risk to KBL.

It is clear that both banks have extended least amount of loan against the lower level risk collateral. Between these two banks, MBL has made more lending in risk free and moderate level risk. It can also be said that MBL has been providing more loan against own & other banks FDRs and government bonds than KBL. This indicates that the MBL has slightly less riskier lending than KBL.

Both banks have maintained the average core capital to RWA ratio more than that of statutory requirement prescribed by NRB. Both banks have maintained higher ratio in earlier. MBL has employed higher capital than KBL to finance the risk-weighted asset. MBL has higher amount of cushion against the losses. This ratio indicates that MBL can slightly increase its risk-weighted asset more than KBL. Figures shows almost similar position of KBL and MBL in terms of the ratio of Core Capital to Total RWA but MBL is in slightly less risky position than KBL. The figures of standard deviation indicate that the actual ratios of MBL are slightly more fluctuating from the average than KBL which shows inconsistency.

Total Capital fund to Risk Weighted Asset (RWA) of KBL and MBL have capital adequacy ratio higher than the statutory requirement in all 5 years. KBL has slightly higher Capital Adequacy Ratio than MBL, which signals that KBL is in a little bit better position than MBL. The ratios of both the banks have been fluctuating in above five

years. Similarly, the average excess of ratio than statutory requirement of KBL and MBL indicates that the ratios of KBL fluctuate more from the average than that of MBL.

Supplementary Capital to Total Risk Weighted Asset ratio of KBL and MBL indicates that KBL has higher amount of supplementary capital than MBL. The higher amount of supplementary capital indicates that KBL has maintained higher amount of reserve to combat the specific risk such as loan loss, asset revaluation loss and foreign exchange loss etc. The standard deviation of the ratio of KBL and indicates that the ratio of KBL fluctuates more than that of MBL, which depicts the less consistency in part of KBL.

### **5.3 Recommendations**

From the above analysis of the credit risk management procedure of both KBL and MBL, following recommendations are made to these banks, NRB and Nepal government in respect to credit risk management:

#### **i. General Recommendations**

Based on this study, few general recommendations can be made to sampled banks for credit risk management

1. In rapidly changing scenario, both banks should adopt new techniques and tools for assessing credit risk which are being applied by the banking industries

globally. They should also conduct comprehensive stress and scenario testing on all of their portfolios and counter parties to measure the credit risk.

2. Both the banks need to upgrade the credit risk analysis system with the changes in both level and pace of technological changes in external environment. The credit risk management should be used as a strategic management tool to align Risk Adjusted Return on Economic Capital (RAROE) with ROE. These are the key tools for credit that can enable banks to select optimal portfolios and allocate their resources locally into branches, regionally and globally.
3. The banks should believe that credit risk management is really about the maintenance of healthy portfolio, so that it will ultimately be able to maximize shareholder wealth. So it should be complied that NRB Directives and the Basel II standards. They should believe that credit risk management is critically important so as to ensure that they do not get downgraded by rating agencies
4. Being a member of WTO, Nepal has opened its door to establish branches to foreign banks. Therefore, the banks that still continue the old banking paradigm will be the targets for acquisitions by larger banks that have stronger credit risk management policies in place. The only key to survival and sustainable success is to reengineer and reform the credit risk strategy that maximizes shareholder wealth.
5. The bankers should understand that Basel II and NRB Directives are not just a compliance issue but rather an opportunity to use credit risk management as a cornerstone of strategic decision making. Following the directives of NRB and acting upon it also reduces bank's risk. Therefore, both the banks are

recommended to adhere to the directives and come up with a stronger internal audit and compliance to ensure that the directives are properly followed up.

6. It is often said, “Prevention is better than cure”. Hence it is recommended for both the banks to take preventive measures before the risk occur and will suffer loss. Both the banks are recommended to develop an information system to gather all the possible information and activities to take timely precaution.

## **ii. Specific Recommendations to KBL and MBL**

Specific recommendations suggested to the banks under study (KBL and MBL) are as follows:

1. MBL has higher amount of loan and advances in total risk weighted assets. So to minimize the credit risk, the diversification in investment is needed. In KBL, the amount of loan and advances in total risk weighted assets is gradually decreasing. MBL needs to diversify investment in government bonds and placements etc.
2. Both the banks need to properly diversify its lending portfolio. The high amount of lending in single sectors need to be diversified into various sectors, which decreases concentration risk.
3. Both the banks have extended the highest amount of loan against the movable and non-movable property, which has 100 % risk weight. So both these banks need to diversify its lending against different securities i.e. Government bond, Treasury bill, saving bond etc.

4. NPL of MBL is increasing with the increase in loan and advances. So, MBL need to be more careful while taking credit decision.
5. MBL should change the organizational structure for proper credit risk management. Recovery Cell is needed in MBL for timely recovery of loan. Similarly, a separate department is needed for assessing the credit risk.
6. KBL and MBL need to follow following principles for the proper credit risk management;

#### A. Establishing an appropriate credit risk environment

Under this following factors need to be considered:

- The board of directors should have responsibility for reviewing of credit risk strategy periodically (at least annually) and significant credit risk policies. The strategy should reflect the bank's risk tolerance and the level of profitability, the bank expects to achieve for incurring various credit risks.
- Senior management should have responsibility for implementing the credit risk strategy approved by the board of directors and for developing policies and procedures for identifying, measuring, monitoring and controlling credit risk. Such policies and procedures should address credit risk in all the bank's activities and at both the individual credit and portfolio levels.
- Both banks should identify and manage credit risk inherent in all products and activities. These banks should ensure that the risks of products and activities new to them are subject to adequate credit risk management procedures and controls before

being introduced or undertaken, and approved in advance by the board of directors or its appropriate committee.

#### B. Operating under a sound credit granting process

- Both the banks must operate within sound, well-defined credit-granting criteria. These criteria should include a clear indication of the bank's target market and thorough understanding of the borrower or counterparty as well as the purpose and structure of the credit, and its source of repayment.
- A clearly established process must be in place for approving new credits as well as the amendment, renewal and re-financing of existing credits is the need for both banks. In particular, credits to related companies and individuals must be authorized on an exception basis, monitored with particular care and other appropriate steps taken to control or mitigate the risks.

#### **C. Maintaining an appropriate credit administration, measurement and monitoring process**

Both the banks should have in place a system for the ongoing administration of their various credit portfolios. These banks must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves. Banks are encouraged to develop and utilize an internal risk rating system in managing credit risk. The rating system should be consistent with the nature, size and

complexity of a bank's activities. Both the banks must have information systems and analytical techniques that enable management to measure the credit risk inherent in all on and off-balance sheet activities. The management information system should provide adequate information on the composition of the credit portfolio, including identification of any concentrations of risk.

#### D. Ensuring adequate controls over credit risk

- Both the banks must establish a system of independent, ongoing assessment of the bank's credit risk management processes and the results of such reviews should be communicated directly to the board of directors and senior management.
- These banks must ensure that the credit-granting function is being properly managed and that credit exposures are within levels consistent with prudential standards and internal limits. Banks should establish and enforce internal controls and other practices to ensure that exceptions to policies, procedures and limits are reported in a timely manner to the appropriate level of management for action. Both banks must have a system in place for early remedial action on deteriorating credits, managing problem credits and similar workout situations.

#### E. Capital Adequacy Measure

- Both the banks are required to focus on their supplementary capital as the proportion of supplementary capital on total capital fund is very low.

#### iii. Specific Recommendations to Nepal Government and NRB:

1. Since Nepal Government has already allowed to establish branches of foreign banks in Nepal without joint venture of Nepalese investors from January, 2010 and one bank has already established one branch at Kathmandu. It will certainly provide threat to Nepalese banks in terms of new technologies. Therefore, Nepalese government should encourage banking industry to update with new technologies by placing appropriate policies.
2. Nepal Government should provide adequate measures for taking action against the willful defaulters.
3. NRB, in addition to imposing directives, needs to provide training for commercial banks to apply new methods and system.
  - NRB should make a clear cut policies related to banking supervision. Confusing policies need to be removed.
  - NRB needs to establish a separate Credit Rating Organization, which will help to minimize bank's credit risk.

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## APPENDIX

### Annex-1

#### Key Credit Performance Indicators of KBL

(Rs. in Million)

<b>FY</b>	<b>Risk Weighted Assets (RWA)</b>	<b>Total Loans &amp; Advances</b>	<b>Performing Loans</b>	<b>Non-performing Loans</b>	<b>Loan Loss Provision</b>
2005/06	7,625.05	7,007.79	6,943.44	64.35	115.93
2006/07	9,959.91	9,062.43	8,996.24	66.19	133.42
2007/08	13,688.72	11,522.38	11,369.90	152.48	187.29
2008/09	16,983.99	14,795.26	14,730.72	64.54	201.91
2009/10	21,350.66	14,966.08	14,890.57	75.51	201.17

### Annex-2

#### Key Credit Performance Indicators of MBL

(Rs. in Million)

<b>FY</b>	<b>Risk Weighted Assets (RWA)</b>	<b>Total Loans &amp; Advances</b>	<b>Performing Loans</b>	<b>Non-performing Loans</b>	<b>Loan Loss Provision</b>
2005/06	7,631.99	6,146.57	6,129.65	16.92	78.15
2006/07	9,200.66	7,326.01	7,240.84	85.17	190.05
2007/08	10,746.24	8,964.07	8,871.15	92.92	321.75

2008/09	14,588.51	12,984.46	12,681.62	302.84	468.45
2009/10	16,765.20	14,972.53	14,624.95	347.58	682.74

**Annex – 3**

**Net Profit of KBL and MBL for last years**

**(Rs in million)**

<b>Fiscal Year</b>	<b>KBL</b>	<b>MBL</b>
2005/06	103.67	134.00
2006/07	170.26	76.80
2007/08	174.93	85.02
2008/09	258.38	123.25
2009/10	316.54	73.31

**Annex 4 (A)**

**Ranking of KBL Collateral on the basis of amount of loan extended**

**Rs. in million**

<b>SN</b>	<b>Collateral</b>	<b>2005/06</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>	<b>2009/10</b>	<b>Total Amount</b>	<b>Average Lending Against Each Collateral</b>	<b>Rank</b>
	<b>A. Secured</b>								
1	Movable/Non Movable Property	5,564.31	7,463.68	13,444.86	10,565.02	14,152.77	51,190.64	10,238.13	1
2	Guarantee of Local Licensed Institution	137.49	-	-	-	-	137.49	27.50	4
3	Government Guarantee	-	-	-	-	-	-	-	9
4	Guarantee of Internationally rated bank	-	-	-	-	-	-	-	9
5	Against export documents	102.83	12.25	1.82	-	2.32	119.23	23.85	5
6	Own bank's fixed deposit receipt	21.56	21.95	2.79	6.96	53.26	106.51	21.30	6
7	Other bank's fixed deposit receipts	63.88	84.94	-	52.57	1,059.91	1,261.30	252.26	3
8	Against Government Bonds	0.60	-	-	-	6.81	7.41	1.48	8
9	Counter Guarantees	-	-	-	-	-	-	-	9
10	Loan against Personal Guarantees	17.88	-	-	-	-	17.88	3.58	7
11	Other Securities	1,099.23	1,479.61	1,293.23	844.41	750.92	5,467.41	1,093.48	2
	<b>B. Unsecured</b>	-	-	-	-	-	-	-	
	<b>Total</b>						<b>58,307.86</b>		

**Annex – 4 (B)**  
**Ranking of MBL Collateral on the basis of amount of loan extended**

(Rs. in million)

SN	Security against lending	2005/06	2006/07	2007/08	2008/09	2009/10	Total Amount	Average Lending Against Each Collateral	Rank
	<b>A. Secured</b>								
1	Movable/Non Movable Property	5,151.20	6,510.13	7,880.16	12,174.98	14,215.57	45,932.04	9,186.41	1
2	Guarantee of Local Licensed Institution	159.17	378.30	57.22	188.12	235.62	1,018.43	203.69	3
3	Government Guarantee	-	-	-	52.21	129.84	182.06	36.41	6
4	Guarantee of Internationally rated bank	-	-	-	-	-	-	-	9
5	Against export documents	-	-	-	-	-	-	-	9
6	Own bank's fixed deposit receipt	40.37	18.77	4.44	18.83	27.74	110.15	22.03	7
7	Other bank's fixed deposit receipts	83.46	211.20	237.89	266.51	105.45	904.51	180.90	4
8	Against Government Bonds	2.46	-	-	-	-	2.46	0.49	8
9	Counter Guarantees	-	-	-	-	-	-	-	9
10	Loan against Personal Guarantees	-	184.60	98.24	99.39	118.80	501.03	100.21	5
11	Other Securities	709.90	23.00	686.13	184.41	139.51	1,742.95	348.59	2
	<b>B. Unsecured</b>	-	-	-	-	-	-	-	
	Total						50,393.64		

**Annex-5**  
**Credit Concentration on different Sector on fiscal year 2005/06**  
**(The proportion of sector wise lending to total loan)**

SN	SECTORS	KBL		MBL	
		LOAN AMOUNT	RATIO (%)	LOAN AMOUNT	RATIO (%)
1	Agriculture	4,114.00	2.75	514.00	0.41
2	Fishery	-	-	-	-
3	Mines	2,780.00	1.86	495.00	0.39
4	Manufacturing	26,852.00	17.98	30,968.00	24.53
5	Construction	17,016.00	11.39	12,361.00	9.79
6	Electricity, Gas & Water	2,007.00	1.34	7,357.00	5.83
7	Metal Production, Machinery, Electrical Tools & Fittings	2,972.00	1.99	1,237.00	0.98
8	Transportation, Storage & Communication	12,227.00	8.18	6,822.00	5.40
9	Wholesalers & Retailers	13,277.00	8.89	2,688.00	2.13
10	Finance, Insurance & Fixed Assets	25,546.00	17.10	14,394.00	11.40
11	Hotel & Restaurants	2,526.00	1.69	1,048.00	0.83
12	Other Services	5,415.00	3.62	5,837.00	4.62
13	Consumable Loan	15,166.00	10.15	3,504.00	2.78
14	Local Government	-	-	-	-
15	Others	19,486.00	13.04	38,996.00	30.90
	<b>Total</b>	<b>149,384.00</b>	<b>100.00</b>	<b>126,221.00</b>	<b>100.00</b>

**Annex -6**  
**Calculation of Average Interest Rate on Loan**

S.No.	Loan Type	Interest Rate			
		KBL		MBL	
1	Overdraft	11-14	12.50	10-15	12.50
2	Export Credit	10-11.50	10.75	11-13	12
3	Import L/C	10-12.50	11.25	11-13	12
4	Against FDR	+2	+2	+2-3	+1.5
5	Against HMG Bond	7.75-9	8.375	11	11
6	Against BG/CG	9.50-10	9.75	7	7
7	Against other guarantee	10.50-11	10.75	10	10
8	Industrial Loan	X	X	X	X
9	Commercial Loan	X	X	X	X
10	Priority Sector	11-12	11.50	X	X
11	Deprived Sector	7-8	7.50	8-12	10
12	Term Loan	11-12	11.50	13-16	14.50
13	Working Loan	11-13	12	12-15	13.50
14	Hire Purchase Loan	X	X	11.5-17	14.25
15	Others	11-13	12	10.75-11	10.875
<b>Average</b>		<b>10.7159</b>		<b>11.6023</b>	

**BG- Bank guarantee**

**CG – Corporate Guarantee**

*Source: “Banking & Financial Statistics, Mid-July 2010)*

**Annex -7**

**Calculation of Default Probability**

Default Probability = 1 – P = 1 – Repayment Probability

	<b>KBL (%)</b>	<b>MBL (%)</b>	
Average Interest Rate on Loan (K)	10.7159	11.6023	
Risk Free rate of return (i)	3.25	3.25	T-bill rate 3.25% for 90-days & 3.95 for 364 days.
Repayment Probability (P)	0.9326	0.9258	= (1.0325/1.107159) & (1.0325/ 1.116023)
Default Probability	0.0674 i.e. 6.74%	0.0748 i.e. 7.48%	(1-P)

We have,

$$P(1+K) = 1+ i$$

Or,

$$P = \frac{(1 + i)}{(1 + K)}$$

Where,

K = Promised Interest on Loan/Average Interest on Loan

i = Risk Free Rate of return

P= Repayment Probability

## Annex-8 Responses of Questionnaire

1. Do you agree that Banking is a High Risk Business.

The following responses have been made by the respondents of KBL.

Banks	Strongly Agree	Agree	Moderately Agree	Disagree	Strongly Disagree
KBL	1	7	2	0	0
MBL	2	7	1	0	0

2. What is the proportion of Credit Risk on total banking risk?

The following responses has been made by 20 respondents

Proportion of Credit Risk	KBL	MBL
0-20 % (Low)		
20-40 % (Average)		
40-60 % (High)	<b>1</b>	<b>2</b>
Above 60 % (Highest)	<b>9</b>	<b>8</b>

3. How much proportion of total loan does the bank can lend in a single sector/borrower?

Single Sector loan	KBL	MBL
0-10 %	<b>8</b>	<b>6</b>
10- 20 %	<b>2</b>	<b>3</b>
20- 30 %		<b>1</b>
30-100%		

4. Does the bank have credit rating system?

Response	KBL	MBL
Yes	<b>10</b>	<b>10</b>
No		

5. How do you rank the following aspects while granting credit? (Rank 5 for the highest priority and 1 for lowest priority)

**Ranking by KBL Employees**

Rank	Character	Collateral	Capital	Condition	Capacity	Total
1	1	3	6	6	2	<b>18</b>
2	3	5	4	4	5	<b>21</b>
3	4	3	5	5	6	<b>23</b>
4	5	4	3	3	3	<b>18</b>
5	7	5	2	2	4	<b>20</b>
<b>(Rank X Frequency)</b>	<b>74</b>	<b>63</b>	<b>51</b>	<b>51</b>	<b>62</b>	<b>301</b>

**Ranking by MBL Employees**

Rank	Character	Collateral	Capital	Condition	Capacity	Total
1	4	6	4	8	1	<b>23</b>
2	4	4	4	5	2	<b>19</b>
3	3	4	4	4	4	<b>19</b>
4	4	3	5	2	7	<b>19</b>
5	5	3	3	1	6	<b>20</b>
<b>(Rank X Frequency)</b>	<b>62</b>	<b>53</b>	<b>61</b>	<b>43</b>	<b>75</b>	<b>294</b>

6. On the basis of priority of lending, please rate the following sectors (Rate 5 for the highest priority sector and 1 for least priority sector)

**Ranking by KBL Employees**

Rank	Agriculture	Mines	Construction	Manufacturing	Consumable loans	Hotel & Restaurant	Total
1	11	7	2	0	2	1	<b>23</b>
2	5	7	3	2	3	2	<b>22</b>
3	2	3	3	3	4	3	<b>18</b>
4	2	2	5	5	5	5	<b>24</b>
5	0	1	7	10	6	9	<b>33</b>
<b>(Rank X Frequency)</b>	<b>35</b>	<b>43</b>	<b>72</b>	<b>83</b>	<b>70</b>	<b>79</b>	<b>382</b>

### Ranking by MBL Employees

Rank	Agriculture	Mines	Construction	Manufacturing	Consumable loans	Hotel & Restaurant	Total
1	9	8	1	0	1	1	<b>20</b>
2	5	6	2	2	3	4	<b>22</b>
3	3	3	3	3	4	3	<b>19</b>
4	2	2	6	6	5	5	<b>28</b>
5	1	1	8	9	7	7	<b>31</b>
<b>(Rank X Frequency)</b>	<b>41</b>	<b>42</b>	<b>78</b>	<b>82</b>	<b>74</b>	<b>71</b>	<b>388</b>

7. To what extent, today's banking industry is affected by the problem of NPL?

Response	KBL	MBL
Not affected		
Nominally affected		
Moderately affected	<b>1</b>	<b>1</b>
Severely affected	<b>9</b>	<b>9</b>

8. How important do you think is the directives related to loan classification and provisioning for a commercial banks?

Response	KBL	MBL
Very Important	<b>10</b>	<b>10</b>
Not Important		

9. What will be the impact of new directives on provision for loan loss of commercial banks?

Response	KBL	MBL
Will increase provision for loan loss	<b>10</b>	<b>10</b>
Will decrease provision for loan loss		
Will have no impact		
Others		

10. How do you think the shareholders of the bank are going to be affected by present loan classification and provisioning directive?

Response	KBL	MBL
Will enjoy lesser dividend	10	10
Will have their EPS decreased	10	10
Will not be affected at all		
Others		

All the respondents agree that it will decrease the profit and so dividend in the short run and in the long run it will be beneficial for the shareholders as it will put the bank in more safe side.

11. What are the various risk factors or attributes that should be considered for the credit risk analysis of the corporate borrowing clients?

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## Annex-9 Responses of Questionnaire

1. Do you agree that Banking is a High Risk Business?

Strongly Agree	Moderately Agree	Agree	Disagree	Strongly Disagree

2. What is the proportion of Credit Risk on total banking risk?

Proportion of Credit Risk		
0-20 % (Low)		
20-40 % (Average)		
40-60 % (High)		
Above 60 % (Highest)		

3. How much proportion of total loan does the bank can lend in a single sector/borrower?

Single Sector loan		
0-10 %		
10- 20 %		
20- 30 %		
30-100%		

4. Does the bank have credit rating system?

Response		
Yes		
No		

5. How do you rank the following aspects while granting credit? (Rank 5 for the highest priority and 1 for lowest priority)

**Ranking by Employees**

Rank	Character	Collateral	Capital	Condition	Capacity	Total
1						
2						
3						
4						
5						
<b>(Rank X Frequency)</b>						

6. On the basis of priority of lending, please rate the following sectors (Rate 5 for the highest priority sector and 1 for least priority sector)

**Ranking by Employees**

Rank	Agriculture	Mines	Construction	Manufacturing	Consumable loans	Hotel & Restaurant	Total
1							
2							
3							
4							
5							
<b>(Rank X Frequency)</b>							

7. To what extent, today's banking industry is affected by the problem of NPL?

Response	KBL	MBL
Not affected		
Nominally affected		
Moderately affected		
Affected		
Severely affected		

8. How important do you think is the directives related to loan classification and provisioning for a commercial banks?

Response	KBL	MBL
Very Important		
Not Important		

9. What will be the impact of new directives on provision for loan loss of commercial banks?

Response	KBL	MBL
Will increase provision for loan loss		
Will decrease provision for loan loss		
Will have no impact		
Others		

10. How do you think the shareholders of the bank are going to be affected by present loan classification and provisioning directive?

Response	KBL	MBL
Will enjoy lesser dividend		
Will have their EPS decreased		
Will not be affected at all		
Others		

11. What are the various risk factors or attributes that should be considered for the credit risk analysis of the corporate borrowing clients?

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### **List of Commercial Banks**

<b><u>S. No.</u></b>	<b><u>Name of Bank</u></b>
01.	Nepal Bank Limited
02.	Rastriya Banijya Bank Limited
03.	Agriculture Development Bank Limited
04.	Nabil Bank Limited
05.	Nepal Investment Bank Limited
06.	Standard Chartered Bank Nepal Limited
07.	Himalayan Bank Limited
08.	Nepal SBI Bank Limited
09.	Nepal Bangladesh Bank Limited
10.	Everest Bank Limited
11.	Bank of Kathmandu Limited
12.	Nepal Credit and Commerce Bank Limited
13.	Lumbini Bank Limited
14.	Nepal Industrial & Commercial Bank Limited
15.	Machhapuchchhre Bank Limited
16.	Kumari Bank Limited
17.	Laxmi Bank Limited
18.	Siddhartha Bank Limited
19.	Global Bank Limited
20.	Citizens Bank International Limited
21.	Prime Commercial Bank Limited
22.	Sunrise Bank Limited
23.	Bank of Asia Nepal Limited
24.	DCBL Bank Limited
25.	NMB Bank Limited
26.	Kist Bank Limited
27.	Janata Bank Nepal Limited
28.	Mega Bank Nepal Limited
29.	Commerz & Trust Bank Nepal Limited
30.	Civil Bank Limited
31.	Century Commercial Bank Limited

9-239, Ramtole  
Birganj, Nepal

Phone: 056-532487, 9841926566, 9855020513  
E-mail: [amar.nepali@nabilbank.com](mailto:amar.nepali@nabilbank.com)  
[apa\\_shrestha@hotmail.com](mailto:apa_shrestha@hotmail.com)

# Amar Kumar Nepali

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Permanent Address 9-239, Ramtole,  
Birganj, Parsa

Temporary Address Mangal Bazar  
Patan, Lalitpur

Office Address Nabil Bank Limited,  
Nabil Center  
Beena Marga, Teendharathan  
Kathmandu

Mailing Address Nabil Bank Limited  
Narayangarh Branch  
Narayangarh  
Chitwan.

Sex Male

Marital Status Married

Work experience 1990 - Present Nabil Bank Limited, Kathmandu, Nepal

## Details of Position held:

Apr, 2010 - Present Branch Manager, Narayangarh Branch

Sep, 2009 – Apr, 2010 Credit Risk Officer, Personal Lending Unit  
(Consumer Banking).

Jan, 2007 – Sep, 2009 Assistant Relationship Manager, Corporate Banking,  
Kantipath

Aug, 2003 – Jan, 2007 Assistant Relationship Manager, Corporate Banking &  
Retail Lending, Butwal Branch

Aug, 2002 – Aug, 2003 Branch Manager, Bhalwari Branch

Apr, 2001 – Aug, 2002 Operation Incharge, Butwal Branch

Sep, 1998 – Apr, 2001 Incharge-Priority and Deprived Sector, Kantipath  
Branch

	Jun, 1995 – Sep, 1998	Incharge-Bills and Export Documentary Credit, Birgunj Branch
	Feb, 1993 – Jun, 1995	Foreign Trade, Loans and Guarantee, Birgunj Branch
	Feb, 1990 – Feb, 1993	Cash, Remittance and Platform, Birgunj Branch
Training & Seminar		Computer training on " Architecture of Computer Technology, Microsoft Window's XP, Microsoft Office' 2003 (Word, Excel, Power Point), E – mail & Internet, organized by Nepal e-Com. Centre Pvt. Ltd. from 13 July 2001 to 17 October 2001.
		Training on “General Banking, Credit Analysis and Foreign Trade” organized by Nabil Bank Limited
		Residential training programme on “Advance Techniques in Bank Lending” jointly organized by Nabil Bank Limited and Institute of Bank Management (IBM) from 19 November to 23 November 2006.
		One day seminar on SAARC Regional Conference on Energy Efficiency and Clean Development Mechanism organized by Federation of Nepalese Chamber of Commerce and Industry, Kathmandu.
		Training on “SME Lending and Risk Management” jointly organized by Nabil Bank Limited and Institute of Bank Management (IBM) from 14 December to 18 December, 2008.
		Training on "HRM for Line Managers" jointly organized by Nabil Bank Limited & Institute of Bank Management (IBM) from 23 November to 24 November, 2010.
Volunteer experience	1991 – 1995	Member of The Reiyukai Nepal, Birganj
	2002	Resource Person – Training on Credit Risk and Loan Documentation organized by Kathmandu Frontier Associates (KFA), Kathmandu at Butwal.
	2002	Resource Person – Training on Balance of Payment organized by Nepal Rastra Bank, Bhairahawa at Nabil Bank Limited Premises, Butwal.
Languages		English, Nepali, Hindi & Bhojpuri

