Chapter- I

Introduction

1.1 General Background

Sound banking system is the crucial means to accelerate the development of a country by strengthening the economic condition in this globalize 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.

Concisely, Bank is a financial institution, which deals with money by accepting various types of deposits, disbursing loan and rendering various types of financial services. It is the intermediary between the deficit and surplus of the financial resources. 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)*

In Nepal, banking sector started in 1937 A.D with the establishment of Nepal Bank Ltd. Nepal Rastra Bank, the central bank of Nepal, established in 1957 A.D followed by Rastriya Banijya Bank in 1966 A.D. As Nepalese government took liberal economic policy, joint venture banks started to operate since 1984 A.D with the establishment of Nepal Arab Bank Ltd. Since then, twenty-six commercial banks with their 752 branches have been operating in the country.

With the growth rate of banking industry from the 1984 A.D., the risk on banking has also made a mark simultaneously. Most of the Nepalese banks have suffered from the credit risk, which is associated with the non-payment of loan by the

borrowers. Nepal Bank Limited, Rastriya Banijya Bank are the greatest victim of such risk, leading these banks to have negative net worth.

Present challenges to the banking sector are to manage the excess liquidity outstanding, to invest the money in productive as well as new sector, to manage the accumulated non-performing loan. Commercial banks collect deposits from individuals, invest them to the borrowers, and receive interest as the output of the business. Commercial banks profit and operating cost are borne by these interest collected from the borrowers. 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 action must be taken by the banks and government to overcome this situation.

In addition to the credit risk, the bank faces other risks. According to the Nepal Rastra Bank Unified Directives 2005, the major source of risk is credit risk, liquidity risk, foreign exchange risk, and interest rate risk and operation risk etc.

Current context of globalization, privatization, free market, economic liberalization etc have made the activities of banks and financial institutions more complex and challenging. Recent development in science and information technology has turned the whole world as a small village. A small mistake made by an organization affect in numerous sectors for the long run; to the organization, and nation. Therefore, organizations must be conscious and vigilant in their activities.

1.2 Brief Introduction of Banks under Study

Two commercial banks Kumari Bank Ltd (KBL) and Machhapuchchhre Bank Limited (MBL) have been selected 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 stared its operation from March 3, 2001. The main head office of KBL is located at Durbar Marga in Kathmandu. The bank has 21 branches including its head office in different urban areas of the country. The main mission of the bank is to provide excellent service to the customer at a higher satisfaction level, practice total quality management, embrace good governance and optimization of the assets to achieve sound business growth.

Kumari bank Limited (KBL) is the growing bank of Nepal. The bank has the paid of capital of Rs. 1,186 million, with total deposit of 15,711 million and Rs. 14,795 million of lending in the fiscal year 2008/09. The bank has the non-performing loan of 0.44 % of total loan in fiscal year 2008/09 the bank has adopted computerized system in banking. The main software of the bank is called Globus and the bank has the Any Branch Banking System (ABBS). The bank also provides different services such as ATM and electronic banking etc. The bank has been providing loans and advances in various sectors such as agriculture, manufacturing, deprived sector, industry and consumer financing etc. *(Annual Report; 2008/09)*

Based on the personal interview with key personal, it is found that risk is considered as the major threatening factor in KBL, which is given high priority by the top management for its proper management. The bank has developed well defined polices and procedure with structured organizational layers for management of risks. Accordingly, the bank has categorized the overall risk into credit risk, interest risk, liquidity risk, foreign exchange risk, operation risk etc. The main risk management committee includes Asset Liability Management Committee, Management Committee, Audit Committee and Human Resource Committee.

b. Machhapuchchhre Bank Limited

Machhapuchchhre Bank Limited started its operation in December 10, 2000 as the fourteenth commercial bank and the first commercial bank in the western part of Nepal. The main head office of MBL is located in Pokhara and the corporate office is in Kathmandu. The bank has 34 branches located all over the major parts of the country by the end of the FY 2008/09. The bank also established its branch in Jomsom, Mustang district. The bank aims to serve the people of both urban and rural areas.

The bank has its paid up capital of Rs. 1,479.2696 million, of which the promoters group and public hold 51% and 49 % of total shares respectively. The bank has total deposit, and loan and advances of Rs. 15,597 million and Rs. 12,984 million respectively in fiscal year 2008/09. It has adopted computerized system in banking. The main software of the bank is called Globus and the bank has Any Branch Banking System (ABBS). The bank also provides different services such as ATM and electronic banking etc. The bank has been providing loans and advances in various sectors such as agriculture, manufacturing, deprived sector, industry and consumer financing etc. *(Financial Highlight; 2008/09)*

Risk management has been identified as the key function of the bank in all levels of management. The Credit Committee, Internal Audit & Compliance Department are the key departments that are concerned with the management, compliance and evaluation of the risk management procedure.

1.3 Statement of Problem

Banking industry in the eyes of the layman appears as a very profitable sector with an annual profit of Rs. 14,172 million on fiscal year 2008/09. 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 with the

establishment of 26 commercial banks in addition to weak economic situation of the country, indicated by the GDP growth rate of 3 % in 2008/09. One of the major challenges is the government's policy of total liberalization of the banking industry from fiscal year 2009/10 A.D, 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 the FY 2012/13 has challenged most of the commercial banks in Nepal. *(NRB website)*

Major problem and challenges of commercial banks include:

Credit Risk

Credit risk is the main problem of the banking sector in Nepal. Poor lending practices, which are indicated by poor financial analysis of borrowers, inadequate or substandard 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.

Level of nonperforming loans of Kumari Bank Limited is very low i.e. 0.44% while Machhapuchchhre Bank holds 2.33% nonperforming loans. History of banking industry reveals that failure of bank is due to bad corporate governance and failure to identify the risk. Influence of major promoters and directors is also one of the main reasons.

In recent days, loan exposure in real estate and housing sector has been drastically increased. This has resulted in the 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 big problems of Nepalese commercial banks. Besides, the proper asset liabilities management of Nepalese commercial banks is also the striking problem. In assets

side, the proportion of loan is almost 60%, which means that there is less diversification in investment of Nepalese commercial banks. Because of the improper asset liabilities management of commercial banks, Nepalese commercial banks have been suffering from interest rate risk and liquidity risk. *(NRB)*

Market Interest rate and Operational Risk

In addition, the change in market interest rate is also one of the biggest challenges to the Nepalese banks. With the increase in number of bank and financial institutions, there is an increase in rate of interest on deposit. Financial institutions have started offering higher interest rate to collect their fund. Because of this, rate of interest on lending too goes up. Weighted average Inter-bank interest rate during the FY 2008-09 remained at 5.07%. Interest rate on saving has increased by 1 percent point comparing to Asadh end 2065 and has reached to 7.5%. Interest rate on fixed deposit has increased by 2.75% point and reached to 9.5%. The inflation rate of the country was 13.2% in the same period. *(NRB; 2009)*

Likewise, the usage of electronic means in banking such as computerized banking system, Internet Banking, Mobile Banking, ATM, Credit Card services have also increased the operation risk of the banking industry.

Foreign Exchange Risk

There is remarkable growth in foreign exchange income during the FY 2065/66, which indicates more foreign exchange transactions in banking industry during the year. The increased foreign exchange transactions lead to increased foreign exchange risk of the banking sectors, which result due to appreciation and depreciation in foreign exchange rate. Likewise, the money laundering is also one of the most important issues throughout the world in current scenario. Nepalese commercial banks also have to deal tactfully in this regard. NRB has regularly

made conscious the commercial banks on the issue of money laundering. In this regard, various directives and policies to check and control money laundering has been developed in recent times.

Further, the issuance of new 16 unified directives by the NRB in 2005 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. The commercial banks need to comply with these prudential, which have also provided the challenges to the commercial banks of Nepal. Among these, the loan loss provisioning and capital adequacy measures have been providing the major challenges to Nepalese commercial banks.

Likewise, the implementation of Basel II from 2007 has also been the challenges for Nepalese Commercial Banks. Basel II is mainly concerned with the management of various types of risks and the capital framework for providing enough cushions to absorb the risks faced by commercial banks. The Basel II has categorized Nepal as the high-risk country with ECA (Export Credit Rating Agencies) rating 7. This means that the Nepalese Commercial banks assets are rated risky up to 150%. *(Basel; 2005)*

Kumari Bank Ltd and Machhapuchchhre Bank Ltd. established as 14th and 15th 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 asset liabilities management, proper compliance of NRB Directives and international measures. NRB frequently comments on these banks' credit granting process.

Within this competitive market scenario, the stringent credit risk management, sound portfolio analysis, and proper management of asset and liabilities, compliance of NRB's prudential and Basel II are crucial for these banks to sustain and grow in the industry. From the review of the annual reports and interview with these bank's officials, it is found that both banks have been giving high priority to

these problems for the prompt solution to show their continuous competency in the market.

1.4 Objectives of the Study

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

i. To analyze the different types of banking risk of selected commercial banks in Nepal.
ii. To analyze the management of such risks by the KBL and MBL
iii. To analyze Nepal Rastra Bank's directives and measures on the risk management of Commercial Banks
iv. To analyze the risk management system of KBL & MBL in reference to NRB Guidelines

1.5 Rationale 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 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 also involves several risks, which need to be handled promptly for the survival and growth. As this research is made mainly to analyze the various 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,

i. Commercial banks under study will highly be benefited by this research. This research identifies major risks of those banks, their current risk management styles, NRB guidelines on 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 strength and weaknesses.
ii. Individuals, who have keen interest in Nepalese economy and banking sector, will be benefited. This research provides an insight into the organizational risk management patterns within the standards set by NRB.
iii. Investors, depositors, borrowers also know about the actual risks with these banks to carry out business.
iv. Policymakers will also be benefited as this paper provides the exact problems in risk management and identifies the need for formulation of new policies or amendment of old policies.
v. Students and teachers will also be benefited from this research paper.

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.

i. The study is also based on primary data especially through personal interview and questionnaire. Therefore, the accuracy of results and conclusions highly depends on the reliability of these facts.
ii. The evaluation is made through the analysis of financial statement published and presented by the banks. Therefore, generalization of the whole banking industry cannot be made.

iii. Resource, time, money constraints and inaccessibility of sufficient information also limit the conclusion drawn from study.
iv. This study may not be precise as it is prepared to fulfill the partial requirement of the MBS program.
v. The study has covered only the five years data from fiscal year 2004/2005 to 2008/09

Chapter II
Review of Literature

2.1 Theoretical Review

The past decade has seen dramatic losses in the banking industry throughout the world. Firms that had been performing well suddenly announced large losses due to credit exposure that turned sour, interest rate positions taken or derivative exposures that may or may not have been assumed to hedge balance sheet risk. In response to this, commercial banks have almost universally embarked upon an upgrading of their risk management and control systems.

2.1.1 Meaning of Risk

Risk refers to uncertainty on the investment faced by the investors on investment. It is the possibility that actual outcomes may be different from those expected. Risk can be defined as the possibility of deviation of the actual return from the expected return. Kupper (2008) 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 to manage the risk. In general, the strategies employed include transferring the risk to another party, avoiding the risk, reducing the negative affect of the risk, and accepting some or all of the consequences of a particular risk. Traditional risk management, which is discussed here, focus on risks stemming from physical or legal causes (e.g. natural disasters or fires, accidents, death, and lawsuits). Financial risk management, on the other hand, focuses on risks that can be managed using traded financial instruments. Regardless of the type of risk

management, all large corporations have risk management teams and small groups and corporations practice informal, if not formal, risk management.

2.1.2 Types of risk faced by commercial banks

Commercial banks are in the risk business. In banking sector, risk refers to the possibility that the bank will turn into liquidation. In the process of providing financial services, they assume various kinds of financial risks. Though the banking sector has been facing different types of risks, in this study only credit risk, liquidity risk, interest rate risk and operation risk have been included. However, the brief introduction of foreign exchange risk is also included. The major sources of risk in banking business are:

i. Credit Risk

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 (2007) 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 and 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 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.

ii. Market Risk

Market risk is exposure to the uncertain market value of the firm's asset. In another word, Market risk is the change in the net value of underlying Asset-Liability due to adverse changes in underlying economic factors such as Interest rates, Exchange rates and equity / commodity prices. Major components of Market risk are:

- Liquidity Risk
- Interest Rate Risk
- Foreign Exchange Risk

a. Liquidity Risk:

The term liquidity is used in various ways, all relating to availability of, access to, or convertibility into cash. An institution is said to have liquidity if it can either easily meet its needs for cash because it has cash on hand or can otherwise raise or borrow cash. A market is said to be liquid if the

instruments it trades can easily be bought or sold in quantity with little impact on market prices. Similarly, an asset is said to be liquid if the market for that asset is liquid. The common theme in all three contexts is cash. A corporation is said to be liquid if it has ready access to cash. A market is liquid if participants can easily convert positions into cash. An asset is liquid if it can easily be converted to cash.

The liquidity of an institution depends on:

i. The institution's short-term need for cash;
ii. Cash on hand;
iii. Available lines of credit;
iv. The liquidity of the institution's assets;
v. The institution's reputation in the marketplace—how willing is counterparty to transact trades with or lend to the institution.

Liquidity risk, on the other hand is financial risk due to uncertain liquidity. An institution might lose liquidity if its credit rating falls, it experiences sudden unexpected cash outflows, or some other event causes counter parties to avoid trading with or lending to the institution. A firm is also exposed to liquidity risk if markets on which it depends are subject to loss of liquidity. Liquidity risk tends to compound other risks. If a trading organization has a position of an asset, its limited ability to liquidate that position at short notice will compound its market risk. Suppose a firm has offsetting cash flows with two different counter parties on a given day. If the counter party that owes it a payment defaults, the firm will have to raise cash from other sources to make its payment. Should it be unable to do so, it too will default. Here, liquidity risk is compounding credit risk.

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. The world over, liquidity is the primary concern of every bank as it affects the bank to sustain itself in the market. Extreme illiquid asset in bank may result in bankruptcy where as excess liquid asset may carry interest rate risk over the period. As it is fatal risk, prudent liquidity management is the primary function of banking sector. Liquidity management is also to make sure that expected 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 probability of decline in earnings, due to the adverse movements of the interest rate risk 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 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 a bank may suffer losses as a result of adverse exchange rate movements during a period. The bank is also exposed to interest rate risk, which arises from the maturity mismatching of foreign currency positions. Even in cases where spot and forward positions

in individual currencies are balanced, the maturity pattern of forward transactions may produce mismatches. In consequence, banks may suffer losses as a result of changes in premium/discounts of the currencies concerned.

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.

Banks also face another risk called time-zone risk, which arises out of time lags in settlement of one currency in one centre and the settlement of another currency in another time zone. The foreign exchange transactions with counterparties from another country also trigger sovereign or country risk.

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 regulations As such, individual operating problems are small probability events for well-run organizations but they expose a firm to outcomes that may be quite costly.

The Basel Committee on Banking Supervision (2010) defines operational risk as "the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events." Examples of operation risks are:

- Risk of loss arising from various types of human or technical error
- Risk associated with settlement or payment risk and business interruption and legal risk.
- Risk of fraud by employees and outsiders; unauthorized transaction by employees and errors relating to computer and telecommunication systems

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. (Leippoldy**,** 2008)

The quantification of operational risk is difficult, as it is difficult to build a clear mathematical or statistical link between individual risk factors and the likelihood of a loss. Data limitations and lack of analytical tools are contributing factors.

2.2 Review of NRB Directives related to risk management of Commercial Banks

The focus of this study is analysis of the directives of Nepal Rastra Bank issued to 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. The first directives were basically concerned with the acceptance of deposits and disbursement of loans. In the present context, the directives are issued by NRB quite regularly. In 2005, NRB had issued unified directives to

regulate all three categories of financial sectors in Nepal to ensure that the banking industry functions as per the international standard. Recently unified directive 2010 has been introduced by NRB on 20 topics.

NRB (2010) prescribes following prudential in different aspects of risk –

i. **Credit Risk and Directive No. 2 and 3**

With an objective to minimize the possible risks associated with credits extended by finance companies in the form of overdraft loans and advances, bills purchased and discounted, the new unified directive relating to loan classification and provisioning has been issued in 2005.

According to new unified directive No. 3, banks should classify outstanding loan and advances on the basis of aging of principal amount into the following 4 categories –

a. Pass

Loan and advances, which principal and interest payment has not exceed the due date a period of 3 months shall be included under this category. These are classified and defined as Performing Loan.

b. Substandard Loan

All the loans and advances, which principal and interest that have exceeded the due date for a period of 3 months to 6 months shall be included in this category.

c. Doubtful Loan

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

d. Bad Loan

All the loans and advances which principal and interest has crossed the due for a period of more than 1 year as well as advances which have least possibility of recovery or considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category. Loan and Advances falling in the category of Sub-standard, Doubtful, and Bad Loan are classified and defined as Non- Performing Loan.

Additional arrangement in respect of Pass Loan

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

Additional arrangement 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. No security at all or security that is not in accordance with the borrower's agreement with the bank

ii. The borrower has been declared bankrupt.
iii. The borrower is absconding or cannot be found
iv. Purchased or discounted bills are not realized within 90 days from the due date.
v. The credit has not been used for the purpose originally intended
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 blacklisted party and where the Credit Information Centre blacklists the borrower.

Note: Bills purchased/Discounted are to be classified into Bad Loan if they are not realized within 90 days from the due date. Accordingly, bills would have only two classifications (i.e. Pass and Bad)

Additional arrangement in respect of term loan

In respect of term loans, the classification shall be made against the entire outstanding loan on the basis of the past due period of overdue installment.

Loan Loss Provisioning

The loan loss provisioning on the basis of the outstanding loans and advances and bills purchases are classified as per the unified directives 2010, shall be provided as follows:

Classification of Loan	**Loan Loss Provision**
Good	1 Percent
Substandard	25 Percent

Doubtful	50 Percent
Bad	100 Percent

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”.

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

Additional Provisioning in the case of Personal Guarantee Loans

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 separately. Hence, the loan loss provision required against the personal guarantee loan will be 21%, 45%, and 70 % for Pass, Substandard and Doubtful category respectively.

Rescheduling and restructuring of Loan

In respect of loans and advances falling under the category of Substandard, doubtful or loss, banks may reschedule or restructure such loans only upon

receipt of a written plan of action from the borrower citing the following reason:

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

Loan Loss Provisioning in respect of rescheduled & restructured loan -

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

shall obtain certification from the concerned bank of financial institution as to the existing classification.

Directive No 3 (Single person or group limit/ Single obligor limit)

Single obligor limit refers to the limit of loan disbursement to a person or a firm or a group of borrowers. 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 where as for non-fund based loan is 50 % of core capital. Total of this limit is reduced to 25% of core capital from 1st Shrawan 2067.

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 approve by the board of directors.

ii) Operation Risk and NRB Directive No. 5

According to NRB Unified directive No. 5, the bank has classified the operation risk into following categories -

a. Liquidity Risk

According to NRB directive, the Commercial banks have to classify their liabilities and asset according to the maturity period to identify the gap between asset and liabilities. It has been mentioned that the maturity period has to be classified into following period:

i. Maturity period up to 90 days
ii. Maturity Period between 91 days to 180 days
iii. Maturity Period between 181 days to 270 days
iv. Maturity Period between 271 days 1 Year
v. Maturity Period above 1 Year

For those liabilities, which do not have certain maturity period (such as current and saving deposit), the commercial banks have to classify that part of liabilities in above 1 year, which remains as a primary deposit and should have to maintain itself as a minimum deposit.

b. Interest Rate Risk

The NRB has issued a directive for measuring interest rate risk of commercial banks through the gap analysis method. According to directive, the assets and liabilities of a bank should have to match according to their maturity period. If there exists a gap between asset and liabilities, it is said that there exist an interest rate risk. But, while calculating such gap, cash balance and non-interest bearing account should not be included.
Likewise, the directive has also made provision for the assets and liabilities, which do not have fixed maturity period.

Asset having no fixed maturity period

For floating rate loan with interest adjusted periodically, the loan should be categorized into that period, when the interest rate is adjusted. Again for the loan with the interest rate adjustment is subject to special changes (such as treasury bills interest rate), such loan should be categorized into the least maturity period.

Liabilities with no fixed maturity period

For those liabilities, which do not have certain maturity period (such as current and saving deposit), the commercial banks have to classify that part

of liabilities in above 1 year, which remains as a primary deposit and should have to maintain itself as a minimum deposit.

Procedure for Gap Analysis

i. The gap is determined by deducting total liabilities from the total liabilities of various periods and such gap can be positive or negative.
ii. For minimizing the interest rate risk, the cumulative gap should have to be calculated at each maturity period.
iii. The changes in interest rate should have to be estimated (generally 1 Percentage can be assumed)
iv. The estimated interest rate should have to be adjusted according to the time interval. For such provision interest rate change is calculated by following formula –

$$\text{Interest rate change (IRC)} = \frac{\text{Maturity Period}}{\text{Days in year}} \times \text{Change in interest rate}$$

v. To identify the effect of changes in interest rate on profit and loss of bank, the IRC should have to multiply with the cumulative GAP.

c. Foreign Exchange Risk

NRB has issued a directive to study the effect on financial position of the banks with the fluctuation in foreign exchange rate. The commercial banks have to segregate the foreign assets and liabilities in short and long term interval to identify the net position of each interval. The commercial banks have to send such foreign asset position report on weekly basis

Basel II Capital Adequacy Ratio

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

i. Is adequate to protect its depositors and creditors
ii. Is commensurate with the risk associated activities and profile of the commercial bank.
iii. Promotes public confidence in the banking system

This framework prescribes the most simplest of the available approaches at the initial phase with a vision to move onto more complex and risk sensitive approaches as the market gradually gains maturity.

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 150 % for some type of loans and advances, investments and assets. 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 Basel II, the capital fund includes two types of capital –

a. Core Capital (Tier 1)

The key element of capital on which the main emphasis should be placed is the Tier 1 (Core) capital, which comprises of equity capital and disclosed reserves. This key element of capital is the basis on which most market judgments of capital adequacy are made and it has a crucial bearing on profit margins and a bank's ability to compete. The Basel Committee on Bank Supervision (BCBS) has therefore concluded that capital, for supervisory purposes, should be defined in two tiers in a way, which will have the effect of requiring at least 50% of a bank's capital base to consist of a core element comprised of equity capital and published reserves from post tax retained earnings.

In order to rank as core capital, capital must be fully paid up, have no fixed servicing or dividend costs attached to it and be freely available to absorb losses ahead of general creditors. Capital also needs to have a very high degree of permanence if it is to be treated as core capital. In detail, core capital includes:

Core Capital

Table No. 2.1

1) Paid Up Capital
2) Irredeemable non-cumulative preference shares
3) Share Premium
4) Proposed bonus equity share
5) Statutory general reserve
6) Retained earning available for distribution to shareholders
7) Unaudited current year net profit
8) Capital redemption reserve
9) Dividend equalization reserve
10) Capital adjustment reserve
11) Other free reserves

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

i. Accumulated loss (current and previous)
ii. Book value of goodwill
iii. Fictitious assets to the extent not written off (e.g. voluntary retirement scheme expense, preliminary expense, share issue expense, deferred revenue expense, etc.)
iv. Equity investment in licensed financial institutions
v. Equity investment in excess of prescribed limit
vi. Investment arising out of underwriting commitments that have not been disposed within a year from the date of commitment

vii. Reciprocal crossholdings of bank capital artificially designed to inflate the capital position of the bank.

viii. Any other item as stipulated by Nepal Rastra Bank from time to time.

b. Supplementary Capital (Tier 2)

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

Table No. 2.2

Supplementary Capital (Tier 2)

1) Cumulative and /or redeemable preference shares with maturity of at least five years.
2) Subordinated term debt fully paid up with a maturity of more than 5 years.
3) Hybrid capital instruments
4) General loan loss provision limited to a maximum of 1.25% of total risk weighted exposures.
5) Investment adjustment reserve
6) Revaluation reserve (The amount is eligible up to 50% for treatment as Tier 2 capital and limited to a maximum of 2% of total Tier 2 capital)
7) Exchange equalization reserve.
8) Other reserves

c. Capital Fund

The capital fund is the summation of Tier 1 and Tier 2 capital. The sum total of the different components of the Tier 2 capitals will be limited to the sum of total of the various components of the Tier 1 capital net of deductions as specified above. In case the Tier 1 capital is negative, Tier 2 capital shall be considered to be "nil" for regulatory capital adequacy purposes and hence, in such a situation, the capital fund shall be equal to the Tier 1 capital. Capital Fund can be stated in equation as below:

Capital Fund = Primary (Tier 1) Capital + Supplementary (Tier 2) Capital

Minimum capital requirements

Every bank is required to maintain at all times, the capital requirement set out below -

i. A Tier 1 (Core) capital of not less than 6% of total risk weighted exposure
ii. A total capital fund of not less than 10% of its total risk weighted exposure

The capital adequacy ratio is calculated by dividing total capital fund by total risk weighted exposure i.e.

a. Capital Adequacy Ratio for Core Capital

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

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

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

Risk Weighted Asset refers to all the on and off balance sheet assets, which has provided certain percent of risk weight that ranges from zero for cash, balance with NRB, investment in government securities to 150 percentage for loans and advances, fixed asset, investments etc. The total risk weighted exposure comprises of risk weights calculated in respect of bank's credit, operational and market risks.

Total risk weighted exposure, in equation is shown below –

Total risk weighted exposure = risk weighted assets for credit risk + risk weighted assets for operational risk + risk weighted assets for market risk

Risk weighted assets for credit risk is computed by multiplying various on and off balance sheet items by their prescribed weight, which is based on the risk associated with them. Such weight varies from 0% to 150%.

A risk weight asset for operational risk is computed by multiplying capital requirement for operational risk by reciprocal of capital requirement of 10%. Capital requirement for operational risk is the average of 15 % of gross income of past three years.

A risk weight asset for market risk is determined by multiplying the capital charges by 10. Currently prescribed capital charge as per Basel II is 5% of net open position. Net open position is the difference between the assets and liabilities in a currency. In other words, it is the uncovered volume of asset or liability, which is exposed to the changes in the exchange rates of currencies.

According to NRB directive, the statutory Capital Adequacy Ratio (CAR) for core capital is 6 %; where as CAR for total capital fund is 10 % for fiscal year 2008/09 and 2009/10. Every bank should submit capital adequacy report of month end to NRB within the end of subsequent month.

2.3 Review of Literatures

2.3.1 Review of Articles and Journals

Santomero (2007) has analyzed the various risk faced by commercial banks. According to him, the major risk of commercial bank includes credit, market risk, interest risk, counterparty risk and liquidity risk. He has categorized this risk into following categories:

i. Risk that can be eliminated by simple business practices
ii. Risk that must be actively managed at the firm level
iii. Risk that can be transferred to other participants

According to him, the main reason for the risk management is:

i. Managerial self interest
ii. Non linearity of tax structure
iii. Cost of financial distress
iv. Existence of capital market imperfection

The main method prescribed in his research for various risk management includes:

For credit risk

- 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

For Interest Rate risk, Gap Analysis of both interest sensitive and fixed rate asset and liabilities. Similarly, for liquidity risk management, crises model coupled with operational details is prescribed. However, usefulness of such model is limited by the realism of the environment considered. In case of Foreign Exchange Risk, VAR (Value at Risk) model is the main tool.

Basel Committee of Bank Supervision (2010) 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 led to a deterioration in the credit standing of a bank's counterparties. This phenomenon is common in 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 counter party 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

Rana (2008) alerts commercial banks of the new directives issued by Nepal Rastra Bank. 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. As the directives issued by NRB to commercial banks and finance companies are similar in some aspects, this article is also relevant to finance companies. Mr. Rana has highlighted the following points in his article:

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

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

i. Upgrade/ change the banking software, which facilitates generating numerous reports required by Nepal Rastra Bank.
ii. Foresee capital adequacy position for a number of years ahead and initiate measures for increasing the capital if required.
iii. Review and revise overall credit polices to address new directives governing loan classification and loan loss provisioning.
iv. 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.

v. Update their record with Credit Information Bureau (CIB). Also, Banks should timely submit required return to CIB for its effective functioning.

The existing policies of NRB might be ambiguous as a result of which people try to manipulate as per their personal requirement. However, it can be said that NRB has initiated directives, which have control on the promoters and other senior officials of commercial banks, but it is still to be found whether such directives are consistently followed.

Kupper (2008) has made a study to identify the different types of risk. He prescribes the method to handle those risks. He 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.

He 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. Consequently, 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.

Nepal's financial institution have failed in delivering beneficial services to needy people by developing credit-giving centers in rural areas without which sustained economic growth is impossible. On the other hand banks and

financial institutions have enough liquidity but they are finding it difficult to find suitable places for investment. (Tiwari, 2008)

Problems such as insecurity, lack of market research from banks, low investment opportunities, weak operational policies for carrying out financial transaction, among others have contributed to the problems of this sector. Despite central banks directives regulating banks and financial institution, private and government banks are functioning haphazardly. Nepal Bank Limited (NBL) and Rastriya Banijya Bank (RBB), the two largest banks, occupy substantial amount of the country's banking assets. Effective reform of these two is key to improved performance of the whole sector. Besides NBL and RBB, the Non-performing Assets (NPA) of some private banks such as Nepal Bangladesh Bank, Nepal Credit & Commerce Bank and Lumbini Bank is also very high. If the government and central bank allow the financial sector reforms to focus only on RBB and NBL, it might become a futile effort. A remarkable improvement can be observed on their performance in recent years.

2.4 Review of Thesis

Pandey (2009) 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. All the changes in NRB directives made impacts on the bank and the result are the followings:

- Increase in operational procedures of the bank, which increase the operational cost of the bank.
- A short term decreases in profitability, which result to fewer dividends to shareholders and less bonus to the employees.
- Reduction in the loan exposure of the bank, which decreases the interest income but increases the protection of the depositor's money
- Increase protection to the money of the depositors through increased capital adequacy ratios and more stringent loan related documents.
- Increase demand from shareholder's contribution in the bank by foregoing dividends for loan loss provisions and various other reserves to increase core capital.

All the previously mentioned result lead to one direction the bank will be financially healthy and stronger in the future. HBL will be able to withstand tougher economic situation in the future with adequate capital and provision for losses. The tough time through which the bank is undergoing at present will prevail only for a couple of years but in the long run, it will be strong enough to attract more deposits and expose itself to more risk with capital cushion behind it. The quality of the asset of the banks will become better as banks will be careful before creation credit. Ultimately, the changes in the directives will bring prosperity not only to the shareholders but also to the depositors and the employees, and the economy of the country as a whole.

Pandey has made his research on the impact on changes in new directives. In his study, he has studied only the provision related to loan provisioning and capital adequacy. The provision of directives related to interest rate risk, foreign exchange risk, operation risk and liquidity risk are the key areas where further research can be made.

Khadka (2008) has carried out research on "a Comparative study on Investment policy of Commercial Banks" with an objective to find out the relationship between deposits, investment, loans and advances and net profit. She has made the following conclusion while comparing the performance of NBL with Nabil, SCBNL and NIBL.

She concludes NBL is comparatively less successful in on balance sheet as will as off balance sheet operations than that of other commercial banks. It predicts that in the coming days if it could not mobilize and utilize its resources as efficiently as other CBs to maximize the returns; it would lag behind in the competitive market of banking. Profitability position of NBL is comparatively worse than that of other CBs. It predicts that NBL may not maintain the confidence of shareholders, depositors and its customers if it cannot increase its volume even in future.

In this study as well, there exists several areas where further research can be made such as study of commercial banks investment policy in context of NRB provisions, investment portfolio analysis from the point of risk return, investment and Capital Adequacy measures etc.

Shrestha (2009) in her thesis has tried to find out the impact of NRB directives on commercial banks. She has also made effort to find out 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. It can be seen that the

provision has been changed and the increased provisioning amount has decreased the profitability of commercial banks. Apart from, loan exposure has been cut down to customers due to the borrower limits have been brought down by NRB. Therefore, reduction in loan amount results to decrease the interest incomer from loans, which will decrease the profits of the banks in coming years. Decreasing profitability pushes towards lesser dividends to the shareholders and less bonus to employees. Not only are the negatives sides but also there positive sides of new directives. Recently the problems of banks are increasing operating cost and decreasing loan amount resulting decrease in profits of the banks but it shows it is only for short there because the directives are more effective to protect the banks from bad loans, which protect the banks from bankruptcy as well as protection of deposits of depositors. Increase in capital adequacy ration strengthen the banks financial position, loan related provision will made safety of loans except the risk reducing provision would protect the bank from liquidation. Above all, it can be concluded that newly issued directives are more effective than previous one although hit has brought some problems towards banks. To decrease the decreasing profits of the banks, they should research the alternatives like more investment in other business, bank should adopt new technology according to the demand of time and must not depend o only interest income for profit.

In this thesis as well, researcher has studied the impact of NRB directive, especially related to loan provisioning, on selected banks. There exists a gap regarding the study of NRB provision related to other risks than credit risk. Similarly, commercial banks compliance about those directives as well as banks policy and procedure to manage various risks can be studied further.

Bhattarai (2009) in her study has attempted to analyze various aspects of NRB directives with respect to Capital Adequacy and Loan Classification and

Provisioning. As per her view, the process of continual review and classification of loans and advances enables banks to monitor the quality of their loan portfolios and to take remedial action to counter deterioration in the credit quality of their portfolios.

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 come down However, the true picture of the quality of the asset will be painted in the coming years to come. She recommends, "The banks should be very careful while analyzing the paying capacity of is credit clients. With longer period of past due, the bank will end up increasing its provisions, which will keep the bottom line low, if the bank is not careful.

The major research gap found in her study is she has limited her study in Capital Adequacy and loan classification and provisioning. The research is mainly aimed to identify the NRB provision related to loan loss provision and Capital Adequacy Measures. There exists a gap to study the detail risk analysis of the banks.

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

Dhungana (2008) has made a research on the impact of NRB directives to the finance companies. The major objectives of the study were:

- To study the norms and standards laid down by Nepal Rastra Bank relating to finance companies in Nepal in respect of Capital Adequacy, Collection of Funds, Statutory Deposit & Liquidity Requirements, Loan Classification and Loan Loss Provisioning, Investments in Shares and securities, Non Banking Assets, and interest income.

- To study the impact of the NRB directives in the smooth functioning and profitability of finance companies
- To provide necessary recommendations to the NRB and finance companies on the basis of findings

The main finding in his study regarding the impact of the new directives on the finance companies and the result thereof are –

- Protection of the depositors money through increased capital adequacy ratio and pressure on finance companies to increase their capital base for collecting more funds form public
- Stringent loan loss provisioning and thereby reduction on operation profit and consequently less bonus to employees and less dividends to shareholders
- Reducing interest spread making business competitive there by forcing finance companies to be customer oriented.
- Increase in operational procedures of the finance companies, which increase the operational costs. Forcing those finance companies that were relying on software for report generation to modify software
- A short-term decline in profitability resulting in fewer bonuses to employees and less dividend to the shareholders
- Increased demand for shareholders contribution in the capital base by foregoing dividends for loan loss provisioning and various other reserves to increase the capital base.
- Although new directives are welcomed by finance companies, the same has not been complied with properly.

The major gap in this study is that this study is related to analysis of impact of new directive of finance companies. So, the additional research can be made on the study of impact of directive in commercial banks**.**

Shrestha (2009) has made study about the credit risk associated with those banks. The main objectives of her study was –

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

This study is more concentrated on the credit risk of the bank. In terms of credit risk, only non-performing loan has been studied. Therefore, there exist many areas where further research is called for. In context of credit risk, collateral risk, concentration risk, organization risk management system can be studied. In addition to credit risk, other risks such as market risk, operational risk, foreign exchange risk can be studied.

2.5 Research Gap

From the review of literatures, it has been found that no such research has been made in the risk management of banking sectors. Few theses have been prepared on the credit risk. These researches are related only with loan loss

provision and non-performing loan. So, the researcher can make further research on concentration risk, collateral risk etc.

Though the different thesis has been written in the NRB Directives and their implementation, all these researches are about the loan provisioning and capital adequacy. Likewise, no research has been made regarding liquidity and interest rate risk of a bank. Similarly, the operation risk, which has the significant portion in total risk, has not been studied till now.

Hence, the researcher had attempted to fill this gap by studying the overall risk management system of KBL and MBL.

Chapter- III
Research Methodology

3.1 Introduction

Research methodology is a systematic way to solve the research problem. In other words, research methodology describes the methods and process applied in the entire aspect of the study. Research methodology is defined as the various sequential steps (along with a rational of each steps) to be adopted by a researcher in studying a problem with certain objectives in view, Kothari (2007). Thus the overall approach to the research is presented in this chapter. This chapter consists of research design, sample size and selection process, data collection procedure and data processing techniques and tools.

3.2 Research Design

A research design is the specification of methods and procedures for acquiring the information needed. It is the overall operational pattern of framework for the project that stipulates what information is to be collected, from which sources and by what procedures. Thus, a research design is a plan for the collection and analysis of data. There exits different types of research design like; historical research, descriptive research, case study research, field study research, analytical research, true experimental research and so on.

This study is the combination of historical, descriptive and analytical type of research. Historical data are used to analyze different risks of a bank and each risk is analyzed separately. Historical data are used to identify and analyze past status of the bank's performance based on which future recommendation has been made. Similarly, management system, organizational structure and policies for mitigating the risk and risk management procedures have been presented in descriptive form

so as to identify the current status from which pitfalls can be identified. From collection of past data and information from key informants, the risk management system has been analyzed and recommendations have been made for improving the risk management of banks. Since only two banks only have been selected for the study, this study is a comparative study between these two banks in different risks and their management system.

Both primary and secondary data are used for analysis of various risks. In credit, interest and liquidity risk, secondary data published in annual reports of banks under study and NRB publications are mainly used. However, some primary data, collected through personal interview and questionnaires, are also used in analysis of credit risk and hypothesis test of such data are also made whenever felt necessary. The operation risk is all about the descriptive research as the quantification of operation risk variable is not feasible.

3.3 Population and Samples

Wolf and Pant (2009) defines the term "population" for research as the universe of research study in which the research is based. Since the research topic is about risk management of commercial banks, all the commercial banks of Nepal form population of the study. The population for the study comprises 27 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 risk management system of new commercial banks, which have completed 9 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.

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 report, prospectus, balance sheet, 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. Primary data are mainly collected through questionnaire, interview and direct observation. For the credit risk analysis, information is collected through questionnaire from 4 staffs each from both KBL and MBL working in Credit and Credit Control Divisions. In KBL, the total staffs in Credit and Credit Control Departments is 16, all of which have responded to the questionnaire, where as in MBL 14 staffs from Credit and Credit Administration Departments has filled up the questionnaire out of 15 staffs. Besides, interview has also been taken from 2 and 2 key informants 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 are used. Besides 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 this research, 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:

Arithmetic Mean:

Arithmetic Mean has widely used in this study. It has been used as to calculate the average for 5 years data and in some cases for 4 years due to unavailability of complete 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, net profit, non-performing loan, loan loss provision etc. have been calculated in this study. It is computed by using following formula:

Mean ($\overline{X}$) = $\frac{\sum X}{n}$ Where $\overline{X}$ = Mean

$\sum$ X = Sum of all the Variable X

n = Variables involved

Standard Deviation:

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 (δ).

It can be computed by using following formula -

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

Greater the magnitude of standard deviation, higher will be the fluctuation and vice versa. (*Gupta, 2002)*

Coefficient of Correlation:

For making inference about the relationship between loan and loan loss provisioning, non-performing loan, and loan loss provisioning correlation coefficient has been computed. Here, Coefficient of Correlation has been used as a tool to measure the degree of relationship between two variables. In other words, this tool is used to describe the degree to which one variable is linearly related to other variables. Two or more variables are said to be correlated if change in the value of one variable appears to be linked with the change in the other variables. Pant and Chaudhary (2008) define correlation analysis as the closeness of the relationship between the variables. Correlation may be positive or negative and ranges from -1 to +1.

- Correlation may be positive or negative and ranges from -1 to +1. When r = +1, there is perfect positive correlation; when r = -1, there is perfect negative correlation; when r = 0, there is no correlation and when r < 0.5 then there is low degree of correlation.
- When 'r' lies between 0.7 and 0.999 (or -0.7 and -0.999), there is high degree of positive (or negative) correlation.
- When 'r' lies between 0.5 and 0.699, there is a moderate degree of correlation.

The simple correlation coefficient, r, is calculated by using following formula:

Simple Correlation Coefficient (r) = $$\frac{n\Sigma X_1 X_2 - (\Sigma X_1)(\Sigma X_2)}{\sqrt{n\Sigma X_1^{\,2} - (\Sigma X_1)^2}\sqrt{n\Sigma X_2^{\,2} - (\Sigma X_2)^2}}$$

Alternately,

$$r = \frac{Cov(X_1 X_2)}{VarX_1, VarX_2}$$

Where,

$$\text{Covariance } (X_1, X_2) = \frac{1}{n} \sum (X_1 - \overline{X}_1)(X_2 - \overline{X}_2)$$

n = Total number of observations.

X_1 and X_2 = two variables, correlation between them are calculated.

Probable Error

In this study, Probable Error has been used for testing the reliability of value of correlation coefficient of non-performing loan and loan loss provisioning, loan and loan loss provisioning. Though it is an old measure of ascertaining the reliability of the value of coefficient of correlation, the technique has been used because of its simplicity. The test of probable error has been made by following ways:

If r is the calculated correlation coefficient in a sample of n pairs of observations then its standard error, usually denoted by S.E. (r) is given by,

$$\text{S.E. } (r) = \frac{1-r_2}{\sqrt{N}}$$

Where,

r = correlation coefficient

n= Number of observation

Probable Error (P.E.) of the coefficient of correlation can be calculated from Standard Error of the coefficient of correlation by the following formula,

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

P.E. (r) = 0.6745x S.E. (r)

P.E. (r) may be used to test if calculated value of sample correlation coefficient is significant. A few rules for the interpretation of the significance of correlation coefficient are as follows,

i. If r > P.E. (r), the value of r is definitely significant

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

P.E (r) may lead to fallacious conclusions particularly when the number of pairs of observation is small. Also, the probable error of correlation coefficient may be used to determine the limits within which the population correlation coefficient may be expected to lie. Limits for population correlation coefficient are r = +-P.E. (r). (*Pant and Chaudhary, 2008)*

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 testing its validity for the purpose of possible acceptance. It is usually denoted by H_o or “H sub- zero”.

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.

χ2 – Test (Chi- square test)

χ^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,

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

Where,

O = Observed frequencies

E= Expected Frequencies

After calculating the value, the calculated value is compared with the table value. The table value is determined by referring to the χ^2 tables in certain degree of freedom and level of significance. Here, the level of significance is assumed 5 %. *Sharma and Chaudhary (2008)*

In this study, χ^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.

Ratio Analysis

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 Asset Ratio
ii. Loans and Advances to Total Deposit Ratio
iii. Non-performing Loan to Total Loans and advances Ratio
iv. Loan Loss Provision to Non Performing Loan Ratio
v. Loan Loss Provision to Total Loans and Advances
vi. Return on Loan & Advances
vii. Current Ratio of KBL and MBL
viii. Cash and Bank Balance to Total Asset Ratio
ix. Cash Reserve Ratio (CRR)
x. Interest Income to Total Income
xi. Interest Expenses to Total Expenses
xii. Core Capital to Total Risk Weighted Asset (RWA)
xiii. Supplementary Capital to Total Risk Weighted Asset
xiv. Capital Fund to Total Risk Weighted Asset (RWA)
xv. On Balance Sheet RWA to Total RWA
xvi. Off balance Sheet RWA to Total RWA

Gap Analysis

Gap Analysis is the process of analyzing the mismatch between asset and liabilities within various maturity periods. Under this measure, asset and liabilities are categorized into various groups as prescribed by the NRB Directive No 5. The main objective of this gap analysis is to identify the mismatch between asset and liabilities in different maturity periods. The higher the gap between asset and liabilities, the greater the liquidity risk and vice

versa. The following gap analyses have done in this study for analysis of liquidity and interest rate risk

Gap Analysis for Liquidity Risk

Under this, the gaps of total asset and liabilities of different maturity periods, prescribed by NRB, have been calculated to identify the liquidity crises in different time interval. The higher the gap between asset and liabilities, the greater the liquidity risk and vice versa.

Gap Analysis for Interest Rate Risk

Gap analysis is used to identify mismatch between interest rate sensitive and fixed interest rate asset and the liabilities. Here, assets and liabilities have been classified into interest rate sensitive and fixed interest rate.

Interest Rate sensitive asset and liabilities refers to such an asset/ liabilities, interest rates of which keep on changing in the market. Such types of assets includes the inter bank loan/ placement financial derivatives etc, the interest rate on which changes over night. Interest rate sensitive liabilities includes inter bank borrowing etc. Gap refers to difference between IRSA and IRSL and gap analysis refers to the analysis of the gap between IRSA and IRSL. The higher the gap between assets and liabilities of a bank, the higher the risk does a bank have and vice versa.

Conversely, fixed interest rate asset refers to such asset of a bank, interest rate of which remains fixed for a certain period. The rate of interest on this type of asset normally remains constant for a long period. For example, the interest on term loan of a bank is constant for long period. Likewise fixed interest rate liabilities (FIRL) refers to such liabilities of a bank, interest on which remains constant for certain period, though the market interest rises.

Chapter IV
Data Analysis and Presentation

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 different 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. 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

Credit risk is simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. 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, 2000)*[1]

The key performance indicators of credit performance of KBL and MBL are as follows,

4.2.1. Ratio Analysis

i. Loans and Advances to Total Asset Ratio

The ratio of loans and advances to total assets measures the volume of loans and advances in the structure of total assets. The high degree of ratio indicates the good performance of the banks in mobilizing its fund by way of lending functions. However, in its reverse side, the high degree 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 asset and high degree of safety in liquidity and vice versa.

Table No. 4.1

Loans and Advances to Total Asset Ratio (%)

(Amount in million Rs.)

Fiscal Year	KBL			MBL		
	Loans	**Total Asset**	**Ratio (%)**	**Loans**	**Total Asset**	**Ratio (%)**
2004/05	5,681	7,438	76.38	5,130	6,445	79.60
2005/06	7,007	9,010	77.77	6,146	9,069	67.77
2006/07	9,062	11,918	76.04	7,319	10,810	67.71
2007/08	11,523	15,036	76.64	8,964	12,498	71.72
2008/09	14,795	18,538	79.81	12,984	17,490	74.24
		Mean	**77.33**		**Mean**	**72.21**
		S.D.	**1.37**		**S.D.**	**3.8**

Source: Annual Reports

Table No. 4.1 exhibits the loans and advances to total assets of two commercial banks for five consecutive years. Both the banks have this ratio fluctuating, mor fluctuating in the case of MBL. The overall ratio of KBL is 77.33% where as ratio in MBL is 72.21%. From this, it is clear that out of total asset in balance sheet the proportion of loans and advances is higher in KBL as compared to MBL. This means that the credit risk is slightly higher in KBL as compared to MBL. It also infers that the MBL has invested in the risk free asset such as Treasury bills, debentures, National Saving bonds etc.

Likewise, the standard deviation of KBL and MBL are 1.37 and 3.8 percentage respectively. This indicates that the ratio deviate more from the average in case of MBL than KBL. These indicate that the loan and advances to total asset ratio of MBL has more variation than that of KBL. I found variation more in the case of MBL, but ratio more in the case of KBL. So, with regard to credit risk, KBL is more exposed to it as compared to MBL.

ii. Loans and Advances to Total Deposit Ratio

The core banking function is to mobilize the funds obtained from the depositors to borrowers and earn profit and loan and advances to total deposit ratio, often called Credit Deposit ratio (CD ratio), is the fundamental parameter to ascertain fund deployment efficiency of commercial bank. In other words, this ratio is calculated to find out how successfully the banks are utilizing their total deposits on credit or loans and advances for profit generating purposes as loans and advances yield high rate of return. Greater CD ratio implies the better utilization of total deposits and better earning, however, liquidity requirements also needs due consideration. Hence, 70- 80 % of CD ratio is considered as appropriate. This ratio is calculated by dividing total credit by total deposits.

Table No. 4.2

Loans and Advances to Total Deposit Ratio (%)

(Amount in million Rs)

Fiscal Year	KBL			MBL		
	Total Loans	**Total Deposit**	**Ratio (%)**	**Total Loan**	**Total Deposit**	**Ratio (%)**
2004/05	5,681	6,269	90.62	5,130	5,586	91.84
2005/06	7,007	7,768	90.20	6,146	7,893	77.87
2006/07	9,062	10,557	85.84	7,319	9,475	77.25
2007/08	11,523	12,774	90.21	8,964	11,102	80.74
2008/09	14,795	15,710	94.18	12,984	15,596	83.25
		Mean	**90.21**		**Mean**	**82.19**
		S.D.	**2.65**		**S.D.**	**5.28**

Source: Annual Reports

Table 4.2 exhibits that the loans and advances to total deposit ratio of two commercial banks for 5 consecutive years. The loans and advances to total deposit ratio of both banks are fluctuating, more fluctuating in the case of MBL. The KBL has the highest CD ratio of 94.18 % in fiscal year 2008/09 where as the MBL has the highest CD ratio of 91.84 % in fiscal year 2004/05. The average CD ratio of KBL and MBL for 5 years is 90.21 % and 82.19 % respectively. The KBL has higher CD ratio than MBL this means that the KBL has utilized its deposit more towards lending than MBL. This again means that the KBL also has the higher risk than MBL.

iii. 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 No. 4.3

Non-Performing Loan to Total Loans and Advances

(Amount in million Rs.)

Fiscal Year	KBL			MBL		
	NPL	Total Loans	Ratio (%)	NPL	Total Loans	Ratio (%)
2004/05	54	5681	0.95	19.8	5,130	0.39
2005/06	64	7007	0.91	16.9	6,146	0.27
2006/07	66	9062	0.73	85.1	7,319	1.16
2007/08	152	11523	1.32	92.9	8,964	1.04
2008/09	64	14795	0.43	302.8	12,984	2.33
		Mean	**0.87**		**Mean**	**1.04**
		S.D.	**0.29**		**S.D.**	**0.73**

Source: Annual Reports

Table 4.3 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 both KBL and MBL is in fluctuating trend though the loans and advances are in increasing trend. The average NPL ratios of KBL and MBL are 0.87 and 1.04 % respectively. It can be inferred that the average NPL of MBL is higher than that of KBL. MBL has the highest NPL in the year when it has highest loans and advances. This is the highest amount of NPL in fiscal year 2001/02 (i.e. 10.44). But in more recent years the NPL of the MBL has been in increasing trend.

The standard deviation of KBL and MBL are 0.29 and 0.73. Thus, it portrays that KBL ratios deviate less from the average ratio than that of MBL, which refers to less risk to KBL.

iv. Loan Loss Provision to Non Performing Loan Ratio

This ratio determines the proportion of provision held to non-performing of 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 financial position of bank.

Table No. 4.4

Loan Loss Provision to Non-Performing loan (%)

(Amount in Million Rs.)

Fiscal Year	KBL			MBL		
	LLP	NPL	Ratio (%)	LLP	NPL	Ratio (%)
2004/05	96.3	54	178.33	68.7	19.8	346.97
2005/06	115.9	64	181.09	78.1	16.9	462.13
2006/07	133.4	66	202.12	190	85.1	223.27
2007/08	187.2	152	123.16	321.7	92.9	346.29
2008/09	201.9	64	315.47	468.4	302.8	154.69
		Mean	**200.04**		**Mean**	**306.67**
		S.D.	**63.35**		**S.D.**	**107.16**

Source: Annual Reports

Table 4.4 shows the ratio of provision held to non- performing loan of KBL and MBL for five consecutive years. The NPL ratio of MBL is more fluctuating than the KBL. The NPL ratio of MBL is highest of 346.97% and 346.29% in the fiscal years 2004/05 and 2007/08 where as the provisioning of KBL is highest of 201.9 in fiscal year 2008/09. The overall ratios of NPL of KBL and MBL are 200.04 and 306.67 percent respectively. This shows that MBL has provided higher cushion of provisioning to non-performing loan compared to KBL.

The standard deviation of KBL and MBL are 63.35 and 107.16 respectively. This means that there exists the higher deviation in this ratio in context of MBL than KBL.

v. 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 a bank. Since high provision

has to be made for non-performing loan, 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 loan portfolio.

Table No. 4.5

Loan Loss Provision to Total Loan and Advances (%)

(Amount in Million Rs.)

Fiscal Year	KBL			MBL		
	LLP	**Loan & Advances**	**Ratio (%)**	**LLP**	**Loan & Advances**	**Ratio (%)**
2004/05	96.3	5,681	1.70	68.7	5,130	1.34
2005/06	115.9	7,007	1.65	78.1	6,146	1.27
2006/07	133.4	9,062	1.47	190	7,319	2.60
2007/08	187.2	11,523	1.62	321.7	8,964	3.59
2008/09	201.9	14,795	1.36	468.4	12,984	3.61
		Mean	**1.56**		**Mean**	**2.48**
		S.D.	**0.12**		**S.D.**	**1.03**

Source: Annual Reports

Table 4.5 exhibits that both banks have least portion of loan loss provision. The average LLP to total loan and advances ratio is 1.56 and 2.48 percent of KBL and MBL respectively. The ratio is higher in MBL than KBL. This higher ratio reflects that the MBL has higher non-performing loan compared to KBL.

Likewise, the standard deviation of KBL and MBL are 0.12 and 1.03 respectively. MBL has higher risk than that of KBL.

vi. Return on Loan & Advances

This ratio indicates how efficiently the bank has employed its resources in the form of loans and advances. This ratio is calculated by dividing net profit of the bank by total loan and advances. Net profit refers to that profit, which is obtained

after all, types of deduction like employee bonus, tax, provision etc. Hence, this ratio measures bank's profitability with respect to loans and advances. Higher the ratio better is the performance of the bank.

Table No. 4.6

Return on Loans & Advances (%)

(Amount in million Rs.)

Fiscal Year	KBL			MBL		
	Net Profit	Total Loans	Ratio (%)	Net Profit	Total Loans	Ratio (%)
2004/05	84.2	5681	1.48	84.87	5,130	1.65
2005/06	103.6	7007	1.48	133.9	6,146	2.18
2006/07	170.2	9062	1.88	76.79	7,319	1.05
2007/08	174.9	11523	1.52	85.01	8,964	0.95
2008/09	261.4	14795	1.77	123.25	12,984	0.95
		Me	**1.62**		**Mean**	**1.36**
		S.D.	**0.17**		**S.D.**	**0.49**

Source: Annual Reports

Table 4.6 exhibits the return on loans and advances of both KBL and MBL for past 5 years. The figure represented in the above table shows that the KBL has the ratio almost similar throughout 5 years while with regard to MBL, this ratio is fluctuating, lower in the last two years. The average ratio for 5 years of KBL and MBL is 1.62 % and 1.36 % respectively. This shows that KBL has better return than MBL.

The standard deviation of KBL and MBL for the study period is 0.17 and 0.49 respectively. It indicates that the deviation of return percentage of MBL is more volatile than KBL, which also signifies higher risk. From this, it can be said that KBL is in better position than MBL.

vii. Security-wise Lending of KBL and MBL

Security wise lending refers to the lending of banks to the client against various collaterals. As the collateral is also key aspect 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 of KBL & MBL in FY 2008/09 is as below -

a. Security wise Lending of KBL

This analysis will help to identify the various types of securities on the basis of which loans has been provided by KBL. This also assists to analyze bank risk on collateral. As more liquid the collateral, chances of risk is less to the bank.

Table No. 4.7

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

(Amount in million Rs.)

S. N.	Security against lending	Average Lending Against Each Collateral (FY 2008-09)	Rank
1	Movable/Non Movable Property	13,445	1
2	Guarantee against local bank and FIs	-	-
3	Government Guarantee	-	-
4	Guarantee against internationally rated	-	-
5	Against export Bill	1.8	5
6	Own bank's FDRs	2.8	4
7	Other bank's FDRs	52.6	3
8	Loan against Government Bills	-	-
9	Counter Guarantee	-	-
10	Loan against Personal Guarantee	-	-
11	Others	1,293	2
12	Without collateral	-	-
	Total	**14,795.2**	

Source: Annual Reports (See Annex 4.13 (Ka) for details)

Table 4.7 exhibits the lending of KBL against 5 different securities in the FY

2008/09. From above it is clear that more than 91% of the lending is against movable / immovable collateral. The lending against the movable/ non-movable property is Rs. 13,445 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 internally rated bank, counter guarantee etc. It does not have any lending against personal / corporate guarantee. The bank also has been granting loan against the more liquid and secured collateral such as own bank's Fixed Deposit Receipt (FDR) and other banks' FDR, which is ranked 4 and 3 in terms of amount of loan respectively. Besides the above-mentioned collateral, the bank has also granted credit against the other collaterals, which is ranked 2nd position. The bank also has granted the credit against export documents, which ranks 5th position in terms of loan amount. This means that the bank has been granting the loan against diversified collateral. However, the large portion of loan has been granted against the movable/non movable property. Since lending against guarantee or without collateral is either restricted or, requires additional provisioning by regulatory bodies, banks are reluctant to provide loans against such form of security.

b. Security-wise Lending of MBL

Table 4.8 exhibits loan extended against the various securities along with the ranking on the basis of amount of loan extended for the FY 2008/09. The above table depicts that the MBL has extended against 7 Securities. The MBL has granted the highest amount of loan against the Movable/ Non- Movable property, the lending against this collateral is Rs. 12,175 million. Likewise, loan against other banks' FDR ranks 2nd highest in terms of amount of lending. Least in rank is lending against own FDR. The bank also has lending against personal guarantee which requires additional provision by NRB. Those loans are considered secured

which are secured by movable / immovable property like land & building, FDR etc. As per NRB directive, banks are not allowed to grant loan against financial bank guarantee of banks and financial institution.

Table No. 4.8

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

(Amount in million Rs.)

S. N.	Security against lending	Average Lending Against Each Collateral (FY 2008/09)	Rank
1	Movable/Non Movable Property	12,175	1
2	Guarantee against local bank and finance companies	188	3
3	Government Guarantee	52.2	6
4	Guarantee against internationally rated bank	-	-
5	Against export Bill	-	-
6	Own bank's FDRs	18.8	7
7	Other bank's FDRs	266.5	2
8	Loan against Government Bills	-	-
9	Counter Guarantee	-	-
10	Loan against Personal Guarantee	99.4	5
11	Others	184.4	4
12	Without collateral	-	-
	Total	**12,984.3**	

Source: Annual Reports (See Annex 1(Ka) for details)

Taking into account all these things, MBL is considered having its loans less secured than KBL. Further, some of its loans are also subject to excess provisioning due to personal guarantee type collateral and some type of collateral accepted by it are in against of NRB directive i.e. guarantee against local banks and finance companies.

c. Risk Weighted Lending Analysis

With regard to risk weighted lending, data presentation and analysis has been segregated into two parts - 1st, assignment of risk weight to loans and advances on the basis of NRB's Capital Adequacy Requirement that was applicable only up to the FY 2007/08 and 2nd, assignment of risk weight to loans and advances on the basis of NRB's Basel II Requirement that was applicable since the FY 2008/09.

Risk Weighted lending refers to weight provided to the bank loan according to the level of risk. While risk level of the loan is categorized on the basis of the collateral, the lending against own bank Fixed deposit receipt and government securities are considered as risk free lending. Similarly, the loan against other banks Fixed Deposit Receipt, 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 for the four consecutive fiscal years ended FY 2007/08 is presented below. Figures for the FY 2008/09 is not taken into account for the purpose of computing average because from the FY 2008/09, Basel II has been introduced which is completely different from previous capital adequacy framework. Under Basel II, risk weight varies from 0% to 150%. So, risk weight as per Basel II for the FY 2008/09 alone is separately presented.

Table No. 4.9

Proportion of different category of risk weighted lending of KBL

Security	Risk Weight (%)	2004/05	2005/06	2006/07	2007/08	Average
Risk Free Lending to Total Loan	0	0.03	0.32	0.24	0.06	0.16
Moderate Level Risk Lending to Total Loan	20	0.90	0.91	0.94	0.92	0.92
High Level Risk Lending to Total Loan	100	99.07	98.77	98.82	99.02	98.92

Source: Annual Reports

Table 4.9 exhibits percentage of different categories of risk lending of KBL for 4 years. From above table, it is evident that management does not have any policy or plan to maintain its loan at certain risk weight level. The figures do not show any trend or are not consistent, but are fluctuating. Bank's, on an average, almost entire loans are under high risk category. However, it does not mean that they are not secured. They are of course secured but such security like mortgage of immovable property, hypothecation of stock, assignment of receivables etc are treated as high risk collateral as per NRB's Capital Adequacy Requirement.

Table No. 4.10

Proportion of different category of risk weighted lending of MBL

Security	Risk Weight %	2004/05	2005/06	2006/07	2007/08	Average
Risk Free Lending to Total Loan	0	0.25	0.70	0.26	0.05	0.31
Moderate Risk Lending to Total Loan	20	0.00	1.36	2.89	2.65	1.72
High Level Risk Lending to Total Loan	100	99.75	97.95	96.86	97.30	97.96

Table 4.10 exhibits percentage of different categories of risk lending of MBL for 4 years. From above table, it is evident that management does not have any policy or plan to maintain its loan at certain risk weight level. The figures do not show any trend or are not consistent, but are fluctuating. Bank's, on an average, almost entire loans are under high risk category. However, it does not mean that they are not secured. They are of course secured but such security like mortgage of immovable property, hypothecation of stock, assignment of receivables etc are treated as high risk collateral as per NRB's Capital Adequacy Requirement.

From the above tables of four years' data, 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 bills than the KBL. This indicates that the MBL has slightly less riskier lending than KBL.

As per Basel II Requirement that has been recently introduced and is more stringent in comparison to previous capital adequacy requirement, credit risk has been classified into 11 categories on the basis of their risk weight which varies from 0% to 150%. As per Basel II, some of the loans that are secured by more liquid assets such as cash, are allowed to reduce their credit risk on the basis of nature of such collateral. Such reduction is called Credit Risk Mitigation (CRM). Loans of KBL after CRM and specific loan loss provision for the 2008/09 on the basis of different categories of risk is presented in below table. Specific provision means the loan loss provision other than provision on good loans i.e. except 1% provision.

Table No. 4.11

Loan Risk of KBL as per Basel II for the FY 2008/09

(Amount in thousand Rs.)

Type of loan	**Net Loan amount**	**%**	**Risk weight**	**Risk weighted loan**
Claim against Nepal government	77,142	0.52	0%	0
Claims on public sector entity	100,875	0.69	150%	151,313
Claims on domestic corporate	6,281,248	42.68	100%	6,281,248
Regulatory retail portfolio – not overdue	1,763,584	11.98	75%	1,322,688
Claims fulfilling all criteria of regulatory retail except granularity	35,838	0.24	100%	35,838
Claims secured by residential property	1,061,245	7.21	60%	636,747
Claims secured by residential properties – overdue	9,602	0.07	100%	9,602
Claims secured by commercial real estate	2,152,675	14.63	100%	2,152,675
Past due claims	145,818	0.99	150%	218,728
High risk claims	3,090,357	21.00	150%	4,635,536
Total	**14,718,384**	**100**		**15,444,375**

Source – Annual Report 2008/09 – schedule 4.30B

As evident from above table, highest amount of loan exposure i.e. 42.68% is under 100% risk weight. High risk exposure that has risk weight of 150% occupies second highest i.e. 21% of net loan exposure. Least amount of loan is under past due claims. Further, in total 57.61% of loan falls under 100% risk weight. Similarly, 22.67% of loans fall under 150% risk weight, 11.98% loans fall under 75% risk weight, 7.21% of loans fall under 60% and 0.52% of loans falls under 0% risk weight.

Table No. 4.12

Loan Risk of MBL as per Basel II for the FY 2008/09

(Amount in thousand Rs.)

Type of loan	**Loan amount**	**%**	**Risk weight**	**Risk weighted loan**
Claim against Nepal government	52,214	0.42	0	-
Claims on public sector entity	98,800	0.80	150	148,200
Claims on domestic corporate	5,515,583	44.66	100	5,515,583
Regulatory retail portfolio – not overdue	3,163,599	25.62	75	2,372,699
Claims fulfilling all criteria of regulatory retail except granularity	19,880	0.16	100	19,880
Claims secured by residential property	692,090	5.60	60	415,254
Claims secured by residential properties – overdue		0.00		
Claims secured by commercial real estate	1,296,212	10.50	100	1,296,212
Past due claims	233,259	1.89	150	349,888
High risk claims	1,277,967	10.35	150	1,916,950
Total	**12,349,604**	**100**		**12,034,667**

Source – Annual Report 2008/09 – schedule 4.30B

As evident from above table, highest amount of loan exposure i.e. 44.66% is under 100% risk weight. Regulatory retail exposure that has medium risk weight of 75% occupies second highest i.e. 25.62% of net loan exposure. Least amount of loan is under regulatory retail loans that do not fulfill the granularity criteria. Further, in total 55.32% of loan falls under 100% risk weight. Similarly, 25.62% of loans fall under 75% risk weight, 13.04% loans fall under 150% risk weight, 5.6% of loans fall under 60% and 0.42% of loans falls under 0% risk weight.

Comparing KBL and MBL under Basel II, risk exposure of MBL seems lesser than that of KBL. MBL does not have any loan in past due under housing category. 2nd highest of total loan exposure of MBL weighs risk weight of 75% while in KBL, 2nd highest of total loan exposure weighs risk weight of 150%. So,

in both the cases i.e. under previous Capital Adequacy framework and under recently introduced Basel II frame work, MBL has less riskier exposure than KBL.

d. 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. As per NRB reporting format, bank has to present their data relating to lending into prescribed 14 sectors. Same report has been presented in below table -

Table No. 4.13

Credit Concentration on different Sector on fiscal year 2008/09

Sector	**KBL (%)**	**MBL (%)**
Agriculture	3.30	0.33
Mine	0.85	0.35
Manufacturing	18.36	20.16
Construction	10.52	11.13
Metal and Electric Products	1.54	0.65
Transport equipment	7.85	0.85
Transport, communication and public utilities	1.55	8.88
Wholesaler & Retailer	7.70	15.78
Finance, Insurance & Real Estate	18.78	8.86
Service Industries	0.29	0.90
Other services	4.76	5.32
Consumer Loan	10.72	1.00
Local Government	0.00	0.00
Others	13.79	25.80
Total	**100.00**	**100**

Source: Data obtained from MIS department of concerned banks.

Table 4.13 is evident that both the banks have no lending to local government. KBL has highest investment in finance, insurance and real estate sectors, which is almost equivalent to the investment in manufacturing sector. Third highest is in other sectors not specifically defined and not falling under other categories. It has least amount of investment in service industries. MBL has highest lending towards other sectors, which occupies more than one fourth of its total lending. It has 2nd highest investment in manufacturing sector and thereafter, wholesaler / retailer and construction sector. It has least amount of investment in agriculture sector. More than 70% of its total investment is covered by investment in four sectors i.e. others, wholesaler/retailer, manufacturing & construction. More than 70% of total investment of KBL is covered by investment in five sectors i.e. finance/insurance/real estate, manufacturing, others, consumer & construction. From above table it is clear that loan portfolio of KBL is more spread than MBL which means MBL has more credit risk concentration than KBL.

e. Sector-wise Loan to Core Capital

This is the ratio between loan extended by bank in a sector and core capital. Core capital is also called as primary capital Core capital includes share capital, non redeemable preference share, share premium, proposed bonus share, general reserve, retained earnings, current year profit, capital redemption reserve, capital adjustment reserve, dividend equalization reserve, bond redemption reserve etc. The higher ratio does a bank have, the higher will be the risk to the bank and vice versa. According to NRB directive no 3 of Unified Directive 2005, 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 than 100 % of core capital needs to be approved by the board of directors. The core capital of KBL and MBL is Rs. 1,613 and Rs. 1,677 million respectively in fiscal year 2008/09.

Table No. 4.14

Sector-wise loan to Core Capital in fiscal year 2008/09

(Amount in million Rs.)

Sector	Loan KBL	Sector-wise loan to Core Capital (%)	Loan MBL	Sector-wise loan to Core Capital (%)
Agriculture	483.79	30.00	42.70	2.55
Mine	124.23	7.70	45.50	2.71
Manufacturing	2,695.73	167.15	2,617.80	156.10
Construction	1,544.78	95.78	1,445.50	86.20
Metal and Electric Products	225.54	13.98	84.40	5.03
Transport equipment	1,152.98	71.49	109.80	6.55
Transport, communication and public utilities	227.10	14.08	1,153.10	68.76
Whole Seller & Retailer	1,130.80	70.11	2,048.70	122.16
Finance Insurance & Real Estate	2,757.17	170.96	1,150.10	68.58
Service Industries	42.39	2.63	116.80	6.96
Other services	699.35	43.36	690.50	41.17
Consumer Loan	1,573.86	97.59	129.40	7.72
Local Government		0.00	-	0.00
Others	2,137.28	125.50	3,350.20	199.77
Total	**14,795**	**910.33**	**12,984.50**	**774.27**

Source: computation based on annual report and sector wise data available from concerned bank.

Table 4.14 exhibits the percentage of loan on single sector to core capital of KBL and MBL in fiscal year 2008/09. Above table depicts that total loan of KBL is more than MBL while Core Capital of KBL is less than MBL. So, credit risk concentration from capital side is more in KBL than MBL. Both the KBL and MBL have their loan more than 100% of their respective core capital in three sectors. Similarly, KBL has its loan more than 50% and less than 100% of its core capital in four sectors while same is in three sectors in the case of MBL. Though credit concentration from the point of view of total loan portfolio is high in MBL,

however, due to its low amount of total lending and high amount of core capital comparing KBL, its credit risk concentration is low from the point of view of its capital base.

viii. Correlation Analysis

a. Correlation Between Loan Loss Provision (LLP) and Loans and Advances (L&A)

The correlation between LLP and Loans and advances shows the degree of relationship between these two items. How a unit increment in loans and advances affect the loan loss provision is measured by this correlation. Here loans and advances are independent variable and LLP is dependent variable.

Table No. 4.15

Correlation between LLP and Loans and Advances

Banks	**Correlation Coefficient (r)**	**Probable Error (P.E.)**	**6 * P.E.**
KBL	0.99	0.009	0.054
MBL	0.95	0.04	0.24

Table 4.15 explains the relationship between loans and advances and LLP. Correlation coefficient of KBL is 0.99, which means that the LLP is highly correlated with loans and advances. It means that the bank's LLP will increase with the increase in Loans and Advances. Similarly, the correlation coefficient of MBL is 0.95, which also shows that there exists positive correlation between the LLP and Loan and Advances.

The probable error (multiplied by 6), which is used to test the significance of calculated correlation coefficient, of both KBL and MBL is 0.054 and 0.24 respectively. The Probable Error (multiplied by 6) of both banks is less than the

correlation coefficient. Therefore, it can be said that the correlation coefficient value is significant.

b. Correlation between Loan Loss Provision and Non-performing Loan

This correlation indicates the relationship between LLP and NPL. How a unit increases in NPL effect the LLP is exhibited by this correlation. NPL has been treated as an independent variable, whereas the LLP a dependent variable.

Table No. 4.16

Correlation between LLP and NPL

Banks	**Correlation Coefficient (r)**	**Probable Error (P.E.)**	**6 * P.E.**
KBL	0.93	0.0604	0.36
MBL	-0.03	0.45	2.7

Table 4.16 exhibits correlation between LLP and NPL of two commercial banks. The correlation between LLP and NPL of KBL is positive, which indicates that the LLP of KBL changes with the change in NPL. The probable error multiplied by 6, which is used to test the significance of correlation coefficient, is also less than the correlation coefficient, which means that the value of correlation coefficient is significant.

On the contrary, the correlation coefficient between LLP and NPL of MBL is negative, which indicates that there exists an inverse correlation between LLP and NPL of MBL. Likewise the Probable Error multiplied by 6, which is used to test the significance of correlation coefficient, is also greater than the correlation coefficient that suggests the correlation coefficient is insignificant.

4.2.2. Organizational Structure for Credit Risk Management

As the credit risk has the highest proportion of risk in banking sector, the bank should have a well-defined management committee to analyze and manage the credit risk. For handling the credit function of bank, both banks have credit department headed by the credit manager. The credit manger will take credit decision to a certain extent after that the decision is made by the CEO or sometimes by the Board of Director if the bank has to extend credit to single borrowers above 25 % of fund based and 50 % of non fund based loan. For the effective credit risk management KBL and MBL have separate Committees, which monitors the risk associated with the lending practice and the develop strategies and plans to minimize the risk.

a. Kumari Bank Ltd (KBL)

G. N. Dhungana (Personal Interview, February 14, 2010) states that Board of Directors of KBL will have the overall responsibility for formulating policies on Risk Management and the ultimate authority for deciding the overall risk monitoring and management.

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 risk including credit risk. 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.

In KBL all the credit activities is governed by the Credit Policies Guidelines and the corporate credit and retail department perform handling of credit functions. These departments are headed by the Senior Manager and Manager.

Likewise KBL has legal department, which handles all the legal issues before extending credit to the clients. The bank also has the Credit Administration Department, which monitors all the credit documentation and performance of the credit client. This department has responsibility to monitor the credit client once the credit department has extended the loan.

Likewise, the bank also has the risk assessment department, concerned with analysis of the risk factor while extending credit. The main function of this department is to analyze different risks of the proposed credit client and have an authority to decide about credit granting. Further for timely recovery of the loans extended by the bank, KBL also has the Recovery department responsible for tracking the customers and their repayment.

b. Machhapuchchhre Bank Ltd (MBL)

P. M. Dangol (Personal Interview, February 02, 2010) states that a special Credit Committee exists for formulating credit policies in the bank. Besides, this committee also takes a credit decision beyond the limit of chief Executive officer. The committee includes Chief Executive Officer, 3 Board of Directors, 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 etc.

In MBL, all the credit decision is governed by the Credit Policies Guidelines. Under the management level, all the credit decision is taken by the credit manager but for the credit decision beyond his jurisdiction; the assistant general manager and CEO take the decision.

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

4.2.3 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 related to the broad areas of concentrations, credit processing, and market- and liquidity-sensitive credit exposures.

i. **Concentration**

Concentrations are the single 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:

- **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.

- **Concentrations based on common or correlated risk factors** reflect subtler or 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.

ii. 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 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.

More generally, many credit problems reflect the absence of a thoughtful consideration of downside scenarios. In addition to the business cycle, borrowers may be vulnerable to changes in risk factors such as specific commodity prices, shifts in the competitive landscape and the uncertainty of success in business strategy or management direction. Many lenders fail to "stress test" or analyze the credit using sufficiently adverse assumptions and thus fail to detect vulnerabilities.

iii. Market and Liquidity-Sensitive Credit Exposures

Market and liquidity-sensitive exposures pose special challenges to the credit processes at banks. Market-sensitive exposures include foreign exchange and financial derivative contracts. Liquidity-sensitive exposures include margin and collateral agreements with periodic margin calls, liquidity back-up lines, commitments and some letters of credit, and some unwind provisions of securitizations. The contingent nature of the exposure in these instruments requires the bank to have the ability to assess the probability distribution of the

size of actual exposure in the future and its impact on both the borrower's and the bank's leverage and liquidity.

4.2.4 Analysis of Primary Data

Under the analysis of primary data, a questionnaire and personal interview has been conducted to the concerned departmental staffs 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:

Regarding the proportion of credit risk, 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.

Regarding the single sector lending, 8 staffs of KBL has responded that KBL can lend 0-10% of total loan on single sector, where as 2 have responded that it can lend 10-20 % of total loan in single sector. Likewise, out of total 10 staffs of MBL, 6 have agreed that the bank can lend 0-10 % of total loan, where as 1 has agreed that the bank can lend 20- 30 % of total loan and rest have agreed on 10-20% of total loan.

Regarding credit rating system, all 20 staffs have answered that both banks have rating system for the credit client.

Ranking of different characteristics while granting credit has been made on the basis of majority ranks for each attribute given by the respondent.

Table No. 4.17

Ranking of different characteristic while lending

Attributes	KBL	MBL
Character	1	1
Collateral	2	4
Capital	5	3
Condition	4	5
Capacity	3	2

From above, it is clear that the 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.

Regarding ranking of preference on sector wise loan, following responses have been made by the staffs of KBL and MBL.

Table No. 4.18

Ranking of Sector for lending

Sector	KBL	MBL
Agriculture	6	5
Mines and Minerals	5	4
Real Estate	4	2
Manufacturing	1	1
Consumer loans	3	3
Service Industry	2	3

From above, it is clear 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 real estate in second priority, where as KBL takes it into third priority. The MBL takes both the consumer loans and service industry in third priority. Both KBL and MBL has

similar ranking for manufacturing and agriculture. Both the bank would like to invest more on the manufacturing sector and least to the agriculture sector.

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.

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.

4.2.5 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 No. 4.19

Hypothesis test regarding the ranking of sector of lending

Bank	Agriculture	Mines and Minerals	Real Estate	Manufacturing	Consumer loans	Service Industry	Total
KBL	31	39	58	70	55	63	**316**
MBL	32	41	58	66	55	55	**307**
Total	**63**	**80**	**116**	**136**	**110**	**118**	**623**

Source: field study (See Annex 16 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):

Expected frequency of R1C1 = $\frac{\text{Row Total x Column Total}}{\text{Grand Total}}$

$= \frac{316 \text{ X } 63}{623}$

Similarly,

R1C2 = 31.96 R2C3 = 57.16

R1C3 = 40.58 R1C6 = 55.79 R2C4 = 67.02

R1C4 = 58.84 R2C1 = 31.04 R2C5 = 54.21

R1C5 = 68.98 R2C2 = 39.42 R2C6 = 58.15

Test of Chi- Square:

Observed Frequencies (O)	Expected Frequencies (E)	(O-E)	(O-E)2/E
31	31.96	-0.96	0.03
39	40.58	-1.58	0.06
58	58.84	-0.84	0.01
70	68.98	1.02	0.02
55	55.79	-0.79	0.01
63	59.85	3.15	0.17
32	31.04	0.96	0.03
41	39.42	1.58	0.06
58	57.16	0.84	0.01
66	67.02	-1.02	0.02
55	54.21	0.79	0.01
55	58.15	-3.15	0.17
Total			**0.60**

Test Statistics:

$\chi 2$- Calculated $= \Sigma \frac{(O-E)2}{E} = 0.60$

Degree of Freedom:

d.f. = (R-1) (C-1)

= (2-1) (6-1)

= 5

$\chi 2$- 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 > 0.6), 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 No. 4.20

Hypothesis test regarding the ranking of various factors to be considered, while lending

Rank	Character	Collateral	Capital	Condition	Capacity	Total
KBL	63	58	45	48	55	**269**
MBL	64	45	54	40	60	**263**
Total	**127**	**103**	**99**	**88**	**115**	**532**

Source: Field Study (See Annex 16 for detail)

Null Hypothesis (H_o): There is no significant difference between observed and expected frequencies regarding to the ranking of various factors

Alternative Hypothesis (H_1): There is significant difference between observed and expected frequencies regarding to the ranking of various factors

Fixing the level of significance at 5 %

Calculation of expected frequencies (E):

Expected frequency of R1C1 = $\frac{\text{Row Total x Column total}}{\text{Grand Total}}$

$= \frac{127 \text{ X } 269}{532}$

Similarly,

R1C2 = 52.08 R2C1 = 62.78 R2C5 = 56.85

R1C3 = 50.06 R2C2 = 50.92

R1C4 = 44.50 R2C3 = 48.94

R1C5 = 58.15 R2C4 = 43.50

Test of Chi- Square:

Observed Frequencies (O)	Expected Frequencies (E)	(O-E)	(O-E)2/E
63	64.22	-1.22	0.02
58	52.08	5.92	0.67
45	50.06	-5.06	0.51
48	44.5	3.5	0.28
55	58.15	-3.15	0.17
64	62.78	1.22	0.02
45	50.92	-5.92	0.69
54	48.94	5.06	0.52
40	43.5	-3.5	0.28
60	56.85	3.15	0.17
Total			**3.34**

Test Statistics:

χ2- Calculated $= \Sigma \frac{(O-E)2}{E} = 3.34$

Degree of Freedom:

d.f. = (R-1) (C-1)

= (2-1) (5-1)

d.f = 4

χ2- tabulated at 5 % level of significance for 4 d.f. is 9.49

Decision: - Since tabulated value of χ2 is greater than calculated value of χ2 (i.e. 9.48 > 3.34), 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 Market Risk

Market risk refers to the business risk, which arises due to the different market factors. In another word, it is the organizational risk of losing its market and value due to changes in market variables. This risk consists of liquidity risk and interest rate risk, which are presented below:

4.3.1 Liquidity Risk

Liquidity refers to degree to which an asset or security can be bought or sold in the market without affecting the asset's price. In another word, it is the ability to convert an asset to cash quickly, also known as "marketability".

Liquidity risk can best be described as the risk of a funding crisis. While some would include the need to plan for growth and unexpected expansion of credit, the risk here is seen more correctly as the potential for a funding crisis. Such a situation would inevitably be associated with an unexpected event, such as a large charge off, loss of confidence, or a crisis of national proportion such as a currency crisis.

Here the attempt has been made to analyze how the asset and liabilities of commercial banks has been managed according to their maturity period to analyze the funding gap or liquidity crises situation. Similarly, the analysis of banks liquid asset as well as Cash Reserve Ratio.

The key tools for analyzing the liquidity risk are:

a. Gap Analysis (for liquidity risk)

Gap Analysis is the process of analyzing the mismatch between asset and liabilities within various maturity periods. Under this measure, asset and liabilities are categorized into various groups as prescribed by the NRB Directive No 5. The

main objective of this gap analysis is to identify the mismatch between asset and liabilities in different maturity periods. The higher the gap between asset and liabilities, the greater the liquidity risk and vice versa. Five years data has been

Table No. 4.21

Gap Analysis of Asset and Liabilities of KBL and MBL

(**Amount in million Rs)**

Fiscal Year	**1- 90 Days**		**91- 181 Days**		**181-270 Days**		**271-365 Days**		**More than 1 Year**	
	KBL	**MBL**	**KBL**	**MBL**	**KBL**	**MBL**	**KBL**	**MBL**	**KBL**	**MBL**
2004/05	146	2,032	(292)	(512)	1,080	(16)	1,143	43	1,205	(943)
2005/06	(270)	192	584	200	(512)	336	1,412	(160)	(393)	396
2006/07	2,237	3,126	(643)	3,886	122	4,203	1,022	(169)	(1,766)	(5,143)
2007/08	3,195	3,729	1,071	1,236	203	687	1,238	286	(3,331)	(2,353)
2008/09	5,452	3,559	420	1,375	139	1,092	(1,781)	1,025	(2,141)	(5,440)
Mean	**2,152**	**2,528**	**228**	**1,237**	**206**	**1,260**	**607**	**205**	**(1,285)**	**(2,697)**
S.D.	**2092**	**1309**	**617**	**1495**	**508**	**1517**	**1201**	**442**	**1559**	**2292**

Source – Annual Reports of the respective years

Table 4.21 exhibits the net asset/ liabilities for different time interval of KBL and MBL. The positive figure indicates that the asset is more than that of liabilities on the contrary the negative figure indicates that the liabilities are more than that of asset for each interval. From above, it is clear that both the bank have their net position negative in the duration of more than one year. It means both the banks do not have sufficient assets to meet its liabilities in long term period. Average net position of both the banks is positive for the period that is less than one year. For the period up to 270 days, MBL is found more comfortable in terms of its position to meet its liability. However, for the period between 271 days to 1 year and more than 1 year, position of KBL is more better than MBL. From this, it can be said that the KBL has more problem of liquidity in short term interval compared to

MBL. It is because to meet the short-term liabilities, the Short time interval asset is not sufficient. So to meet the short-term liabilities, KBL needs to borrow from the other banks. In MBL, since the short-term asset is more than that of liabilities, the bank does not have any liquidity problem. Both MBL and KBL have negative net position in time interval of more than 1 year. This indicates that both banks have long-term liabilities such as deposit and other liabilities higher than long term asset such as loan and advances, fixed asset etc.

The mean net position of KBL is Rs. 2,152 million, Rs 228 million, Rs 206 million, Rs 607 million and Rs –1,285 million in time interval 1-90 days, 91- 181 Days, 181-270 days, 271-365 days and more than 1 year respectively. Likewise the mean net position of MBL is Rs. 2,528 million, Rs. 1,237 million, Rs.1,260 million, Rs. 205 million, Rs –2,697 million in time interval of 1-90 days, 91- 181 Days, 181-270 days, 271-365 days and more than 1 year respectively. On review of above table, it could be ascertained that the management of both the banks have no any plan or policy to maintain its liquidity at a certain level because figures neither show any trend nor are consistent, they fluctuate randomly over the period. Rather than taking into account the mean position, it would be more relevant to give the judgement on the basis of recent data as past data is already gone i.e. already settled. Taking into account the recent data, MBL has to suffer more liquidity crisis in long term as it has negative liquid position of 5440 million in the period of more than 1 year. KBL too has to suffer the same but less than MBL. In short term, KBL has to suffer more liquidity crisis than MBL.

Standard deviation of KBL's net assets position is Rs 2092 million, Rs 617 million, Rs 508 million, Rs 1201 million, Rs 1559 million in time interval of 1-90 days, 91- 181 Days, 181-270 days, 271-365 days and more than 1 year respectively. The Standard deviation of MBL is Rs.1309 million, Rs. 1495 million, Rs. 1517 million, Rs. 442 million and Rs. 2292 million in time interval of 1-90 days, 91- 181 Days, 181-270 days, 271-365 days and more than 1 year respectively. This implies that the MBL net position has high level of deviation

from the average than KBL in all time buckets except in 1 –90 days and 181 – 270 days time bucket, which signifies the higher risk on MBL than KBL.

b. Current Ratio of KBL and MBL

Current Ratio is the ratio between current asset and current liabilities. Current asset refers to all the assets, which has a maturity period less than 1 year and the current liabilities means all the liabilities having maturity period less than 1 year. The current ratio indicates how much proportion of current assets has been financed by the current liabilities. If the current liabilities are lower than the current asset it means that the bank current asset has been financed by the long-term liabilities and capital. On the contrary, if the current ratio is very low it means the current liabilities are more than the current asset.

Table No. 4.22

Current Ratio of KBL and MBL

(Rs. in Million)

Fiscal Year	**KBL**			**MBL**		
	CA	**CL**	**CR**	**CA**	**CL**	**CR**
2004/05	5,496	3,821	1.44	5,502	3,955	1.39
2005/06	6,485	5,181	1.25	4,520	3,953	1.14
2006/07	8,940	6,202	1.44	8,137	5,107	1.59
2007/08	10,791	5,083	2.12	9229	3290	2.81
2008/09	14,128	9,898	1.43	12,752	5,701	2.24
		Average	**1.54**		**Average**	**1.83**

Source: Annual Reports

Table 4.22 exhibits the current ratio of KBL and MBL over 5 years. It is clear that the average current ratio of KBL and MBL is 1.54 and 1.83 respectively. This means both the banks have been able to meet their short term liabilities on disposal

of their short term assets. Still MBL is more comfortable in short term liquidity position as its current ratio is more than that of KBL. However, more current ratio also indicates holding of excess current assets that might be cash or balance with banks and financial institutions. Excess holding of cash might indicate that the bank is not able to finance or is holding idle cash that earns no income. So, excess current ratio is also not desirable.

c. Cash and Bank Balance to Total Asset Ratio

Cash and Bank Balance to total asset ratio measures the proportion of total cash and bank balance on the total asset of the bank. This helps to measure how much liquid fund does the bank have out of the total asset. The higher the ratio, the better the bank's liquidity position and vice versa. In other sense, the higher the cash and bank balance, the higher will be bank's idle cash, which reduces the banks profit. However, the bank should have to be enough liquid position to fulfill its liabilities. The cash and bank balance to total asset ratio of two banks is calculated below:

Table No. 4.23

Cash & Bank Balance to Total Asset Ratio

(Amount in million Rs.)

Fiscal Year	KBL			MBL		
	Cash & Bank Balance	Total Asset	Cash & Bank Balance to Total Asset (%)	Cash & Bank Balance	Total Asset	Cash & Bank Balance to Total Asset (%)
2004/05	443	7,428	5.97	731	6,445	11.34
2005/06	390	9,010	4.32	814	9,070	8.97
2006/07	672	11,918	5.64	1,284	10,810	11.88
2007/08	934	15,036	6.21	1,589	12,499	12.71
2008/09	1,776	18,539	9.58	2,767	17,491	15.82
		Mean	**6.34**		**Mean**	**12.14**
		S.D.	**1.74**		**S.D.**	**2.22**

Source: Annual Reports

Table 4.23 exhibits the cash and bank balance to total asset ratio of KBL and MBL for 5 years. The ratio of KBL is the highest of 9.58 % in fiscal year 2008/09 and the lowest of 4.32 % in the fiscal year 2005/06. On the other hand, the ratio of MBL is highest of 15.82 % and the lowest of 8.97 % in fiscal year 2008/09 and 2005/06 respectively. The ratio of the both the banks is fluctuating. In the fiscal year 2008/09, the ratio of KBL is 9.58% where as the MBL has ratio of 15.82%. The average ratio of KBL and MBL is 6.34% and 12.14 % respectively. This shows that the MBL has higher amount of liquid fund such as cash and bank balance than the KBL. This means the MBL is in more liquid position than KBL, which also indicates the lower level of liquidity risk. The standard deviation of ratio of KBL and MBL is 1.74 and 2.22 % respectively. This means that the fluctuation rate of cash and bank balance is lower in KBL than MBL. This indicates that the KBL has less variation in cash and bank balance out of total asset, which indicates the least risk.

d. Cash Reserve Ratio (CRR)

Cash Reserve Ratio refers to the portion of total deposit the commercial banks maintain in NRB. It is a statutory reserve that the bank should have to maintain in NRB. Higher CRR ratio means higher amount of bank fund is tied up in NRB, which means lower investment etc.

Table No. 4.24

Cash Reserve Ratio (CRR) of KBL and MBL

Fiscal Year	KBL (in %)	MBL (in %)
2004/05	3.44	8.27
2005/06	2.71	5.18
2006/07	3.65	8.29
2007/08	1.91	8.05
2008/09	7.13	12.33
Mean	**3.77**	**8.42**
S.D.	**1.79**	**2.28**
C.V.	**47.47**	**27.05**

Source: Annual Reports

Table 4.24 exhibits the Cash Reserve Ratio of KBL and MBL from fiscal year 2004/05 to 2008/09. The CRR indicates the total amount of deposit of commercial banks in NRB in comparison to its deposit liabilities. NRB prescribes CRR for the commercial banks each year. In fiscal year 2008/09, CRR is 5.5 %, which means that the bank has to maintain at least 5.5 % of total deposit in NRB.

From above, it is clear that KBL's CRR each year is less than that of MBL. The CRR of KBL is the highest in fiscal year 2008/09. KBL has very low amount of CRR each year. In the fiscal years except 2008/09, CRR of KBL is below the NRB requirements. On the contrary, the CRR of MBL is higher each year. Each year, MBL has maintained its CRR as per NRB requirement. The mean CRR of

KBL is 3.77 % with the standard deviation of 1.79 where as the mean CRR of MBL is 8.42% with the standard deviation of 2.28. From this, it is clear that though the average CRR of MBL is higher than that of KBL, but the deviation is higher in case of MBL than that of KBL.

From above, it can be concluded that the MBL is in more liquid position than KBL. The more liquid position does the bank maintain, the more likely that the bank can easily meet its liabilities. However, higher liquidity is also associated with opportunity loss due to the idle cash balance.

4.3.2 Interest Rate Risk (IRR)

Interest rate risk refers to the risk of a bank, which arises due to changes in interest rate in the market. It is one of the important indicators of market risk. The changes in interest rate on both lending and deposit are equally risky and profitable for a bank. Increase in interest rate on deposit leads to increase cost of deposit and less profit for a bank and the increase in interest on loan leads to increase in profitability of a bank.

The comparative study of interest rate risk is presented as below by using different ratios.

i. Interest Income to Total Income

This ratio indicates the proportion of interest income on total income of a bank. The higher the ratio does a bank maintain, the more the dependency of bank on interest income unveil, which indicates higher level of risk to the bank. On the contrary, lower ratio indicates that the bank has diversification on sources of income. Higher level of ratio also indicates the higher level of interest rate risk because the changes in interest rate on market will make significant impact on

bank total income and net profit. The interest income to total income of both banks are presented below:

Table No. 4.25

Interest Income to Total Income of KBL and MBL

(Rs. In Million)

Fiscal Year	KBL			MBL		
	Interest Income	**Total Income**	**Interest Income to Total Income (%)**	**Interest Income**	**Total Income**	**Interest Income to Total Income (%)**
2004/05	500	541	92.47	382	428	89.20
2005/06	606	668	90.62	563	646	87.26
2006/07	791	868	91.13	694	807	86.02
2007/08	957	1,081	88.56	797	908	87.73
2008/09	1,375	1,534	89.64	1,041	1,196	87.05
		Mean	**90.48**		**Mean**	**87.45**
		S.D.	**1.33**		**S.D.**	**1.04**

Source: Annual reports

Table 4.25 exhibits interest income to total income of two commercial banks. The interest income to total income of both the banks is in fluctuating trend. In fiscal year 2004/05, both the banks have interest income to total income ratio highest, which is the highest in five years. Average interest income to total income of KBL is more than MBL. It means there is less diversification of income generating investment in KBL comparing MBL. Still the proportion of fee & commission based income is very low in both the banks.

The standard deviation of ratio of KBL and MBL is 1.33 % and 1.04 % respectively. This shows that KBL has higher deviation on ratio than MBL.

ii. Interest Expenses to Total Expenses

This ratio indicates the proportion of interest expenses on total expenses of a bank. Higher ratio indicates that the bank has to pay high amount of interest expenses out of its total expenses, which means higher level of risk. On the

Table 4.26

Interest Expenses to Total Expenses of KBL and MBL

(Rs. In million)

Fiscal Year	KBL			MBL		
	Interest Expenses	**Total Expenses**	**Interest Expenses to Total Expenses (%)**	**Interest Expenses**	**Total Expenses**	**Interest Expenses to Total Expenses (%)**
2004/05	240	453	52.98	187	344	54.36
2005/06	337	565	59.65	289	510	56.67
2006/07	397	697	56.96	398	730	54.52
2007/08	499	903	55.26	408	822	49.64
2008/09	816	1272	64.15	580	1073	54.05
		Mean	57.80		**Mean**	53.85
		S.D.	3.85		**S.D.**	2.30

Source – Annual Reports

contrary, lower ratio indicates that the bank has the diversification on its expenses. Higher level of ratio also indicates the higher level of interest rate risk because the changes in interest rate on market will make significant impact on bank's interest expenses, which will ultimately affect on total income and net profit. The interest expenses to total expenses of both banks are presented below,

Table 4.26 exhibits interest expenses to total expenses of two commercial banks. The interest expense to total expenses of both the banks are in fluctuating trend. The ratio is highest in the FY 2008/09 in case of KBL and in the FY 2005/06 in case of MBL. MBL has maintained almost similar ratio throughout the five year period while KBL has more fluctuating ratio. The mean ratio of KBL and MBL for 5 years is 57.8 % and 53.85 % respectively. This ratio indicates that the interest expense has higher proportion in KBL than in MBL This implies that the changes

in interest rate on deposit and borrowing will have higher impact on KBL than MBL. This produces the higher amount of interest rate risk to KBL than MBL.
The standard deviation of ratio of KBL and MBL is 3.85 % and 2.3 % respectively. This shows that KBL has higher deviation on average ratio than MBL.

iii. Gap Analysis (Interest Rate)

Gap Analysis, here, refers to the process of analyzing mismatch between rate sensitive and fixed rate asset and the liabilities. In other words, it is the process of identifying the net position between asset and liabilities of a bank. The higher the gap between assets and liabilities of a bank, the higher the risk does a bank have and vice versa. The gap analysis has been categorized as below:

a. Gap Analysis of Interest Rate Sensitive Asset and Rate Sensitive Liabilities (IRSA and IRSL)

Interest Rate sensitive asset and liabilities refers to such an asset/ liabilities, interest rates of which keep on changing in the market. Such types of assets includes the inter bank loan/ placement financial derivatives etc, the interest rate on which changes over night. Rate sensitive liabilities includes inter bank borrowing etc. Gap refers to difference between IRSA and IRSL and gap analysis refers to the analysis of the gap between IRSA and IRSL. The bank has to bear higher losses if the gap is high (either positive or negative). The bank will not bear interest rate risk if the gap between IRSA and IRSL is zero. The gap analysis of IRSA and IRSL of KBL and MBL is presented below:

Table No. 4.27

Analysis of Gap of IRSA and IRSL of KBL and MBL

(Rs. In million)

Fiscal Year	KBL				MBL			
	IRSA	**IRSL**	**Gap**	**Gap Ratio**	**IRSA**	**IRSL**	**Gap**	**Gap Ratio**
2004/05	160	402	-242	0.40	347	154	193	2.25
2005/06	425	224	201	1.90	468	132	336	3.54
2006/07	752	213	539	3.53	1,012	229	783	4.41
2007/08	707	100	607	7.07	557	89	468	6.25
2008/09	442	293	149	1.51	449	0	449	0
	Mean		**250.8**		**Mean**		**445.8**	

Source: Annual Reports

Table 4.27 exhibits the IRSA and IRSL of two commercial banks for 5 years. The table shows that both banks have high level of gap in every year. But it is found that MBL has positive gap in all years, where as KBL has negative gap in fiscal year 2004/05. In fiscal year 2008/09, MBL has zero Rate Sensitive Liabilities. The average gap of KBL and MBL is 250.8 million and 445.8 million respectively. This average gap shows that KBL has nicely matched the IRSA and IRSL than MBL. This also indicates the less interest rate risk. However, this low average gap is due to negative gap of KBL in fiscal year 2004/05. So, the mean gap will be misleading here to come to a conclusion. Therefore, it can be said that the both banks have high level of interest rate risk, as the mismatch between assets and liabilities seems to be very high in recent year. However, if we see the latest gap position, the interest rate change will have different impact on these banks. KBL will suffer losses if the interest rate increases and vice versa, whereas MBL will suffer losses if the interest rate decreases and vice versa.

b. Gap Analysis of Fixed Interest Rate Asset/ Liabilities

The gap here refers to the difference between fixed interest rate asset and fixed interest rate liabilities. The fixed interest rate asset refers to such asset of a bank, interest rate of which remains fixed for a certain period of time. The rate of interest on this type of asset normally remains constant for a long period. For example, the interest on term loan of a bank is constant for long period of time. Likewise fixed interest rate liabilities (FIRL) refers to such liabilities of a bank, interest on which remains constant for certain period of time, though the market interest rises. For example, the fixed deposit of a bank, on which the interest remains constant till the maturity period. The gap ratio refers to the ratio between FIRA and FIRL. Higher gap ratio indicates that the bank has more FIRA than FIRL, which means that in future if the interest rate is to be increased, the bank will earn profit and vice versa. Conversely, the negative gap or gap ratio of less than 1 indicates the bank has lower amount of fixed rate asset than fixed rate liabilities. In such a situation, the bank has to bear higher amount of losses if the interest rate is decreased & vice versa. The bank will not suffer any losses if the ratio is 1 and gap is zero.

c. Net Interest Margin

Net interest margin refers to the difference between interest received from bank's earning asset and the interest paid to bank's liabilities. The net interest margin (NIM) measures how much profit or loss bank will suffer if the interest rate on both interest sensitive asset and liabilities increases. The table below shows the NIM of both KBL and MBL, assuming that the market interest rate will change by 1 percent. The four years data has been used for the analysis due to non-availability of the data of fiscal year 2000/01.

Table No. 4.28

Net interest margin of KBL and MBL

(Rs in million)

Fiscal Year	KBL			MBL		
	RSA	**RSL**	**NIM**	**RSA**	**RSL**	**NIM**
2004/05	79	402	(3.23)	347	154	1.93
2005/06	525	251	2.74	996	132	8.64
2006/07	752	213	5.39	1012	229	7.83
2007/08	706	100	6.06	627	89	5.38
2008/09	442	293	1.49	699	0	6.99
	Mean		**2.49**	**Mean**		**6.15**

Where,

$$\triangle \text{ NIM} = (\Sigma \text{RSAs x } \triangle r_A) - (\Sigma \text{RSLs x } \triangle r_L)$$

RSA = Rate Sensitive Assets

$\triangle r_A$ = Changes on interest rate received on Rate Sensitive Asset

RSL = Rate Sensitive Liabilities

$\triangle r_L$ = Changes on interest rate paid on Rate Sensitive Liabilities

Table 4.28 exhibits the net interest margin of KBL and MBL for 5 years. When the interest rate changes is assumed to be 1 % in both RSA and RSL, the MBL shows the positive earning in each year, where as KBL shows the losses of 2.6 million in fiscal year 2004/05. It is because the bank has higher RSL than RSA in that year. The average net interest margin of KBL and MBL is Rs. 2.49 and Rs. 6.15 million respectively. This shows that MBL has higher net interest margin than that of KBL.

iv. Interest Risk Analysis According to NRB Directive no 5

According to NRB directive no. 5, the interest rate risk is measured by calculating the net asset/ liabilities of the bank within the different time interval. While calculating the net position, cash and bank balance and non-interest bearing liabilities is excluded. The cumulative gap is calculated of each interval and the certain percent changes in interest rate (normally 1) has to multiply the cumulative gap to identify the net profit/ loss position of bank due to interest rate changes. The interest rate risk of both banks for fiscal year 2004/05 has been calculated as below.

Table No. 4.29

Interest Rate Risk Analysis of KBL for fiscal year 2008/09

(Rs. in million)

Asset	1-90 days	91-180 Days	181-270 Days	271-365 Days	Above 1 year	Total
Investment in foreign banks						-
HMG Debt Papers					197	**197**
NRB Debt Paper				882		**882**
Inter bank Loan	230	212				**442**
Loan	10,652	208	139	29	3,767	**14,795**
Total Assets	**10,882**	**420**	**139**	**911**	**3,964**	**16,316**
Liabilities						
Borrowing	293					**293**
Saving Account	6,136				4,170	**10,306**
Time Deposit			0	2,692	1,835	**4,527**
Debt Papers						-
Total Liabilities	**6,429**	**-**	**0**	**2,692**	**6,005**	**15,126**
Net Asset/ Liabilities	**4,453**	**420**	**139**	**(1,781)**	**(2,041)**	**1,190**
Cumulative Gap	**4,453**	**4,873**	**5,012**	**3,231**	**1,190**	
Net Profit/ Loss (cumulative gap * IRC)	**10.98**	**12.02**	**12.36**	**7.97**	**2.93**	

Source: Annual Report

Table 4.29 shows the net profit/ loss position of asset and liabilities of each time interval of bank from changes in interest rate. The above table shows that KBL has negative gap in 271-365 days and above 1 year time interval. This shows that the bank has higher liabilities than asset in long term period. The cumulative gap for total period is Rs. 1190 million. Cumulative profit of the bank is reduced in 271-365 days interval and more than 1 year interval due to excess liabilities comparing its assets in that period. The overall profit of the bank is Rs 2.93 million if the interest rate changes by 1 % in year that is divided into five periods. (i.e.0.25% in each period).

Table No. 4.30

Interest Rate Risk Analysis of MBL for fiscal year 2008/09

(Rs. in million)

Asset	**1-90 days**	**91-180 Days**	**181-270 Days**	**271-365 Days**	**Above 1 year**	**Total**
Investment in foreign banks	39	78	195	20	117	**449**
HMG Debt Papers	327		132	19	-	**478**
NRB Debt Paper				-		**-**
Other investment	250				69	**319**
Inter bank Loan	-	-				**-**
Loan	3,218	1,859	1,963	1,888	4,056	**12,984**
Total Assets	**3,834**	**1,937**	**2,290**	**1,927**	**4,242**	**14,230**
Liabilities						
Borrowing	-					**-**
Saving Account	631				6,214	**6,845**
Time Deposit	514	562	1,198	902	506	**3,682**
Debt Papers						**-**
Total Liabilities	**1,145**	**562**	**1,198**	**902**	**6,720**	**10,527**
Net Asset/ Liabilities	**2,689**	**1,375**	**1,092**	**1,025**	**(2,478)**	**3,703**
Cumulative Gap	**2,689**	**4,064**	**5,156**	**6,181**	**3,703**	**-**
Net Profit/ Loss (cumulative gap * IRC)	**6.63**	**10.02**	**12.71**	**15.24**	**9.13**	**-**

Source: Annual Report

Where,

IRC = Interest rate change (i.e. 1 % P.A and 0.25 % for each interval)

Table 4.30 shows the net profit/ loss position for each interval asset and liabilities of bank from changes in interest rate. The above table shows that MBL has negative gap only in the period of more than one year. This shows that the bank has higher liabilities than asset in long-term interval. The cumulative gap for total period is Rs. 3,703 million. The bank would earn overall profit of Rs 9.13 million if the interest rate changes by 1 % in year, which consists of five periods. (i.e. 0.25% in each period)

v. Interest Rate Spread

The interest rate spread refers to the difference between weighted average interest on loan and advances and the weighted average interest on deposit. This interest rate spread also measures the profitability position of a bank. The higher spread does a bank have, the higher will be the profitability position of the bank because the bank has to pay less interest on deposits and will receive higher interest on loan and advances. The interest rate spread of two banks are presented as below:

Table No. 4.31

Interest Rate Spread of KBL and MBL for 5 years

(Rs. In million)

Fiscal year	KBL			MBL		
	Average Interest on Loan (%)	**Average interest on Deposit (%)**	**Interest Spread (%)**	**Average Interest on Loan (%)**	**Average Interest on Deposit (%)**	**Interest Spread (%)**
2004/05	8.33	4.48	3.85	6.90	3.26	3.64
2005/06	8.77	4.41	4.36	6.99	3.60	3.39
2006/07	8.54	3.88	4.67	7.47	4.10	3.37
2007/08	8.31	4.01	4.30	7.60	3.64	3.96
2008/09	9.98	5.81	4.17	7.32	3.72	3.6
		Mean Spread	**4.38**			**3.59**

Source: Annual Reports

Table 4.31 exhibits the interest rate spread of two commercial banks. The interest rate on loans and advances and deposit of both KBL and MBL is fluctuating over the period. The interest rate on loan of KBL is the highest (i.e. 9.98 %) in fiscal year 2008/09. The weighted average interest on loan of MBL is the highest (i.e.7.60 %) in fiscal year 2007/08. The weighted interest rate on loan and advances of KBL is much more than that of MBL in entire 5 years period. The weighted average interest rate on deposit of KBL is also higher than that of MBL. The mean spread of both KBL and MBL is 4.38 % and 3.59 % respectively, which means that KBL has higher interest rate spread than MBL. This higher interest rate spread indicates that KBL has higher net interest income than MBL, which means higher profit.

4.4 Operation Risk

Operation risk refers to the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events. The greater dependence on technology and centralized operations mean that banks are becoming increasingly exposed to operation risk. Though operation risk cannot be quantified, it has a significant impact on the banking operations. The operation risk of the banks is analyzed as below:

i. Transaction Risk

Transaction risk refers to such types of risk, which arises from the mistake of the bank staff, while making transaction. This is one of the biggest problems in banking operation. This risk is mainly associated with human error, while making transactions.

When asked to banks operation managers & other key staffs, the major types of transaction risk includes:

a) Cash Shortage & Overage

The cash short & over is the main transaction risk in banking sector. Cash shortage and over is associated with the employees of cash department. Cash short of a staff refers to a situation in which any amount below the actual amount required to balance the cash flow of a staff in a particular date. It also includes the loss of cash in premises of bank, customers and other banks during the course of banking transaction and any amount found short due to wrong transaction of account. Cash over of a staff, on the other hand, refers to a situation in which any amount above the actual amount required to balance the cash flow of a staff in a particular date. It also

includes the excess of cash in premises of bank, customers and other banks during the course of banking transaction and any amount found excess due to wrong transaction of account. This cash short or over occurs mainly due to human error of the banks staff. Both cash short and over position is not good for a bank. Cash Short is associated with the loss of banks where as over means the reputation risk (i.e. the customer, who pays more might come later on to claim).

T. Chapagain (Personal Interview, 2010 Feb 20) of KBL states the cash short and over is a regular phenomenon in banking sector, which can be minimized but can not be completely eliminated because to "err is human". The average cash short in a year is around Rs.50 thousands to 100 thousands. P. Dangol (Personal Interview, 2010 Feb 18) of MBL the average cash short is around Rs.100 thousands in a year. In both banks, to cover the cash shortage from the bank teller, there is a provision of teller risk fund. In KBL, the per month teller risk fund is Rs 500 each employee of Assistant/ Senior Assistant level and Rs 750 each employee of officer/ senior officer. Where as in MBL the teller risk fund is Rs. 1,000 per month for the concerned staff. The short amount is covered from this teller risk fund. If the short amount is higher than the teller risk fund, the concerned staff must have to pay to the bank.

b) Document Risk

Document risk refers to the risk, which arises from the acceptance of false/mistake document by the bank. In document-based business such as Letter of Credit (L.C.), Credit, if the bank opens a L.C. or provides loan against the false document, the bank have to suffer a loss. 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 document. To minimize the risk, both the banks have provided hierarchy wise authority to take both LC and Credit Decision.

c) Settlement Risk

Settlement risk refers to potential of loss bank might suffer due to unsettlement of transaction within branches of a bank or between inter bank transaction. The unsettlement of transaction is the main problem of non-computerized bank. However unsettlement of a transaction also remains a problem in computerized banks as well. This problem mainly occurs in case of inter bank transaction.

A. Chaudhary (Personal Interview, 2010 Feb 20) stressed the major settlement problem of the bank associated with the draft payment, payment of foreign trade & visa card etc. The major problem of settlement risk is unsettling of transaction by the Nostro Banks. Nostro Bank refers to the bank in which a commercial bank keeps its money as deposit. So, when Nepalese banks have to do transaction in foreign countries in foreign trade, they will perform through such Nostro Banks. While making transaction with this banks, the debited entry made by local banks need to be credited by Nostro Banks and vice versa. But the main problem is, lots of these entries remains un-reconciled for a long time. The bank can neither record the entries as income nor expenses, which result in the risk.

Likewise, the bank also has to make inter branch transactions. Inter branch transaction refers to the transaction made between branches. While making

inter branch transactions, the transaction should be settled down timely. The outstanding entries from either branch for a long time are risky for a bank.

According to Head of Reconciliation Department of MBL there is least problem in inter branch transaction because of the computerized system (i.e. Any Branch Banking Services). The bank has given high priority on the settlement of risk.

Both the banks have a reconciliation department, concerned with the reconciliation of inter branch and Nostro transaction. It is found that both the banks are doing inter branch reconciliation on a weekly basis, where as Nostro Reconciliation is being carried out on a fortnightly and monthly basis. From the interview of the head of reconciliation department of both the banks, it has been found that in common these banks have least outstanding entries for more than 3 months. Generally, the inter branch transactions will be settled within maximum 2-3 days, where as the foreign banks transaction may remains outstanding for 2-3 months. But, both the banks are making timely follow up with agency banks for its timely settlement of the transactions.

ii. **Money Laundering**

Money Laundering is defined as disguising the source or ownership of illegally gained funds to make them appear legitimate or hiding money to avoid paying taxes or using legally gained money in pursuit of unlawful activities *(Economic Times, 2006)*[2]. In another word, money laundering is the involvement in any one transaction, or series of transactions, that assists a criminal in keeping, concealing or disposing of the proceeds from illegal activities. Money Laundering takes place in three phases,

- When bulk cash is deposited into the banking system using currency or funds from illegal activities.
- Layering where multiple transaction are used to separate the proceeds from their illegal source.
- Integration of the illegal funds with apparently legitimate business earning.

Money Laundering is a global issue after the September 11, 2001. In both banks, combating against the money laundering has been given a high priority. According to the managers operation, both the banks have a comprehensive anti-money laundering policy, known as "Know Your Customer (KYC) policy". The policy is in line with international practices. Banks look following minimum standards while conducting banking business:

- Customer identity is ascertained before opening an account and/or making an account operational.
- New accounts are generally subjected to a detailed interview to ascertain purpose of opening an account and sources of funds etc.
- All suspicious transactions are reviewed by senior management.
- Records are kept for all data obtained for the purpose of identification.
- Employees are trained on a regular basis on anti-money laundering measures

In both the banks, compliance department is responsible for monitoring the compliance of Know your customer (KYC) policy. N. K. Khatiwada (Personal Interview, 2010 Feb 27) of KBL states that the compliance department is responsible for tracing out all the doubtful transaction on daily basis. The bank continuously identifies and verifies the following transactions:

i. Cash transaction above Rs. 500,000.
ii. Remittance of Foreign Currency more than USD 10, 000.

iii. Credit Facilities approved beyond Rs 10 million
iv. Any unusual transaction.

G. Sharma (Personal Interview, 2010 Feb 22) of MBL states that bank looks into following transactions:

i. Customer background, which does not justify the deposited amount
ii. Customer who have frequent large transaction without any source
iii. Multiple bank accounts of a same customer in same bank.
iv. Business unit reluctant to provide information about nature and purpose of business, its key employees etc.

It has also been found from the interview of key employees of both banks that NRB frequently sends letters to commercial banks in order to block the account of terrorist, corrupted people etc.

From above, it has been found that both banks have enough measures to combat money laundering. However, to attract the deposit, banks have been opening accounts with minimum formalities.

iii. System Risk

System risk is associated with the possible losses bank might suffer due to system failure. In today's scenario, banking sector is computerized. Therefore, when the system fails, it will have huge problem to the bank.
The main software of both banks is Globus. All the branches have been interconnected with radioactive links so that the customer can get Any Branch Banking Services (ABBS). This computerized system will be in problematic situation when system fails. A. Joshi (Personal Interview, 2010 Feb 22) Information Technology (IT) Manager of MBL mentioned that system failure is not usual. The bank itself configures most of the problems related to system,

however for the complex problem the bank has been using the help of Indian companies. S. Karna (Personal Interview, 2010 Feb 27) of KBL states that every day the bank records the transaction in a disk after operating End of Day (EOD) transaction. For the proper back up and diversification of system risk, the data are replicated in more than one server located in various places. Proper back up of data and information is maintained by the bank, which helps to restore the data easily in case of major breakthrough.

For the proper security of data, both the bank has adopted the latest device. Internet banking services, which is new banking product in Nepalese commercial banks, have also been lunched by both banks. For the security of customer transaction from Internet banking, both banks have adopted the latest technology. Similarly, frequent inspection of the equipment and preventive maintenance is carried out by both banks, which lower the major break through of the technology. Further, both banks are providing training to their staffs for handling new technology frequently.

Under the system risk, the risk associated with card business is also one of the great problems in bank. Card refers to all debit and credit card issued by the bank in order to facilitate the transaction of its customers. In today's scenario, debit and credit card are being highly used, which almost substitute the money. In Nepalese context, card business has just been emerging. With the use of debit and credit card by commercial banks to facilitate the customer for making transaction, the operation risk has also increased significantly.

KBL is providing the service of Visa Debit card, with an access in all the Automated Teller Machine (ATM) and Point of Sale (POS), both in Nepal and India. KBL has owned 19 ATM machines, which are placed in major cities of the country. Similarly, MBL was providing ATM card in collaboration of Smart Choice Technology (SCT) Network, which ccould be used only in the ATM counter of SCT and POS. SCT Network owns and handles all the administrative

function of ATM. MBL is using its service on fee basis. MBL has recently launched VISA card.

The major risk in card business is associated with fraud, over payment of cash, unsettlement of credit card transaction and system failure etc. As the government is yet to come with rules and regulation regarding card business, the operation of card business looks troublesome in Nepal.

R. Shrestha (Personal Interview, 2010 Feb 22) head of Card department KBL states that there is least risk in debit card, as customers only are allowed to withdraw cash from their deposited amount. However, in credit card and foreign bank's card transaction, settlement risk is associated as the settlement of transaction involves various agents (for e.g. visa, correspondence banks etc)

G. Sharma (Personal Interview, 2010 Feb 27) of MBL explained that a technical problem with ATM is also one of the significant problems. Due to the technical problem, the ATM services remain out of service. Besides, over payment of cash than customer's request is also the problem associated with ATM services. Reviewing the responses of the key respondents, it has been found that on an average, ATM of both banks remains out of service for maximum of 5 times in a month.

Similarly, fraud is also one of the problems in card business. However, in both banks there is no incidence that bank suffered loss due to the use of fraud card and pin number.

From reviewing the organization workflow, it has been found that KBL has made card department more stringent than MBL. A separate ATM Cell is in operation for tracking the technical problem. This department is mainly responsible for reducing technical problem of bank and tracing the fraud transaction if any. Where as in MBL, only administrative function is carried out by the bank and all the technical functions is carried out by SCT Network.

4.5 Banking Risk and Capital Adequacy Measures

Capital Adequacy Ratio (CAR) is one of the major tools of minimizing the overall risk of a bank. In other words, it is the cushion to cover the loss suffered by the bank. The higher the CAR of a bank, the 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 measures 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 the bank fails to maintain the required ratio, bank is not allowed to increase its asset, disburse loans, collect deposits, distribute dividend, expand branches etc. NRB has introduced new Basel II capital adequacy framework that was made compulsory from the FY 2065/66 i.e. FY 2008/09.

i. 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. As per previous capital adequacy framework, 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). However, as per new Basel II framework, risk weight shall be 0% to 150%. Core Capital, on the other hand, refers to the shareholders equity, which includes Share Capital, Retained Earning, General Reserve, Net profit & loss account, Non redeemable Preference Share, capital redemption reserve, dividend equalization reserve etc. 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 No. 4.32

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
2004/05	5.5	642	6,292	10.20	4.70	638	6063	10.52	5.02
2005/06	5.5	859	7,625	11.27	5.77	912	7632	11.95	6.45
2006/07	5.5	1,020	9,960	10.24	4.74	983	9,201	10.68	5.18
2007/08	5.5	1,359	13,070	10.40	4.90	1143	10,417	10.97	5.47
2008/09	6	1,613	17,743	9.09	3.09	1677	15,298	10.96	4.96
		Average		10.24	4.64	**Average**		11.02	5.42
		S.D		0.69	0.87	**S.D**		0.50	0.55

Source: Annual Reports

Table 4.32 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. The average core capital to RWA ratio of KBL and MBL is 10.24 % and 11.02 % 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. Similarly, the average excess ratio than the statutory requirement of both KBL and MBL is 4.64 % and 5.42 % respectively. This ratio indicates that MBL can 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 also indicates MBL is in less risky position

than KBL. Basel II framework on capital adequacy has been introduced from the FY 2008/09. This framework is more stringent and strict comparing previous capital adequacy framework. Introduction of Basel II framework has adverse impact on KBL's capital adequacy position while impact is not seen on the capital adequacy of MBL.

The Standard deviation of both core capital to RWA and Excess/ Shortfall ratio of KBL is 0.69 % and 0.87 % respectively, where as these ratios of MBL is 0.5 % and 0.55 % respectively. These figures indicate that ratios of KBL are more fluctuating from the average than MBL, which shows inconsistency.

ii. Supplementary Capital to Total Risk Weighted Asset

This ratio measures how much supplementary Capital does a bank have 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. It includes General Loan Loss Provision, Asset Revaluation Reserve, and Foreign Exchange Reserve 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 No. 4.33

Supplementary Capital to Total Risk Weighted Asset

(Rs. In million)

Fiscal Year	KBL			MBL		
	Supplementary Capital	RWA	Supplementary Capital/RWA	Supplementary Capital	RWA	Supplementary Capital/RWA
2004/05	64	6,292	1.02	51	6063	0.84
2005/06	82	7,625	1.08	65	7632	0.85
2006/07	95	9,960	0.95	119	9,201	1.29
2007/08	524	13,070	4.01	137	10,417	1.32
2008/09	438	17,743	2.47	135	15,298	0.88
	Mean		1.90	**Mean**		1.04
	S.D		1.19	**S.D**		0.22

Source: Annual Reports

Table 4.33 exhibits Supplementary Capital to Total Risk Weighted Asset ratio of KBL and MBL for 5 years. Both banks have very low percentage of supplementary capital to finance the total RWA. The average ratio of KBL and MBL for 5 years is 1.9 % and 1.04 % respectively. This indicates that KBL has higher amount of supplementary capital than MBL. The higher amount of supplementary 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 1.19 % and 0.22 % respectively. The S.D. indicates that the ratio of KBL fluctuates more than that of MBL, which depicts the less consistency in part of KBL.

iii. 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 No. 4.34

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
2004/05	11	706	6,292	11.22	0.22	689	6063	11.36	0.36
2005/06	11	941	7,625	12.34	1.34	977	7632	12.80	1.80
2006/07	11	1,115	9,960	11.19	0.19	1102	9,201	11.98	0.98
2007/08	11	1,883	13,070	14.41	3.41	1280	10,417	12.29	1.29
2008/09	10	2,051	17,743	11.56	1.56	1812	15,298	11.84	1.84
		Mean		12.14	1.34	**Mean**		12.05	1.25
		S.D		1.20	1.17	**S.D**		0.48	0.55
		C.V.		9.92	87.28	**C.V**		3.96	43.91

Source: Annual Reports

Table 4.34 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 12.14 % and 12.05 % respectively. This shows that KBL has higher Capital Adequacy Ratio than MBL, which signals that KBL is in better position than MBL. However, this excess average is mainly contributed by high ratio in the FY 2007/08 (i.e. 14.41%). The ratios of both the banks are in fluctuating trend. Similarly, the average excess of ratio than statutory requirement of KBL and MBL is 1.34 % and 1.25 % respectively. This figure indicates that KBL has higher excess ratio than MBL. As already stated, the excess of CAR is due to the highest CAR in fiscal year 2007/08.

iv. On Balance Sheet RWA to Total RWA

This ratio measures the proportion of on balance sheet RWA on total RWA of a bank. On balance sheet RWA refers to the risk weighted of all the balance sheet items such as loans and advances, fixed asset, investment etc. Since the risk weight of cash and bank balance, investment in governments is nil, such assets do not have impact on total RWA. The higher ratio refers that the bank has high amount of loans & advances, fixed asset, investment and other assets and vice versa.

Table No. 4.35

On Balance sheet asset RWA to total RWA

(Rs. in million)

Fiscal Year	KBL			MBL		
	On Balance	Total Risk	On Balance	On Balance	Total Risk	On Balance
2004/05	5,817	6,292	92.45	5,452	6,063	89.92
2005/06	7,217	7,625	94.65	6,519	7,632	85.42
2006/07	9,372	9,960	94.10	7,777	9,201	84.52
2007/08	12,309	13,070	94.18	9,118	10,417	87.53
2008/09	15,682	17,743	88.38	13,785	15,298	90.11
	Mean		**92.75**	**Mean**		**87.50**
	S.D.		**2.31**	**S.D.**		**2.28**

Source: Annual Reports

Table 4.35 exhibits the ratios of on balance sheet RWA to total RWA of KBL and MBL for 5 years. Both banks have higher amount of on balance sheet asset in total RWA. However, the ratio of both banks has been fluctuating over the years. The average ratio of KBL and MBL is 92.75% and 87.5 % respectively. This indicates that KBL has more amount of on balance sheet RWA than MBL, which means that MBL has diversified its assets more than KBL. In other word, in case of loss

on on-balance sheet asset such as loans and advances and investment, KBL suffers more loss than MBL.

The standard deviation of ratio of KBL and MBL is 2.31 % and 2.28 % respectively. This indicates that the ratio of KBL deviate more from the average than that of MBL, which shows higher inconsistency and risk.

v. Off Balance Sheet RWA to Total RWA

This ratio measures the proportion of off-balance sheet RWA on total RWA of a bank. Off-balance sheet RWA refers to the risk weighted of all the contingent asset/liabilities such as Letter of Credit (L.C.), Guarantee, and Bills Collection etc. Contingent liabilities, on the other, hand refers to such types of undertaking of a bank, the liability of the bank on it will be created only happening of certain contingency. The higher ratio refers the bank has high amount of contingent liabilities such as L.C. Guarantee etc.

Table No. 4.36

Off Balance Sheet RWA to Total RWA

(Rs in million)

Fiscal Year	KBL			MBL		
	Off Balance Sheet Asset	Total Risk Weighted Asset	Off Balance Sheet Asset/ Total RWA	Off Balance Sheet Asset	Total Risk Weighted Asset	Off Balance Sheet Asset/ Total RWA
2000/01	475	6,292	7.55	611	6,063	10.08
2001/02	408	7,625	5.35	1,113	7,632	14.58
2002/03	588	9,960	5.90	1,424	9,201	15.48
2003/04	761	13,070	5.82	1,299	10,417	12.47
2004/05	2,061	17,743	11.62	1,513	15,298	9.89
		Mean	**7.25**		**Mean**	**12.50**
		S.D.	**2.31**		**S.D.**	**2.28**

Source: Annual Reports

Table 4.36 exhibits the ratios of off balance sheet RWA to total RWA of KBL and MBL for 5 years. Both banks have lower amount of off-balance sheet asset in total RWA. However, the ratio of both banks has been fluctuating over the years. The average ratio of KBL and MBL is 7.25% and 12.50 % respectively. This indicates that MBL has more amount of off-balance sheet RWA than KBL, which means that MBL has higher amount of Letter of Credit, Guarantee etc. This refers that MBL has diversified more on income generating business than KBL.

The standard deviation of ratio of KBL and MBL is 2.31 % and 2.28 % respectively. This indicates that the ratio of KBL deviate more from the average than MBL, which is the sign of inconsistency and risk.

4.6 Major Findings of the Study

From the above analyses of different risks, following major findings have been

obtained and categorized under different risks heading.

Credit Risk

From the review of the questionnaire carried out with the key employees of the banks, it was found that proportion of the credit risk on banks is more than 60 % of total risk. The major problems in credit risk is related to the broad areas of concentrations, credit processing, 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 or borrower's limit, which is up to 10 % of total loan. However, the sector wise lending analysis portrays that KBL and MBL have extended 18 % and 25 % of loan in a single sector respectively. Similarly, the exposure on the single sector of KBL and MBL exceeds 10 % of total loan in 5 and 4 sectors respectively. The single sector loan to core capital shows that the ratio crossed 100% in 3 both the banks. In regard to concentration risk, KBL has more risk in finance/insurance/real estate, manufacturing and others sector where as MBL has more risk on manufacturing, wholesaler/retailer and other sectors as the single sector credit to core capital ratio in these sectors is more than 100 %. From the personal interview of the key respondents it was found that both banks have been extending credit after getting approval from the board of director. This clarifies that concentration risk is the main source of credit risk for KBL and MBL. 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, 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 where as the Agriculture sector has been ranked the last on the basis of priority. KBL has chosen service industry and consumer loan in 2nd and 3rd position respectively, where as the MBL has just opposite preference in these sectors.

Likewise, 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.

From 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. 13,445 million and 12,175 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 guarantee of local banks and finance companies is in third position. Both the banks have not granted any loan without backing any collateral.

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

The average loans and advances to total asset of KBL and MBL during the study period are 77.33 % and 72.21 % respectively. The proportion of loan on total asset of KBL and MBL is more fluctuating during five years period. Lower average loan and advances to total asset of MBL than that of KBL suggests that MBL management is more risk averse than KBL and also indicates that MBL has invested more on the risk free asset such as government bills (i.e. Treasury Bills, National Saving Bonds, Development Bonds etc). However, higher deviation of

ratio and variability of MBL depicts that the ratio of MBL is more fluctuating from average than KBL and carries higher risk.

The core banking function is to mobilize the funds obtained from the depositors and how successfully this function have been discharged by the banks is measured by the ratio of loans and advances to total deposit ratio or simply CD ratio. The average CD ratio of KBL and MBL is 90.21 % and 82.19 % respectively during the study period. This implies that KBL has utilized higher portion of deposit than that of MBL. Similarly, the deviation of the ratio of KBL is lower than MBL, which indicates that CD ratio has lower variation from the average in case of KBL than that of MBL.

Analysis of non- performing loans to total loans revealed that average NPL of KBL and MBL is 0.87 % and 1.04 % respectively. This means that average performing loan of KBL and MBL is 99.13 % and 98.96 % 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.

Average ratio of Loan Loss Provision to Non-performing Loan of KBL and MBL was found to be 200.04 % and 306.67 % respectively. Hence MBL has higher ratio than KBL, 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, the comparative low ratio of KBL also suggests that out of non-performing loan, the proportion of bad loans is lower than that of MBL. The higher amount of bad loan does a bank have, the higher will be the provision.

The average Loan loss Provision to total loan ratio of KBL and MBL is 1.56 % and 2.48 % 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 position than MBL.

The main objective of commercial banks is to earn profit through mobilization of fund. The average ratio of net profit to loans and advances of KBL for the period is found to be 1.62 % while same with regard to MBL is 1.36. This figure indicates that KBL has been able to earn return from its loans and advances than MBL. Similarly the variation on return of MBL is also higher than that of KBL, which means that return on loan and advances of MBL is more fluctuating than KBL.

Correlation coefficient between LLP and loans and advances of KBL and MBL is 0.99 and 0.95 respectively. This figure indicates that the LLP and loan and advances of KBL are highly correlated than MBL. Similarly, 6 times Probable Error (P.E) of both KBL and MBL is lower than the correlation coefficient, which indicates that correlation coefficient of both the banks is significant and reliable.

The correlation between LLP and NBL revealed that there is positive correlation between LLP and NPL of KBL, where as the correlation coefficient of MBL shows the negative correlation. The correlation coefficient of KBL and MBL is 0.93 and –0.03 respectively. The 6 times P.E shows that the correlation coefficient of KBL is significant and reliable, whereas the correlation coefficient of MBL is insignificant and unreliable. This negative correlation coefficient of MBL is because of higher amount of loan against personal guarantee.. Since the performing loan against personal guarantee make extra 21 % provisioning, this will definitely increase the provisioning amount.

Analyzing the organization 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 Recovery Department, Risk Assessment department 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. In MBL there is no separate department for assessing the risk as well as recovery of loan. However, quality of the credit management of MBL is increasing in recent years as the ratio of NPL to total has been decreased to 0.39 % in fiscal year 2004/05 from the previous year's ratio of 0.98 %.

Liquidity Risk

Liquidity risk is associated with the funding crisis of a bank, which arises due to non-marketability of the asset. The liquidity risk is one of the market risks as the market determines the liquidity of the asset. From the above analysis, the current liquidity position of KBL and MBL has been ascertained. Besides, funding of asset through liabilities has also been analyzed by categorizing the asset and liabilities into different maturity period, from which liquidity crises and risk associated with asset liabilities mismatch is also found.

Gap Analysis, which is the most common and best tool for analyzing the liquidity risk, has been used to find out the mismatch between asset and liabilities into different time intervals of both the banks. From the gap analysis of asset and liabilities of different time intervals, it has been found that over five years KBL has higher amount of liabilities than asset in long term time bucket (i.e. more than 1 year). Same with the case of MBL too. This higher portion of liabilities than asset in certain time bucket means the bank will be in risky position to offset the liabilities when they will mature. As the liabilities cannot be paid by liquidating the asset of that time bucket, it is needed to offset by using the asset of other time interval or through inter-bank borrowing or issuing instruments. Similarly, when the market price of asset/ liabilities of certain time interval increases, the bank will suffer a loss in such situation as the liabilities at that interval has more market price than asset. On the contrary, when the market price of asset/liabilities at certain time interval decreases, bank will suffer more loss when the bank has

higher amount of asset than liabilities. Therefore, the best situation for the bank is the fewer gaps between the asset and a liability, as higher on either side is risky to the bank. Though from liquidity point of view the higher the asset than liabilities is better, however, the excess net asset liabilities position also leads the higher idle fund of the banks that ultimately results higher opportunity cost.

MBL has more positive gap in short term than KBL, while it has more negative gap in long term than KBL. From the analysis in terms of meeting the liquidity requirement, KBL is in more risky position both in short term as well as long-term time bucket. It can also be inferred that KBL is more risky in higher time bucket when the market price of the asset decrease. Similarly, MBL will be in more risky position in higher time bucket, when the market price of the asset decreases.

The average Current ratio of KBL and MBL over 5 years is 1.54 and 1.83. This figure indicates that KBL has matched its current asset and liabilities more nicely than MBL. This means that MBL has used higher amount of current liabilities to finance asset with higher maturity period.

Cash and Bank balance to total assets ratio of both KBL and MBL shows the proportion of liquid asset in total assets portfolio. The higher ratio does a bank have, the better is the liquidity position of the bank (i.e. lower the liquidity risk) and vice versa. The average ratio for KBL and MBL in 5 years is 6.34 % and 12.14 % respectively. This ratio indicates that MBL has kept more liquid asset in its asset portfolio than KBL, which signifies the lower liquidity risk. On the contrary, the higher portion of cash and bank balance also portrays that bank has kept more idle fund.

Another important indicator of liquidity risk is Cash Reserve Ratio (CRR). The CRR is the amount of deposit commercial banks needs to maintain in Nepal Rastra Bank out of their total deposit. The average CRR of KBL and MBL in 5 years is 3.77 % and 8.42 % respectively. This shows that MBL has maintained higher amount of liquidity in NRB than KBL. KBL has shortfall to the Statutory requirement severally during 5 years period. While same is not found with the case

of MBL. The standard deviation of CRR of KBL and MBL is 1.79 % and 2.28 % respectively, which indicates that MBL has more fluctuation in maintaining the CRR than MBL. It is also associated with higher risk.

Interest Rate risk

From above analysis, the following facts have been found regarding the interest risk.

The interest income to total income of KBL and MBL stood very high. The average ratio for KBL and MBL is 90.48 % & 87.45 % respectively. This means that the main source of income for both the banks is interest income from loans and advances. In the fiscal year 2008/09, the ratio of KBL and MBL is 89.64 % & 87.05 %. This indicates that both the banks are highly vulnerable to interest risk. As the slight changes in market interest on loan would have a huge impact on bank's income.

Similarly, the interest expenses also have a major portion in total expenses. The average interest expenses to total expenses of KBL and MBL are 57.8 % & 53.85 respectively. The higher ratio also indicates the bank is paying high amount of interest to the depositors. The Standard deviation of the ratio for KBL & MBL is 3.85 % and 2.3 % respectively. The higher S.D. of KBL indicates that KBL ratio is more fluctuating than MBL, which is the sign of higher risk in KBL than MBL.

The gap analysis of interest rate sensitive asset and liabilities of both the banks depicts that MBL has higher gap than that of KBL. The mean gap of KBL and MBL is Rs. 249 million and Rs.615.4 million respectively. Very low amount of average gap in KBL is mainly due to its negative gap in FY 2004/05. Over the five years, MBL has higher interest rate sensitive asset than interest rate sensitive liabilities, where as KBL has higher amount of IRSA than IRSL. The higher gap of MBL means that the bank has higher amount of mismatch between IRSA and IRSL. The higher amount of mismatch represents that the bank does not have

hedged the asset and liabilities properly to minimize the risk. This figure also indicates that that MBL has higher vulnerability of interest rate changes than KBL. The gap analysis of Fixed Interest Rate Sensitive Asset (FIRSA) Fixed Interest Rate Sensitive Liabilities (FIRSL) of both banks depicts that both the banks' structure of asset and liabilities has been changing over years. The higher gap ratio of MBL shows that compared to KBL FIRSA of MBL is higher than FIRSL.

The net interest margin (NIM) of KBL and MBL over 5 year is Rs. 2.49 million and 6.15 million respectively. The higher amount of NIM of MBL than KBL shows that the impact of changes in interest rate on MBL is higher than that of KBL. This means that when there is a change in interest rate on Rate Sensitive Asset and Liabilities, MBL will earn more profit than KBL.

From the above gap analysis, it has been found that KBL has managed both types of assets (i.e. Interest Rate Sensitive Asset and Fixed Interest Rate Sensitive Asset) and liabilities (i.e. Interest Rate Sensitive Liabilities and Fixed Interest Rate Sensitive Liabilities) better than MBL. This also indicates that KBL has less vulnerability of interest rate risk than MBL.

Interest rate risk analysis, according to NRB directive no. 5, depicts that KBL and MBL has cumulative net gap (i.e. between asset and liabilities) of Rs. 1,190 million and Rs. 3,703 million respectively. The higher gap means that MBL has higher amount of asset than liabilities. In different time bucket, KBL has higher amount of assets in lower time bucket (i.e. in 1-90 days, 91-180 days & 181-270 days bucket) than higher time bucket, where as MBL has negative gap only in long term time bucket. When there is a 1 % change in interest rate on both rate sensitive asset and liabilities, the net profit of KBL and MBL will be Rs.2.93 million and Rs. 9.13 million respectively. The higher amount of cumulative net profit of MBL indicates that MBL has a positive impact with changes in interest rate than KBL.

Average interest rate spread of KBL and MBL is 4.38 % and 3.59 % respectively. The higher amount of spread of KBL indicates that the net interest income (i.e.

interest income less interest expenses) of KBL is more than MBL. This means KBL earns more profit than MBL.

Operation Risk

The major findings related with operation risk are as below:

Transaction risk has been identified as one of the major source of operation risk. Transaction risk, which arises mainly due to human error, includes cash shortage and over, document risk & settlement risk. According to the staff of both banks it has been found that cash shortage and over is a regular phenomenon as to err is human. The average cash short is around 100 thousands. In both banks, there is a provision of teller risk fund to safeguard the loss from cash short. The teller risk fund in KBL per month is Rs. 500 for assistant and Senior Assistant Level and Rs 750 for officer level. Where as in MBL, the teller risk fund is Rs 1,000 per month.

Similarly, in documentary business such as Letter of Credit (L.C.), Credit, there is a risk of opening a L.C., providing loan against the false document. Similarly, there is also a risk of purchasing or discounting a counterfeit checks and bills by a bank. This risk arises mainly due to negative intension of clients & failure of banks to take timely precaution. According to the key respondents of both banks, it has been found that there is no such an incident that the bank has suffered a huge loss due to acceptance of counterfeit document.

Settlement risk is also another source of operation risk, which arises mainly in inter-branch and inter-bank transaction. The timely unsettlement of transaction within the branches or banks means that the bank can neither record such transaction as an income nor as an expense. To minimize the settlement risk, both the banks have reconciliation department. This department is concerned with reconciling the inter-branch and inter-bank transaction in different time intervals. According to the interview of head of reconciliation department of both the banks, it has been found that normally inter-branch transactions can remain outstanding

only for 2-3 days, where as inter- bank transaction may remain for 2-3 months. However, both the banks have been making proper follow up for unreconciled transaction with the correspondence bank.

Money laundering is also one of the important sources of risk for commercial banks. For combating the money laundering, both the banks have their own Know your Customer (KYC) policy. It includes proper identification of customers before making transaction. In both banks, Compliance Department is concerned with tracing all doubtful transactions and evaluating the compliance of KYC policy. The bank continuously identifies and verifies the following transaction,

v. Cash transaction above Rs. 500,000.
vi. Remittance of Foreign Currency of more than USD 10, 000.
vii. Credit Facilities approved beyond Rs 10 million

According to the staff of both the banks, the main factors that bank look in customer includes,

-Customer identity before opening an account and/or making an account operational.

- Detailed interview to customers before opening a new account to ascertain purpose of opening an account, sources of funds etc.

System Risk

System risk refers to operational risk, which arises due to the failure in computerized system. It is the risk associated with the new computerized technology. From the analysis of the interview of the key respondents following findings has been identified:

Both KBL and MBL have adopted the centralized computerized system. The main software of both banks is Globus made by Temenous Company of Switzerland. To minimize the system risk, in both the banks, multiple layers of security have been applied to the bank's online banking system to ensure transaction secure. High precaution has been taken for data security. Both the banks have proper back up system in case of major break down of hardware and software. In case of card business, both banks do not see any risk in terms of debit card. The major risk in card business is also associated with technological risk. The major technological risks include system failure, over payment of cash and settlement risk etc. From the interview of key respondents of both banks, it has been found that the banks have not suffered a huge loss due to cash overpayment. In regard to card risk management, KBL has set up a separate ATM Cell department, mainly concerned with handling all the technical aspects of card, monitor the likely fraud transactions etc. For reducing the risk, both the banks are providing training to their employees.

From the above, it has been found that both the banks have been giving focus on operation risk. In both the banks, Internal Audit Department makes regular audit of each departments of all branches to ascertain operational procedure of the department. It also verifies and monitors whether the department properly comply with the operational guidelines or not. This helps to reduce the operation risk associated with mistake made by employees or the likely fraud from employees.

Banking Risk and Capital Adequacy Measures

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

The average Core Capital to Total Risk Weighted Asset of KBL and MBL is 10.24 % and 11.02 % respectively. Both the banks have higher percentage of core capital

than the statutory requirement made by NRB. The average ratio indicates that MBL has higher proportion of Core Capital to finance the risk-weighted asset than KBL. The standard deviation and variation of this ratio is higher in KBL than MBL, which indicates that KBL ratio fluctuates more than MBL.

The average Capital Fund to Total Risk Weighted Asset of KBL and MBL is 12.14 % and 12.05 % respectively. Both the banks have higher capital adequacy ratio than NRB statutory requirement. The average ratio indicates that KBL has higher proportion of Capital Fund to finance the risk-weighted asset than MBL. However, the standard deviation and variation is higher in KBL than MBL, which indicates that KBL ratio fluctuates more than MBL. However, in fiscal year 2004/05, the CAR of both KBL and MBL is just 0.22% and 0.36 % above than NRB statutory requirement.

In both KBL and MBL, the portion of supplementary capital is very low. The average supplementary capital to total RWA is 1.90 % and 1.04 % 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.

In regard to risk weighted asset, both KBL and MBL has higher portion of on balance sheet asset than off balance sheet asset. The average portion of on balance sheet RWA to total RWA in KBL and MBL is 92.75 % and 87.5 % respectively. This shows that KBL has higher percentage of on balance sheet RWA than MBL.

Risk Management Procedure

From the analysis of interview of key respondents of both KBL and MBL and the facts of annual reports, following 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, which is the most important aspects in both banks to extend the credit. 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, MBL has also granted loan without backing any collateral. This indicates that MBL rely more on borrowers' quality than credit quality where as KBL gives equal importance to both borrowers quality and credit quality.

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 before granting credit. These documents include tax related documents, financial document, asset valuation document etc.

Similarly, for monitoring the credit quality of the bank, the entire standard need to be monitored and reviewed periodically. Against the bank's diminution

in market value from known or estimated credit loss, both the banks have a loan loss reserve account, which has been reassessed on a quarterly basic as per the standard set by NRB.

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.

In case of interest rate risk, both banks have been setting their own standard for setting interest rate on both deposit and lending. Similarly, the interest rate spread is the major factor, which the bank monitors, in periodic basic to make adjustment according to market trend. In terms of monitoring the interest rate risk, gap analysis of both rate sensitive and fixed rate asset and liabilities is the main tool for both the banks. The main financial report that bank prepares is cost of deposit, yield on loan and interest rate spread. Similarly, gap analysis report is the major report for analyzing the interest rate risk, which is prepared on quarterly basis by both banks as per NRB directives.

In regard to liquidity risk, both banks have their own standard for maintaining the liquidity position of the bank set by top-level management. In banks, treasury department & finance department is concerned with managing the cash and bank balance of a bank. Treasury Department is also concerned with managing the liquidity of foreign asset considering the foreign exchange risk. Similarly, the Cash Reserve Ratio is the major standard set by NRB for the liquidity risk.

The major reports for liquidity risk management include gap report (i.e. between asset and liabilities), which is prepared by both banks in a periodic basic. In KBL Asset Liability Management Committee (ALCO) verifies the gap on monthly basic to take timely action for asset liabilities mismatch. In MBL as well, top management verifies & monitors the gap analysis in a

periodic basic. For the purpose of NRB, CRR is the main report prepared by these banks.

For the operation risk, it is hard to set standard, as the occurrence of such risk is not predictable. For minimizing such risk, both banks have their code of conduct, which guide all the operational aspect of organization. Both the banks have their own operation guidelines for all departments such as L.C., Remittance, Cash, Card etc, which have been changed and updated.

2. Position Limit

For the proper management of 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.

The internal audit committee of both KBL and MBL is concerned with auditing the overall function of banks, which includes credit, operation and administration etc. This department frequently monitors the possible operation risk, which mainly arises from the misconduct of employees and outsiders. The committee includes the member of board of director as well.

For ensuring the proper functioning of an organization in both banks there is a provision of decision limit in all business such as credit, LC, Cash etc. Because

of the centralized system in both banks all the branches need to inform all the credit, LC decision to head office.

3. Investment policy and guidelines

For the proper management of asset of both banks, a written investment policy is formulated. This investment policy is prepared in consistent with the NRB guidelines and this is the major guideline for making investment decision. This policy outlines the amount to be invested in various sectors such as loan and advances, government bonds, shares and debentures of corporation, placements etc. Investment decision is mainly taken by considering both the risk and return factors. Similarly, while taking investment decision market risk, reputation risk and legal risk have been considered. Besides, the impact on Capital Adequacy Ratio is also considered while taking investment as the shortfall in CAR results the imposition of various restriction by NRB.

4. Monitoring and Control

To ensure the proper functioning of bank, the monitoring and controlling body of the bank frequently monitors all the jobs performed. The main body for monitoring & controlling the various department and branches is Internal Audit and Compliance Department. These departments continuously audit the functioning of various departments to ensure that organization is functioning professionally and in consistent with bank's internal policy as well as NRB policy. In both banks, internal audit department reports to the audit committee, which includes both the top level management and board of directors.

Credit administration department is mainly concerned with monitoring the credit facilities and borrowers. It continuously reassessed the borrowers financial condition, loan repayment. It also frequently revaluate the collateral

as well as its marketability to ensure that collateral is enough to cover the loss if any. More over in KBL there exists a recovery department, 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 exists a risk assessment department 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, retail loan etc) and sectors. However in MBL, credit department itself performs all the risk assessment function.

Besides the internal control system, external auditor of these banks and NRB also continuously monitor and control the performance of bank. These banks need to provide various reports to NRB on daily, weekly, monthly, quarterly, semiannually and annually. These reports ensure that banks are functioning as per NRB rules and regulations and achieving various standards.

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

Chapter V

Summary, Conclusion and Recommendation

5.1 Summary

Economic development is not possible without the proper development of banking sector in a country, as banks are the real facilitator for mobilizing the resources. Banks are the institutions, which collect the scattered small savings from the public and invest them into productive sector that ultimately contributes to economic development of a country. Besides providing the services for economic development, they are established to earn profit. In the context of current competitive scenario, banks need to face challenges from all around. One of the major challenges for Nepalese commercial banks is to properly manage the risk. Considering the importance of risk management in commercial banks, this research aimed at studying the risk management system of selected commercial banks. For this purpose, descriptive cum analytical research design was adopted. Out of total population of 26 commercial banks, 2 banks were taken as sample using judgmental sampling method. KBL and MBL have been taken for comparative study because of their similarities in terms of business size, date of establishment, capital size etc. Both primary and secondary data have been used in this study. Primary data has been collected mainly from personal interview with key position staff, telephone interview & structured questionnaire. Annual reports and other publication of these banks and NRB are the basis of secondary data. The data collection from various sources are recorded systematically & presented. Appropriate statistical and financial tools have been applied to analyze the date. The data of five consecutive years of the two banks have been analyzed to meet the objective of the study.

The major risk in KBL and MBL is associated with credit decision as the proportion of credit risk on total risk is high. Based on the response of structured

questionnaire, it has been found that the proportion of credit risk on total risk is more than 60 %. Similarly, the financial statement analysis of these banks also indicates that the portion of credit risk is more than 60 %. The average loan and advances to total asset ratio of KBL and MBL is 77.33 % and 72.21 % respectively. This means that loan and advances hold major portion in total asset. Similarly, the mobilization of deposit in credit, which is indicated by Credit Deposit ratio, also suggests that major portion of deposit is invested on loan and advances. The average CD ratio of KBL and MBL is 90.21 % and 82.19 % respectively. Similarly, the interest income holds 90.48 % and 87.45 % of total income in KBL and MBL respectively. This figure indicates that credit risk has covered significant ground in these banks.

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. Poor tracking of borrowers and improper diversification of lending across industries also result in higher credit risk in commercial banks. 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 (NPL)) indicate that average NPL of MBL is more than that of KBL. However, in recent years, MBL has been able to reduce the NPL significantly down. Against the NPL, MBL has provisioned more reserve than KBL.

Collateral is also one of the important factors while extending credit. When the borrowers default, collateral is the only means to cover such losses. Lending without collateral is not however found in both the banks.

Similarly, credit concentration on single sector of KBL and MBL shows that both the banks have very high amount of concentration in single sector. In manufacturing sector, KBL and MBL have 18 % and 25 % of total loan exposure, which is the sign of putting all eggs in one basket. Improper portfolio management also remains one of the significant problems in credit management of these banks.

There is positive correlation between LLP and Loan and Advances in both banks. This indicates that there is a change in LLP of both banks when there is a change in loans and advances. Likewise, LLP and NPL of KBL are positively correlated where as correlation coefficient of MBL is found negative. The positive correlation coefficient of KBL indicates that the provisioning amount will increase when there is an increase in NPL and vice versa. On the contrary, the negative correlation coefficient of MBL indicates that provisioning amount of MBL is increasing without increase in NPL and vice versa. This negative correlation coefficient of MBL is because of higher amount of loan against personal guarantee. Since the performing loan against personal guarantee need to make extra 20 % provisioning, this will definitely increase the provisioning amount.

Both the banks have Credit Policies Guidelines (CPG) and well-defined organizational structure for proper management of credit risk. The organization structure of KBL is found more stringent & advanced than that of MBL. In KBL, Asset Liabilities Management Committee (ALCO), is concerned with all types of risks management including credit risk. 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, Risk Assessment Department 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 risk and loan recovery.

After the credit risk, market risk such as liquidity risk and interest rate risk have significant impact on organizational prosperity. The liquidity risk of banks is mainly studied by analyzing the asset liabilities mismatch in various time buckets and other ratio analysis such as current ratio, cash reserve ratio, cash and bank balance to total asset ratio etc. The gap analysis shows that KBL has managed more properly its asset and liabilities in short time bucket than MBL, where as MBL has managed more properly its asset and liabilities in higher time bucket.

Similarly, MBL has higher current ratio than that of KBL, which means that MBL has used more current liabilities to finance the current asset or higher amount of current liabilities of MBL has been used both to finance current asset and long term asset than that of KBL. Likewise MBL holds higher amount of cash and bank balance than that of KBL, which means that in comparison to KBL, MBL has more liquidity.

The CRR depicts that on an average MBL has maintained more bank balance in NRB than KBL. However, both the banks have shortfall to the statutory requirement in different years, which reflects the poor liquidity management by these banks.

Another part of market risk is the interest rate risk. The high proportion of interest income on total income of both these banks also indicates the high level of interest rate risk, and when there is a change in interest rate this will severely hurt the banks' net income. In fiscal year 2008/09, the interest income to total income ratio is 89.64 % and 87.05 % respectively, which is the sign of high interest rate risk.

The gap analysis of both Rate Sensitive Asset and Liabilities of both the banks depicts that MBL has higher gap than that of KBL. The higher gap of MBL means that the bank has higher amount of mismatch between RSA and RSL. The higher amount of mismatch represents that the banks have not hedged the asset and liabilities properly to minimize the risk. This also indicates that MBL has higher vulnerability of interest rate changes than KBL.

Similarly, the net interest margin of MBL is greater than that of KBL, which indicates that the impact of changes in interest rate on MBL is higher than that of KBL. This means that when there is a change in interest rate on Rate Sensitive Asset and Liabilities, MBL will have greater impact on profit than KBL.

From the above gap analysis, it is found that KBL has managed its both types of assets (i.e. Interest Rate Sensitive Asset and Fixed Rate Sensitive Asset) and liabilities (i.e. Interest Rate Sensitive Liabilities and Fixed Rate Sensitive Liabilities) better than MBL. This also indicates that KBL has less vulnerability of

interest rate risk than MBL. The interest rate risk analysis according to NRB directive no. 5 shows that MBL has higher amount of cumulative net profit than that of KBL, which indicates that MBL has positive impact with changes in interest rate.

The analysis of operation risk shows that both the banks have the same sort of operation risk, which includes mainly transaction risk (such as cash shortage and over, settlement risk, document risk), money laundering and system risk. Cash shortage, which arises due to overpayment by the teller than the requested amount is taken as regular phenomenon. In both banks there exists a provision of teller risk fund to safeguard the loss against the cash shortage. The daily transaction list are checked and verified by the Compliance Department to ensure proper transaction has been made. Likewise, document risk arises due to transaction against the counterfeit documents. However, the key respondents of both the banks cleared that the bank has not made any loss out of counterfeit documents.

Similarly, settlement risk is also another source of operation risk, which arises mainly in inter-branch and inter-bank transaction. Both the banks have reconciliation department to minimize the settlement risk. This department is concerned with reconciling the inter-branch and inter-bank transaction in different time intervals. It has been found from the key respondent's interview that normally inter-branch transactions can remain outstanding only for 2-3 days, where as inter- bank transaction may remain outstanding for 2-3 months.

Both the banks have well defined Know Your Customer (KYC) policy for preventing the money laundering. This policy clearly outlines the procedure for checking and verifying the suspicious transaction. Similarly, this policy has made provision to the required documents and information before opening an account by customers. Compliance and Internal Audit Departments are concerned with tracking all the suspicious and huge level of transaction on daily basis.

Likewise system risk is also one of the major sources of operation risk in banks. KBL and MBL have adopted the computerized system, which arises the possibility

of system risk. Both banks have provided high caution for data security and back up in case of major breakthrough of hardware and software. In card business, the major risk includes system failure, overpayment of cash and settlement risk. For minimizing such risk, both banks have been taking various preventive measures. In KBL a separate ATM cell department is established to handle these risks.

In commercial banks, minimizing the risk is the major challenges. For combating the risk, both 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. However, with the introduction of Basel II framework on capital adequacy measurement which is more stringent, capital adequacy of KBL is adversely affected. In total capital fund, the portion of supplementary capital in both banks is low. Therefore these banks are fulfilling the capital fund requirement mainly from the core capital. In risk-weighted asset, both the banks have higher portion of on balance sheet asset than off balance sheet asset. The lower amount of off balance sheet assets means both these banks need to increase the off balance sheet items, which helps to diversify bank's source of income.

The risk management procedure in these banks includes four basic procedures. The major outlines for risk management include setting standard for all the transaction 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 risk exposure to be meaningful. Similarly, the position for managing the 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. This policy outlines the amount to be invested in various sectors such as loan and advances, government bonds, shares and debentures of corporation, placements etc. Likewise, to ensure the proper functioning of bank, the monitoring and controlling body of the bank frequently

monitor all the jobs performed. The main body for monitoring & controlling the various department and branches is Internal Audit and Compliance Department. These departments continuously audit the functioning of various departments to ensure that organization is functioning professionally and in consistent with bank's internal policy as well as NRB policy. In both the banks, Internal Audit Department reports to the Audit Committee, which includes both the top level management and board of directors.

5.2 Conclusion

Nepalese government has started to liberalize the financial sector started from 1980s to streamline the financial sector of a country. Prior to the liberalization, there were 2 commercial banks, 1 central bank, and 2 development banks. After the adoption of financial sector liberalization policy, the financial sector widened with more banks and financial institutions. Commercial banking sectors make a significant mark with the establishment of 17 commercial banks. Though banking sector developed rapidly in quantity, it has remained far behind in terms of quality while comparing to international banks. Commercial banks are established with an objective to maximize the shareholders value by performing the function of mobilizing the idle funds collected from the society to productive sector, which will help to achieve the economic development of a country. Bank needs properly handling of several problem and challenges. In current scenario, the major challenge of commercial banks is competition from 27 commercial banks.

Proper management of risk is required to remain competitive in the market & achieve the goals. The major banking risks include credit risk, market risk (i.e. liquidity risk, interest risk, operation risk etc). Among these risks, credit risk has the major impact on banking (i.e. more than 60 %). Because of the credit risk, the Non Performing Loan (NPL) of bank will increase. With the increase in NPL, the loan loss provisioning will also increase simultaneously leading to decrease in

profit. The decrease in profit results in low dividend to shareholder and bonus to employees.

Similarly, poor management of asset and liabilities having different maturity period is the main problem that results in other market risk such as liquidity risk, interest rate risk etc. The other component of market risk includes the interest rate risk. Similarly, tactfully dealing with market interest movement by adjusting the interest sensitive asset and liabilities also remains challenge to these banks. To remain alert and prepare plans and policies to tackle unpredictable factors such as violence riots, natural disaster, technology and employees, fault and fraud of customers and outsiders are the challenges for these commercial banks.

For proper management of these risks both banks have their own set of policies and practices, which is in consistence with NRB guidelines. 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 in monthly basis. Organization structure of these banks is frequently restructured for the proper management of risk.

Gap analysis is the major tool for managing the liquidity risk. The top management analyzes the gap between asset and liabilities and makes decision to make adjustment for it. Further, the top management decides how much liquid asset is needed to be kept in the bank. Treasury and finance department of these banks continuously manage the CRR in NRB to ensure that statutory requirement is met.

Gap analysis of both types of asset and liabilities (i.e. Rate Sensitive and Fixed Rate) is required for the interest rate risk management. Besides, analysis cost of fund, yield on loan & spread is made continuously in these banks to ensure that banks have competitive interest rate, which is profitable for the banks.

In regard to operational risk, the major steps banks are taking to reduce it are preparing and implementing the different operational guidelines and policies & frequently monitoring their compliance. Most of these polices are prepared as per NRB guidelines. Similarly, training to employees of the banks is also the major tools for minimizing the operation risk in these banks.

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.

Though both the banks have their own set of procedures for assessing various risks and for their management, problems are still prevalent in these banks. In credit risk, single sector loan concentration is the main problem in both the banks. In MBL the major problem is a high amount of lending in manufacturing sector, lending without collateral, non-performing loan & organizational structure for handing credit risk. In KBL, with the increase in total loan, NPL is also increasing. So, proper adjustment is needed for managing the NPL. Similarly, asset liabilities mismatch is also the problem in both the banks. KBL is more risky in the asset and liabilities of longer maturity period when the market price of asset liabilities decrease where as MBL will be in more risky position in asset and liabilities of short maturity period, when the market price of the asset/liabilities decreases. Similarly, managing CRR to Statutory requirement is also one of the problems in these banks.

5.3 Recommendation

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

i. General Recommendation

Following general recommendations can be made to these banks regarding all types of risk management

1. Old Techniques no longer work

In the current context, both banks have been applying old techniques for managing the risk. These techniques should be changed with changes in the environmental forces. For management of risk associated with asset and liabilities management, banks need to adopt new methods such as Simulation Method and Value at Risk (VAR) Method etc.

2. Identify and deal with new risks

Both the banks seem conservative in terms of dealing risks. Credit risk has been given high priority in both the banks. To remain competent in the market both banks need to identify and deal with new risks that arise with changes in environmental forces.

3. Upgrade system

Both the banks need to upgrade the system with the changes in both level and pace of technological changes in external environment.

4. Training and Development

Both banks are recommended to initiate training and development programme for the employees to make them efficient and professional in terms of managing various risks. Training for credit appraisal, monitoring and management of different risk can be operational. Similarly, handling of new system and procedures also assist banks to decrease it operation risk.

5. System of check and balance

Both banks should give focus the system of check and balance, which helps to reduce the risk.

6. Proper adherence of NRB directives

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.

7. Preventive Measures

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 Recommendation

Specific recommendations are especially made for particular organization for specific risk. The different stakeholders include banks under study, NRB and Nepal Government.

Recommendation to KBL and MBL

The recommendation suggested to KBL and MBL have been categorized under different risks head.

Credit Risk

In regard to credit risk, following recommendations are suggested:

1. KBL and MBL has higher amount of loan and advances in total asset. So to minimize the credit risk, the diversification in investment is needed in both the banks. These banks need to diversify investment in government bonds and placements etc.
2. Both banks need to properly diversify its lending portfolio. The high amount of lending in manufacturing sectors need to be diversified into various sectors, which will decrease concentration risk.
3. Both the banks have extended the highest amount of loan against the movable and non-movable property, which has risk weight up to 150%. So both these banks need to diversify its lending against different securities so as to reduce risk weight as far as possible.
5. NPL of KBL is also increasing with the increase in loan and advances. So, KBL need to be more careful while taking credit decision.
6. 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 to be formed for assessing the credit risk.

7. KBL and MBL needs 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 approving and periodically (at least annually) reviewing the credit risk strategy 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 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 banks must operate within sound, well-defined credit-granting criteria. These criteria should include a clear indication of the bank's target market

and a thorough understanding of the borrower or counterparty, as well as the purpose and structure of the credit, and its source of repayment.

- These banks should establish overall credit limits at the level of individual borrowers and counterparties, and group of connected counterparties that aggregate in a comparable and meaningful manner for different types of exposures, both in the banking and trading book and on and off the balance sheet.
- A clearly established process in place for approving new credits as well as the amendment, renewal and re-financing of existing credits is the need for both banks. All extensions of credit must be made on an arm's-length basis. 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 of non-arm's length lending.

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 risk-bearing 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 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.

Liquidity Risk

- Asset Liabilities mismatch needs to be given higher priority in both KBL and MBL. Both banks have high mismatch amount, which needs to be frequently revised and brought under control.
- Both banks need to set up policy for the maximum mismatch amount between asset and liabilities.
- Both banks have problem in maintaining the CRR, which is below the statutory requirement. So enough care should be given for maintaining CRR by both these banks.

Interest Rate risk

1. Interest income has major portion in total income of both KBL and MBL. As there is change in interest rate, it will have huge impact on total income. So both banks need to increase their fees and commission based income to minimize income concentration risk.
2. Both banks need to monitor the gap between both types of asset and liabilities (i.e. Rate Sensitive and Fixed Rate) frequently. The gaps need to be closer in both banks for proper interest risk management.
3. Interest risk analysis according to NRB directive should not be prepared for reporting purpose only. It needs to be taken as a tool for proper risk management.
4. In Rate Sensitive Asset/ Liabilities and Fixed Rate Sensitive Asset/Liabilities, the mean gap of MBL is higher than that of KBL. So MBL needs to focus more on managing both types of asset and liabilities.
5. NRB needs to fixed the standard for maximum gap between asset and liabilities
6. For increasing the profit, both banks need to increase the interest rate spread to 5 %.

Operation risk

1. A tight grip on business practice

Both the banks should maintain a tight grip on business practice. This includes proper implementation of internal and NRB policies, keeping eyes on new risks that could arises due to changing market condition, new regulatory requirements and intensifying competitive pressures.

2. Constantly evaluate principles and policies

Both the banks should constantly evaluate its internal principles and policies related to day-to-day operation. Those policies need to be evaluated periodically to ensure policies are time relevant.

3. Tackle the cultural root causes

Even if banks have the appropriate control, mitigation, and managerial backstops in place, their culture do not allow them to follow the appropriate control mechanism. Both banks need to stop a tendency to say one thing but do another.

4. Strictly adhere to Anti Money Laundering (AML) measures

Both banks need to prepare and strictly adhere to their anti money laundering policies. Since both banks have only Know Your Customer policy for preventing the money laundering, both banks should prepare and implement AML policies.

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.
- In total risk weighted asset of these banks, both banks have lesser amount of off- balance sheet, fee based income generating asset such as Letter of Credit, Guarantee etc. So both the banks need to increase the portion of off-balance sheet asset both to diversify the risk as well as return.

Recommendations to Nepal Government

1. Nepal Government should draft and implement Anti Money Laundering Policy to ensure country has given high priority to combat money laundering.
2. Nepal Government should draft and implement law relating to E-banking, Debit and Credit Card etc to facilitate the growth of E-banking.
3. From 2009/10, Nepal Government has allowed to establish banks in Nepal by foreigners without joint venture of Nepalese investors. This will certainly provide threat to Nepalese banks. So, Nepal Government should provide some incentives to local banks to face the intense competition of foreign banks.
4. Nepal Government should provide adequate measures for taking action against the willful defaulters.

Recommendation to NRB

1. NRB, in addition to imposing directives, needs to provide training for commercial banks to apply new methods and system.
2. NRB should make a clear cut policies related to banking supervision. Confusing policies need to be removed.
3. Asset and Liabilities gap analysis, NRB should specify the maximum amount of gap a bank can maintain on asset and liabilities of different maturity period.
4. NRB has been mainly focusing on credit risk of the banks. Therefore, NRB needs to focus on market and operation risk
5. NRB needs to establish a separate credit rating organization, which will help to minimize bank's credit and operation risk.

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