Chapter I

Introduction

1. General Background

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.

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

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. Till December 2010, thirty commercial banks have been operating in the country. With the growth rate of banking industry from the 1984 A.D., the risk on banking also made a mark simultaneously. Most of the Nepalese banks have suffered from credit risk, which is associated with the non-payment of loan by the borrowers.

Present challenges to the banking sector are: to manage the excess/short liquidity, to invest the money in productive as well as new sector, to manage the accumulated non-performing loan. Commercial banks collect deposits from individuals and invest them as loan and advance to the borrowers and receive interest as the output of the business. Commercial banks' profit and operating cost are borne by these interest collected from the borrowers. When 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, bank faces other risks. According to the Nepal Rastra Bank Unified Directives 2009, the major source of risk is credit risk, liquidity risk, foreign exchange risk, and interest rate risk and operation risk etc.

The BCBS released the "International Convergence of Capital Measurements and Capital Standards: Revised Framework", popularly known as Basel II, on June 26, 2004. A comprehensive version of the framework issued in June 2006. Basel II recognizes that banks can face a multitude of risks, ranging from the traditional risks associated with financial intermediation to the day-to-day risks of operating a business as well as the risks associated with the ups & downs of the local and international economies. As a result, it more explicitly associates capital requirements with the particular categories of major risks that banks face.

1.2 Brief Introduction of Banks under Study

Two commercial banks, Kumari Bank Ltd. (KBL) and Machhapuchhre Bank Limited (MBL) have been selected for the study. The brief introduction of the banks is as follows:

1.2.1 Machhapuchchhre Bank Limited.

Machhapuchhre Bank Limited (MBL) was registered in 1998 as the first regional commercial bank to start banking business from the western region of Nepal with its head office in Pokhara. Today, with a paid up capital of above 1,314 million rupees, it is one of the full fledged commercial bank operating in Nepal; and it ranks in the topmost among the private commercial banks. Machhapuchhre Bank Limited is striving to facilitate its customer needs by delivering the best of services in combination with the state of the art technologies and best international practices. This bank is the pioneer in introducing the latest technology in the banking industry in the country. It is the first bank to introduce centralized banking software named GLOBUS BANKING SYSTEM developed by Temenos NV, Switzerland. Currently it is using the latest version of GLOBUS, referred as **T-24 BANKING SYSTEM**. The bank provides modern banking facilities such as Any Branch Banking, Internet Banking and Mobile Banking to its valued customers. The bank in the last few years have really opened up with branches spread all around the country. At this stage, it has 40 branches including head office. It has its Corporate Office in Kathmandu and branch offices in other parts of Kathmandu, Damauli, Bhairahawa, Birgunj, Banepa, and different parts of Pokhara in addition to the Head Office in Naya Bazar, Pokhara. A full-fledged banking branch is in operation in Jomsom located high up in the mountains too.

The bank aims to serve the people of both the urban and rural areas. The bank intends to open many more branches in the coming years, MBL (2008/09).

In Machhapuchhre Bank Ltd. also, risk is considered as the main threatening factor by which here as well risk management is regarded as the key function of the bank in all levels of management. The Credit Committee, Internal Audit & Compliance Department, Legal Department etc. are the key departments that are concerned with the management, compliance and evaluation of the risk management procedure.

1.2.2 Kumari Bank Ltd.

Kumari Bank Limited, came into existence as the fifteenth commercial bank of Nepal by starting its banking operations from Chaitra 21, 2057 B.S (April 03, 2001) with an objective of providing competitive and modern banking services in the Nepalese financial market. The bank has paid up capital of Rs. 1,186 million of which 70% is contributed from promoters and remaining from public. Kumari Bank Ltd has been providing wide - range of modern banking services through 22 points of representations located in various urban and semi urban part of the country, 13 outside and 9 inside the valley. The bank is pioneer in providing some of the latest / lucrative banking services like E-Banking and SMS Banking services in Nepal. The bank always focus on building sound technology driven internal system to cater the changing needs of the customers that enhance high comfort and value. The adoption of modern Globus Software, developed by Temenos NV, Switzerland and arrangement of centralized data base system enables customer to make highly secured transactions in any branch regardless of having account with particular branch. Similarly the bank has been providing 365 days banking facilities, extended banking hours till 7 PM in the evening, Utility Bill Payment Services, Inward and Outward Remittance services, Online remit Services and various other banking services.

Visa Electron Debit Card, which is accessible in entire VISA linked ATMs (including 20 own ATMs) and POS (Point of Sale) terminals both in Nepal and India, has also added convenience to the customers. The bank has been able to get recognition as an innovative and fast growing institution striving to enhance customer value and satisfaction by backing transparent business practice, professional management, corporate governance and total quality management as the organizational mission.

The key focus of the bank is always center on serving unfulfilled needs of all classes of customers located in various parts of the country by offering modern

and competitive banking products and services in their door step. The bank always prioritizes the priorities of the valued customers.

KBL has 9 branches inside the Kathmandu Valley & 19 branches outside the valley and corporate office at Darbar Marg, Kathmandu. It has 23 ATMs all around the country.

Its mission has always been to be the preferred financial partner, by continuing to deliver innovative products and services to the customers, while cultivating an environment that promotes good corporate governance, proactive risk management practices, and corporate social responsibility. Its mission is achieved through the knowledge and dedication of the people, leading to superior results for our stakeholders, while contributing to the nation's financial sector and to its economic welfare.

1.3 Statement of Problem

In general perception, the banking is a very profitable industry. But unlike the common view, this industry is beleaguered with many challenges to sustain and outwit among those within the industry. Furthermore, there is growing competition with the establishment of new banks in the weak economic situation of the country. The government's policy of total liberalization of the banking industry from fiscal year 2009/10 A.D. making possible for the foreign banks to operate their branch in Nepal without joint venture of Nepalese investors could bring the mushrooming of the commercial banks and could result in the increased pressure for Nepalese commercial banks to face the competition of foreign banks. Besides this, Nepal Rastra Bank (NRB) directives to commercial banks to increase the paid up capital Rs.2 billion by 2067 Chaitra, may perhaps challenge most of the commercial banks 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 result in the high amount of Non Performing Loan. Similarly the concentration of loan and the recovery of loan combining with improper asset liabilities management decrease the profit, (NRB 2009). These could be another problem to be addressed in the research. The interest rate on the both deposits and loan has been declining each year. On the contrary, the inflation rate of the country has been increasing dramatically. Appreciation and depreciation of foreign exchange highly affect the bank. The increased foreign exchange transaction invites the increased risk due to the depreciation of the foreign exchange rate. The change in market rate probably affects the commercial bank's profitability. Moreover, the usage of computerization in banking such as

computerized banking system, Internet Banking, Mobile Banking, ATM, Credit Card services has brought the electronic theft of the amount and increased the vulnerability of the bank and its customers. This may also be another problem to be addressed in the research. In addition, the issuance of new unified directives by the NRB in 2067 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.

In the same way, the implementation of Basel II from 2007, this 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%. Complying these prudential of national and international measures could be another problem faced by the Nepalese commercial bank 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.

Kumari Bank Ltd. and Machhapuchhre Bank Ltd. established as commercial banks could not be isolated with above mentioned challenges and problems faced by the entire banking 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.

Henceforth, the research problem defined above leads to the following research questions:

- How important is the management of different risk to the commercial banks?
- How do different risks affect the profitability of the commercial banks?
- How the different risks of commercial banks can be analyzed?
- What actions can minimize these risks in order to maximize the profit?
- Are the commercial banks implementing the NRB Directives and Based II?
- What are the different systems opted by the commercial banks?

1.4 Objectives of the Study

In solving the research problem and answering the research questions mentioned previously, this study has the following objectives:

i. To analyze different types of risks faced by MBL & KBL and management of such risks by them,
ii. To analyze Nepal Rastra Bank's directives and to examine whether MBL & KBL has complied with such directives,
iii. Reviewing the New Basel Capital Accord i.e. BASEL II, norms and their likely impact on risk management of MBL & KBL,
iv. To analyze the risk management system of Kumari Bank and Machhapuchchhre Bank Ltd.,
v. To compare capital adequacy ratio of KBL & MBL as per BASEL II Framework.

1.5 Limitations of the study

This study has been performed on various constrains and certain limitations which are listed below

i. The study is based on both primary & secondary data. Few Primary data are collected from telephonic interview & personal visit. Whereas Secondary data are collected mainly form published sources like annual report, prospectus, balance sheet, newspaper, journal, internet and other sources. However, the accuracy of results and conclusions highly depends on the reliability of the secondary data.
ii. The evaluation is made through the analysis of financial statement published 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. The study has covered only the five years data from fiscal year 2003/04 to 2008/09.

1.6 Organization of the Study

The study will be organized in to five chapters as follows:

Chapter I: Introduction of the study

Chapter one deals with General Background, Brief Introduction of Banks under Study, Statement of the Problem, Objectives of the Study, Focus of the Study, Limitations of the Study and Organization of the Study.

Chapter II: Review of Literature

Chapter two consists of review of literature. This chapter is subdivided into various sections such as Theoretical Review, Review of NRB Directives related to Risk Management of Commercial Banks, Review of Literatures and Research Gap.

Chapter III: Research Methodology

Chapter three present methodologies adopted for the research. It comprises Introduction, Research Design, Population and Sample, Sources of Data and Collection Procedure, Data Processing and Presentation and Data Analysis Tools.

Chapter IV: Presentation and Analysis

The forth chapter explains the presentation and analysis of data through the way of designed methodology and interpreted by the help of various tools & techniques. Major findings of data analysis are also in this chapter.

Chapter V: Summary, Conclusions and Recommendations

The last chapter i.e. summary of the study, which is followed by the conclusion of the study based in the fourth chapter. On the basis of these conclusions, recommendation has also been presented for consideration.

Chapter II

Review of Literature

2.1 Theoretical Review

Banks are always faced with different types of risks that may have a potentially negative effect on their business. Risk-taking is an inherent element of banking and, indeed, profits are in part the reward for successful risk taking in business. On the other hand, excessive and poorly managed risk can lead to losses and thus endanger the safety of a bank's depositors. Risks are considered warranted when they are understandable, measurable, controllable and within a bank's capacity to readily withstand adverse results. Sound risk management systems enable managers of banks to take risks knowingly, reduce risks where appropriate and strive to prepare for a future, which by its nature cannot be predicted.

Risk is the fundamental element that drives financial behavior. Without risk, the financial system would be vastly simplified. However, risk is omnipresent in the real world. Financial Institutions, therefore, should manage the risk efficiently to survive in this highly uncertain world. The future of banking will undoubtedly rest on risk management dynamics. Only those banks that have efficient risk management system will survive in the market in the long run. The effective management of credit risk is a critical component of comprehensive risk management essential for long-term success of a banking institution. So, the banks are in the business of managing risk, not avoiding it and a bank's success lies in its ability to assume and aggregate risk within tolerable and manageable limits.

2.1.1 Meaning of Risk and Risk Management

Generally risk is defined as an adverse affect on achieving goals. But the broad definition of risk says it may not always have an adverse impact or risk is not necessarily something going wrong - it is simply something turning out differently to what is expected or planned for. Again, risk can be defined as the possibility of deviation of the actual return from the expected return.

Kupper (2003) defines risk as the volatility of corporation's market value. To be a bit more specific risk is: 'A future event (or series of events) with a probability of occurrence and the potential for a.) loss or b.) impact on objectives that can be either positive or negative.'. In all types of undertaking, there is the potential for events and consequences that constitute opportunities for benefit (upside) or

threats to success (downside). This view allows the possibility that risks can be turned into opportunities if managed effectively. Risk Management is increasingly recognized as being concerned with both positive and negative aspects of risk. Therefore this standard considers risk from both perspectives. In the safety field, it is generally recognized that consequences is only negative and therefore the management of safety risk is focused on prevention and mitigation of harm.

Thus, risk refers to the possibility that the outcome of an action or event could bring adverse impacts on the bank's capital, earnings or its viability. Such outcomes could either result in direct loss of earnings and erosion of capital or may result in imposition of constraints on a bank's ability to meet its business objectives. These constraints could hinder a bank's capability to conduct its business or to take advantage of opportunities that would enhance its business. As such, managements of banks are expected to ensure that the risks a bank is taking are warranted.

Risk Management is a discipline at the core of every bank and encompasses all activities that affect its risk profile. It involves identification, measurement, monitoring and controlling risks to ensure that:

- The individuals who take or manage risks clearly understand it.
- The organization's Risk exposure is within the limits established by Board of Directors.
- Risk taking Decisions are in line with the business strategy and objectives set by BOD.
- The expected payoffs compensate for the risks taken
- Risk taking decisions are explicit and clear.
- Sufficient capital as a buffer is available to take risk.

Each situation is unique, in terms of roles and capabilities of individuals and the structure, activities and objectives of the bank. Risk management practices considered suitable for one bank may be unsatisfactory for another. Because of the vast diversity in risk that banks take, there is no single prescribed risk management system that works for all. Moreover, in the context of a particular bank, the definition of a sound or adequate risk management system is ever changing, as new technology accommodates innovation and better information and as market efficiency grows. Each bank should tailor its risk management

program to its needs and circumstances. To remain competitive, banks must adapt and constantly improve their process.

A sound risk management system should have the following elements:

- Active board and senior management oversight
- Adequate policies, procedures and limits
- Adequate risk measurement, monitoring and management information system, and
- Comprehensive internal controls.

It should not be understood that risk management is only limited to the individual(s), who are responsible for overall risk management function. Business lines are equally responsible for the risks they are taking. Because the line personnel can understand the risks of their activities and any a lack of accountability on their part may hinder the sound and effective risk management.

Expanding business arenas, deregulation and globalization of financial activities emergence of new financial products and increased level of competition has necessitated a need for an effective and structured risk management in financial institutions. A bank's ability to measure, monitor, and steer risks comprehensively is becoming a decisive parameter for its strategic positioning. The risk management framework and sophistication of the process, and internal controls, used to manage risks, depends on the nature, size and complexity of institutions activities.

2.1.2 BASEL II Framework

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

as corporate loans, and lower weights are assigned to less risky assets, such as exposures to government.

The BCBS released the "International Convergence of Capital Measurements and Capital Standards: Revised Framework", popularly known as Basel II, on June 26, 2004. This framework was updated in November 2005 and a comprehensive version of the framework was issued in June 2006. Basel II builds significantly on Basel I by increasing the sensitivity of capital to key bank risks. In addition, Basel II recognizes that banks can face a multitude of risks, ranging from the traditional risks associated with financial intermediation to the day-to-day risks of operating a business as well as the risks associated with the ups and downs of the local and international economies. As a result, the new framework more explicitly associates capital requirements with the particular categories of major risks that banks face. The new capital framework also recognizes that large, usually internationally active banks have already put in place sophisticated approaches to risk measurement and management based on statistical inference rather than judgment alone. Thus, the framework allows banks, under certain conditions, to use their own 'internal' models and techniques to measure the key risks that they face, the probability of loss, and the capital required to meet those losses. In developing the new framework, the Basel Committee wanted to incorporate many elements that help promote a sound and efficient financial system over and above the setting of minimum capital requirements. With this in mind, the Basel II framework incorporates three complementary 'pillars' that draw on the range of approaches to help ensure that banks are adequately capitalized in commensurate with their risk profile.

1. Pillar-I : Minimum Capital Requirements
2. Pillar – II : Supervisory Review Process &
3. Pillar-III: Disclosure Requirement

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

- is adequate to protect its depositors and creditors.
- is commensurate with the risk associated activities and profile of the commercial bank.
- promotes public confidence in the banking system.

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

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

Basel II under Pillar 1, provides different approaches for computing capital requirements for:

i. Credit risk
ii. Operational Risk
iii. Market Risk

2.1.3 Risk Assessments and Measurement.

Until and unless risks are not assessed and measured it will not be possible to manage risks. Further a true assessment of risk gives management a clear view of bank's standing and helps in deciding future action plan. To adequately capture banks risk exposure, risk measurement should represent aggregate exposure of bank both risk type and business line and encompass short run as well as long run impact on bank. To the maximum possible extent banks should establish systems / models that quantify their risk profile, however, in some risk categories such as operational risk, quantification is quite difficult and complex. Wherever it is not possible to quantify risks, qualitative measures should be adopted to capture those risks. The importance of staff having relevant knowledge and expertise cannot be undermined. Any risk measurement framework, especially those which employ quantitative techniques/model, is only as good as its underlying assumptions, the rigor and robustness of its analytical methodologies, the controls surrounding data inputs and its appropriate application.

2.1.4 Risk Management Framework

In any bank, support for crucial programs must come from the top. Each entity's senior management and governing board must set the bank's risk appetite by establishing appropriate policies, limits and standards and ensuring that they are followed and enforced. Risks must be measured, monitored and reported to key

decision-makers. Banks should institute a setup that supervises overall risk management at the bank. Such a setup could be in form of a risk manager, committee or department depending on the size and complexity of the bank. Ideally, overall risk management function should be independent from those who take or accept risk on behalf of the bank.

The complexity and formality may vary widely among banks; but they should have clear procedures for assessing risk and evaluating performance regularly. There must also be adequate accountability, clear lines of authority and separation of duties between business functions and those involved in risk management and internal control. Where individuals responsible for overall risk management function are involved in day-to-day operations, then sufficient checks and balances should be established to ensure that risk management is not compromised. Overall risk management function provides an oversight of the management of risks inherent in the bank's activities. The functions are;

- Identifying current and emerging risks;
- Development of risk assessment and measurement systems;
- Establishment of policies, practices and other control mechanisms to manage risks;
- Development of risk tolerance limits for Senior Management and Board approval;
- Monitoring positions against approved risk tolerance limits; and
- Reporting results of risk monitoring to Senior Management and the Board.

An effective risk management framework includes

- Clearly defined risk management policies and procedures covering risk identification, acceptance, measurement, monitoring, reporting and control.
- A well constituted organizational structure defining clearly roles and responsibilities of individuals involved in risk taking as well as managing it.
- Banks, in addition to risk management functions for various risk categories may institute a setup that supervises overall risk management at the bank.
- Such a setup could be in the form of a separate department or bank's Risk Management Committee (RMC) could perform such function.
- There should be an effective management information system that ensures flow of information from operational level to top management and a system to address any exceptions observed. There should be an explicit procedure regarding measures to be taken to address such deviations.

- The framework should have a mechanism to ensure an ongoing review of systems, policies and procedures for risk management and procedure to adopt changes.

Each bank should develop a mechanism for assessing and reviewing its risk management policies, processes and procedures for individual risk elements, at a regular interval, based on the main findings of the monitoring reports and the results of analysis of developments arising from external market changes and other environmental factors. The results of such review should be properly documented and reported to the Board for consideration and approval. Banks should carry out a self -assessment of its risk management framework for each risk element and assign appropriate rating as regards the quality of its systems and procedures. Such scores should be measured against industry, regulatory and international benchmarks.

2.1.5 Management of Different Types of Risk Faced by Commercial Banks

In the course of their operations, banks are invariably faced with different types of risks that may have a potentially negative effect on their business. Risk management in bank operations includes risk identification, measurement and assessment, and its objective is to minimize negative effects risks can have on the financial result and capital of a bank. Banks are therefore required to form a special organizational unit in charge of risk management. Also, they are required to prescribe procedures for risk identification, measurement and assessment, as well as procedures for risk management. The risks to which a bank is particularly exposed in its operations are: credit risk, market risk (liquidity risk, interest risk, foreign exchange risk) and operation risk which are clarified as under:

2.1.5.1 Credit Risk

Credit risk refers to the risk of negative effects on the financial result and capital of the bank caused by borrower's default on its obligations to the bank. Credit risk is the likelihood that a debtor or financial instrument issuer is unwilling or unable to pay interest or repay the principal according to the terms specified in a credit agreement resulting in economic loss to the bank

Credit risk is the major risk that banks are exposed to during the normal course of lending and credit underwriting. Credit risk arises from non-performance by a borrower. For most banks, loans are the largest and most obvious source of credit risk; however, credit risk could stem from activities both on and off balance sheet.

It may arise from either an inability or an unwillingness to perform in the pre-committed contracted manner. In a bank's portfolio, losses arise from outright default due to inability or unwillingness of a customer or counter party to meet commitments in relation to lending, trading, settlement and other financial transactions. Alternatively losses may result from reduction in portfolio value due to actual or perceived deterioration in credit quality.

Credit risk comes from a bank's dealing with individuals, corporate, financial banks or a sovereign. Credit risk does not necessarily occur in isolation. The same source that endangers credit risk for the bank may also expose it to other risk. For instance a bad portfolio may attract liquidity problem. A typical Credit risk management framework in a financial bank may be broadly categorized into following main components.

- Board and senior Management's Oversight
- Organizational structure
- Systems and procedures for identification, acceptance, measurement,
- Monitoring and control risks.

Within Basel II, there are two approaches for credit risk measurement: the standardized approach (SSA) and the internal ratings based (IRB) approach. Due to various inherent constraints of the Nepalese banking system, the standardized approach in its simplified form, Simplified Standardized Approach (SSA), has been prescribed by NRB in the initial phase.

Under this approach commercial banks are required to assign a risk weight to their on balance sheet and off-balance sheet exposures. These risk weights are based on a fixed weight that is broadly aligned with the likelihood of a counterparty default. Claims on foreign government, their central banks as well as foreign corporate shall be generally risk-weighed on the basis of the consensus country risk scores of export credit agencies (ECA) 3. Wherever there are claims relating to unrated countries, they shall generally be risk weighed at 100 percent. However, this claim shall be subject to supervisory review and higher risk weight shall be assigned where the review process deems appropriate.

In order to be consistent with the Basel-II framework, the credit risk for the regulatory capital purpose shall be computed by segregating the exposure in the following 11 categories.

a) Claims on government & central bank

b) Claims on other official entities

c) Claims on banks
d) Claims on corporate & securities firms
e) Claims on regulatory retail portfolio
f) Claims secured by residential properties
g) Claims secured by commercial real state
h) Past due claims
i) High risk claims
j) Other assets
k) Off balance sheet items

Some examples of risk weighted on different exposures are presented as below:

- All claims on Government of Nepal and Nepal Rastra Bank shall be risk weighed at 0 %.
- All claims, irrespective of currency, excluding other instruments eligible for capital institutions that fulfill Capital Adequacy Requirements 20% while for the rest, it will be 100%.
- The risk weight for claims on domestic corporate, including claims on insurance companies and securities firm will be 100%. The domestic corporate includes all firms and companies incorporated in Nepal as per prevailing Acts and regulations.
- Lending to individuals meant for acquiring or developing residential property which are fully secured by mortgages on residential property, that is or will be occupied by the borrower or that is rented will be risk-weighed at 60%. However, banks should ensure the existence of adequate margin of security over the amount of loan based on strict valuation rules. Where the loan is not fully secured by residential properties, such claims have to risk weighed at 150%
- 150% risk weight shall be applied for venture capital and private equity Investments.
- The claims which are not fully secured or are only backed up by personal guarantee shall attract 150% risk weight.

2.1.5.2 Market Risk

Market risk refers to the risk to a bank resulting from adverse movements in market prices, in particular, changes in interest rates, foreign exchange rates, and equity and commodity prices. Market risk is defined as the risk of losses in on and

off-balance sheet positions arising from movements in market prices. The major constituents of market risks are:

a. The risks pertaining to interest rate related instruments;
b. Foreign exchange risk (including gold positions) throughout the bank;
c. The risks pertaining to investment in equities and commodities.

Out of the various components of market risk, foreign exchange risk is the predominant risk in our country. The effects of other forms of market risk are minimal. Thus, a net open position approach has been devised to measure the capital requirement for market risk. As evidenced by its name, this approach only addresses the risk of loss arising out of adverse movements in exchange rates. This approach will be consolidated over time to incorporate other forms of market risks as they start to gain prominence. The designated Net Open Position approach requires banks to allocate a fixed proportion of capital in terms of its net open position. The banks should allocate 5 percentages of their net open positions as capital charge for market risk. The format prescribed by Basel II for computation of market risk is as below:

Table 2-1

RISK WEIGHTED EXPOSURE FOR MARKET RISK

S.N	Currency	Open Position (Fcy)	Open Position (NPR)	Relevant Open Position
1	INR			
2	USD			
3	QAR			
4	EURO			
5	CNY	-	-	-
Total Open Position (a)				-
Fixed Percentage (b)				5%
Capital Charge for Market Risk {c=(axb)}				-
Risk Weight (reciprocal of capital requirement of 10%) in times (d)				10.00
Equivalent Risk Weight Exposure {e=(cxd)}				-

Market risk exposure may be explicit in portfolios of securities / equities and instruments that are actively traded. On the other hand, it may be implicit such as interest rate risk due to mismatch of loans and deposits. Besides, market risk may also arise from activities categorized as off-balance sheet item. Therefore market risk is potential for loss resulting from adverse movement in market risk factors such as

interest rates, foreign exchange rates, and equity and commodity prices. The risk arising from these factors have been discussed below.

2.1.5.2.1 Foreign Exchange Risk

Foreign exchange risk *is* the risk of negative effects on the financial result and capital of the bank caused by changes in exchange rates. It is the current or prospective risk to earnings and capital arising from adverse movements in currency exchange rates. It refers to the impact of adverse movement in currency exchange rates on the value of open foreign currency position. As a result, banks may suffer losses due to changes in discounts of the currencies concerned. The foreign exchange positions arise from the following activities:

- trading in foreign currencies through spot, forward and option transactions as a market maker or position taker, including the unhedged positions arising from customer-driven foreign exchange transactions;
- holding foreign currency positions in the banking book (e.g. in the form of loans, bonds, deposits or cross-border investments); or
- engaging in derivative transactions that are denominated in foreign currency for trading or hedging purposes.

In the foreign exchange business, banks also face the risk of default of the counter parties or settlement risk. Thus, banks 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 center and the settlement of another currency in another time zone. The foreign exchange transactions with counter parties situated outside Nepal also involve sovereign or country risk.

2.1.5.2.2 Interest Rate Risk

Interest rate risk is the risk of negative effects on the financial result and capital of the bank caused by changes in interest rates. Changes in interest rates affect a bank's earnings by changing its net interest income and the level of other interest-sensitive income and operating expenses. Changes in interest rates also affect the underlying value of the bank's assets, liabilities and off-balance sheet instruments because the present value of future cash flows change when interest rates change. The immediate impact of variation in interest rate is on bank’s net interest income, while a long term impact is on bank’s net worth since the economic value of bank’s assets, liabilities and off-balance sheet exposures are affected. An effective

risk management process that maintains interest rate risk within prudent levels is essential for the safety and soundness of banks.

Interest rate risk arises when there is a mismatch between positions, which are subject to interest rate adjustment within a specified period. Interest rate risk is usually assessed from two common perspectives. Earnings perspective, which focuses on the impact of variation in interest rate on accruals or reported earnings, and economic value perspective, which reflects the impact of fluctuation in the interest rates on economic value of a financial institution.

2.1.5.2.3 Commodity Risk

A bank that is active in commodities trading should also account for variations in the "convenience yield" between derivatives positions, such as forwards and swaps, and cash positions in the commodity. All significant levels of commodity exposures should be properly managed.

2.1.5.2.4 Equity Price Risk

It is risk to earnings or capital that results from adverse changes in the value of equity related portfolios of a bank. Price risk associated with equities could be systematic or unsystematic. The former refers to sensitivity of portfolio's value to changes in overall level of equity prices, while the later is associated with price volatility that is determined by firm specific characteristics.

Each bank should put in place a set of systems and procedures appropriate to its size and complexity of its operations for identifying, measuring monitoring and controlling market risk. The risk appetite in relation to market risk should be assessed keeping in view the capital of the bank as well as exposure to other risks. Once the market risk appetite is determined, the bank should develop a strategy for market risk-taking in order to maximize returns while keeping exposure to market risk at or below the pre-determined level.

2.1.5.3 Operational Risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and system or from external events. Rapid development in the pace of financial innovation is making the activities of bank and their risk profiles (i.e. the level of risk across an institution's activities and/or risk categories) more complex. A clear understanding by banking institutions of what is meant by operational risk is critical to the effective management and control of this risk category. Operational risk event types having the potential to result in substantial losses include:

- Internal fraud. For example, intentional misreporting of positions, employee theft, and insider trading on an employee's own account.
- External fraud. For example, robbery, forgery, cheque kiting, and damage from computer hacking.
- Employment practices and workplace safety. For example, workers compensation claims, violation of employee health and safety rules, organized labor activities, discrimination claims, and general liability.
- Clients, products and business practices. For example, fiduciary breaches, misuse of confidential customer information, improper trading activities on the banking institution's account, money laundering, and sale of unauthorized products.
- Damage to physical assets. For example, terrorism, vandalism, earthquakes, fires and floods.
- Business disruption and system failures. For example, hardware and software failures, telecommunication problems, and utility outages.
- Execution, delivery and process management. For example; data entry errors, collateral management failures, incomplete legal documentation, unapproved access given to client accounts, non-client counter party mis-performance, and vendor disputes.

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. It is associated with human error, system failures and inadequate procedures and controls. It is the risk of loss arising from the potential that inadequate information system; technology failures, breaches in internal controls, fraud, unforeseen catastrophes, or other operational problems may result in unexpected losses or reputation problems. Operational risk exists in all products and business activities.

Management should evaluate the adequacy of tools and techniques both in terms of its efficiency and effectiveness. Steps should be taken to design and implement cost- effective solutions to reduce the operational risk to an acceptable level. The extent and nature of the controls adopted by the banks can be different, very often such measures encompass areas such as Code of Conduct, Delegation of authority, Segregation of duties, audit coverage, compliance, succession planning,

mandatory leave, staff compensation, recruitment and training, dealing with customers, complaint handling, record keeping, MIS, physical controls, etc

NRB has prescribed Gross Income approach for computing risk weighted exposures for operational risk under Basel II. Banks shall use the annual audited financials of the last three years for the computation of gross income under this approach. Hence, the capital requirement for operational risk for a whole financial year shall remain constant. Until the accounts are finalized for the financial year, banks shall use the provisional figures for the period, which should be validated by the internal auditor of the bank. Operational risk-weighted assets are determined by multiplying the operational risk capital charge by 10 (i.e., the reciprocal of the minimum capital ratio of 10%) and adding together with the risk weighted exposures for credit risk. The format used for measuring operational risk is as below:

Table 2.2
RISK WEIGHTED EXPOSURE FOR OPERATIONAL RISK

Particulars	**Year 1**	**Year 2**	**Year 3**
Net Interest Income			
Commission and Discount Income			
Other Operating Income			
Exchange Fluctuation Income			
Additional Interest Suspense during the period			
Gross Income (a)	**-**	**-**	**-**
Alfa(b)	**0.15**	**0.15**	**0.15**
Fixed Percentage of Gross Income {c=(axb)}	**-**	**-**	**-**
Capital Requirement for operational risk (d) (average of c)	**-**	**-**	**-**
Risk Weight (reciprocal of capital requirements of 10%)in times (e)	**10.00**	**10.00**	**10.00**
Equivalent Risk Weight Exposure {f=(dxe)}	**-**	**-**	**-**

2.2 Review of NRB Directives Related to Risk Management of Commercial Banks

The main 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 present context, the directives are issued by NRB quite regularly. In 2067 Ashad, NRB has issued updated unified directives to regulate all three categories of financial sectors in Nepal to ensure that the banking industry functions as per the international standard. NRB (2067 B.S.) prescribes following prudential in different aspects of risk.

2.2.1 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 advance, bills purchased and discounted, the new unified directive relating to loan classification and provisioning has been issued in 2067 According to new unified directive No. 2, 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 HMG securities shall be included under “Good Loan”/Pass Loan category. However,

where collateral of fixed deposit receipt or HMG securities or NRB Bonds is placed as security against loan for other purposes, such loan has to be classified on the basis of ageing. Loans against Fixed Deposit Receipts of other banks shall also qualify for inclusion under Pass Loan.

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"

- No security at all or security that is not in accordance with the borrower's agreement with the bank
- The borrower has been declared bankrupt.
- The borrower is absconding or cannot be found
- Purchased or discounted bills are not realized within 90 days from the due date
- The credit has not been used for the purpose originally intended
- Owing to non-recovery, initiation as to auctioning of the collateral has passed six months and if the recovery process is under litigation
- Loans provided to the borrowers included the black list and where the credit information Bureau 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 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 new 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 20% 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. However, such additional 20% loan loss provision will not be required for loans extended to the institutions like Nepal Oil Corporation Ltd. and Nepal Food Corporation.

20% additional loan loss provisioning will not be required in the case of educational loans provided under personal guarantee by the commercial bank & financial institutions (Circular No. Bai.Bi.Ni.Bi.Niti/Paripatra-2/063/64 dated 2063.4.14).

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:

- The internal and external causes contributing to deterioration of the quality of loan
- 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 assessing market conditions.
- Evidence of existing of adequate loan documentation

- An evaluation of the borrower/enterprise/s management with particular emphasis on efficiency, commitment and high standards of business ethics.

Loan Loss Provisioning in Respect of Reschedule, Restructured or Swapped Loan

- Except for priority sector, in respect of all types of rescheduled or 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%
- 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 (i).
- Where the installment of principal and interest of restructured or rescheduled loan is serviced regularly for two consecutive years, such loan can be converted into Pass Loan.

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 NRB Directives No. 03/066, the banks may extend to a single borrower or group of related borrowers the amount of Fund Based loans and advances up to 25% of the Core Capital fund and Non Fund Based off-balance sheet facilities like letters of credit, guarantees, acceptances, commitments up to 50% of its Core Capital Fund including Fund Based. Fixation of limit on credit and facilities to single borrower shall be made on the basis of Core Capital Fund as per the latest quarterly balance sheet certified by the Internal Auditor of concerned institution. The Fund-Based loan and Non-Funded facilities are separate and accordingly the single borrower limit shall not be calculated by aggregating the both.

The main reason for 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. 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.

2.2.2 Operation Risk and NRB Directive No. 5

For the purpose of monitoring the risks relating to banking & financial activities, NRB unified directive No. 5/066 has classified the operation risk into following categories.

2.2.2.1 Liquidity Risks

2.2.2.2 Interest Rate Rate Risks

2.2.2.3 Foreign Exchange Risks

2.2.2.4 Credit & Investment Risks

2.2.2.1 Liquidity

In order to minimize the liquidity related risks, the banks should group the assests and liabilities into their appropriate maturity period of various times to identify the gap between asset and liabilities and to minimize the liquidity related risks. 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 of over 90 days to 180 days
iii. Maturity period of over 180 days to 270 days
iv. Maturity period of over 270 days to 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.

2.2.2.2 Interest Rate Risk

The NRB has issued a directive for measuring interest rate risk of commercial bank 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

1. A floating rate loan with interest adjusted periodically shall be included under the same time interval in which period the interest rate is adjusted.

2. A term loan with a floating interest rate tied to the movements of a specific change (for instance, interest rate of Treasury bill) shall be assigned a least time interval 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 assets of various period 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 formulas:

$$Interest\_Rate\_Change(IRC)\ \mathrm{X}\frac{MaturityPeriod}{Days\_in\_Year}$$

For e.g. 1% change in interest rate, & maturity period is 90 days, then

$$Interest\_Rate\_Change(IRC)\ \mathrm{X}\frac{MaturityPeriod}{Days\_in\_Year}x0.01$$

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

2.2.2.3 Foreign Exchange Risk

In order to minimize the risk arising from changes in foreign exchange rates, the banks should maintain Exchange Fluctuation Fund and yearly 25% of the net profit should be transferred to this fund.

Moreover, 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. According to directive the daily net position of bank should be at most 30% of core capital. The commercial banks have to send such foreign asset position report on weekly basis.

2.2.3 Directive No. 1 – Capital Adequacy Ratio

Capital Adequacy Ratio (CAR) is the proportion of Capital Fund or Shareholders equity on the total Risk Weighted Exposures of a bank. In other words, it is the capital portion, which is used to finance the asset. The total Risk Weighted Exposures, 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 a NRB and investment in government bonds to 100% for loans and advances. The higher the Risk Weighted Exposures means lower will be the capital adequacy ratio as CAR is the ratio between capital fund and Risk Weighted Exposures. According to unified directive 2066, the commercial banks should calculate the capital adequacy ratio as per "Capital Adequacy Framework 2007 (Updated July, 2008)".

2.2.3.1 Primary Capital (Tier 1 Capital)

Primary capital refers to core capital of a bank, which includes the share capital employed by the shareholders and all the reserve maintained by a bank. It has a crucial bearing on profit margins and a bank's ability to compete. Primary capital includes:

a. Paid up Equity Capital.
b. Irredeemable non-cumulative preference shares which are fully paid-up and with the capacity to absorb unexpected losses.
c. Share Premium
d. Proposed Bonus Equity Share
e. Statutory General Reserve.
f. Retained Earnings available for distribution to shareholders.
g. Un-audited current year cumulative profit, after all provisions including staff bonus and taxes.
h. Capital Redemption Reserves created in lieu of redeemable instruments.
i. Capital Adjustment reserves created in respect of increasing the capital base of the bank.
j. Dividend Equalization Reserves.
k. Any other type of reserves notified by NRB from time to time for inclusion in Tier 1 capital

2.2.3.2 Supplementary Capital (Tier 2 Capital)

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

a. General Loan Loss Provision (Good Loans)
b. Asset Revaluation Reserve
c. Hybrid Capital Instrument
d. Unsecured Subordinated Term Debt
e. Exchange Equalization Reserve
f. Additional Loan Loss Provision
g. Investment Adjustment Reserve
h. Any other type of reserves notified by NRB from time to time for inclusion in Tier 2 capital

2.2.3.3 Capital Fund

The capital fund is the summation of primary and supplementary capital. It can be stated in equation as below:

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

i. Capital Adequacy Ratio for Core Capital

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

According to NRB directive 2067, the statutory Capital Adequacy Ratio (CAR) for core capital is 6% where as CAR for total capital fund is 10% since fiscal year 2009/10.

2.3 Review of Literatures

Rana (2001), "*New Directives Issued by Nepal Rastra Bank"* has alerted commercial banks of the new directives issued by Nepal Rastra Bank on 2002. The article gives bird's eye view of major changes made in the new directive and suggests measures to be taken 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 categories 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.

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 policies 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 policy of NRB seems to be vague. The existing policies 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. The article failed to give

a clear picture on what exactly happened after the instruction of NRB. This article highlights the importance of compliance with the directives issued by NRB.

Pandey (2002), in his thesis entitled, ***"****NRB Directives, Their Implementation & Impact on Commercail Banks: A Case Study of Himalayan Bank Ltd."* 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 banks and the result are the followings:

- Increase in operational procedures of the banks, which increase the operational cost of the banks.
- A short term decreases in probability, which result to fewer dividends to shareholders and less bonus to the employees.
- Reduction in the loan exposure of the banks, which decreases the interest income but increase 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 banks by foregoing dividends for loan loss provisions and various other reserves to increase core capital.

All the aforesaid result lead to one direction the commercial banks will be financially healthy and stronger in the future. All the commercial banks will be able to withstand tougher economic situation in the future with adequate capital and provision of losses. The tough time through which the banks are 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 commercial 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 add 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.

Shrestha (2003), in his thesis entitled, ***"****Impact & Implementaion of NRB's Guidelines on Commercail Banks" A Study of Nabil Bank Ltd. & Nepal SBI Bank Ltd."* 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 thesis 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 aspects of the banks. It can be seen that the provision has been changed and the increased provisioning amount has decreased the probability 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 the decrement of interest incomes from loans, which will decrease the profits of the banks in coming years. Decreasing profitability pushes towards lesser dividends to the shareholders and lesser bonus to employees. Not only the new directives have negatives aspects but positive aspects are there too.

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 it 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 only on 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 in regard to those directives as well as banks policy and procedure to manage various risks can be studied further.

Shrestha (2005, in her thesis entitled,*"A Study of Non Performing Loan & Loan Loss Provision of Commercail Bank: A case Study of Nabil Bank Ltd, SCBL & NBL."* has made study about the credit risk associated with Nabil Bank, SCBL and NBL. 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 provision on the profitability of the commercial banks.

The major finding in her study was that the NBL has the highest portion of the loan in total asset followed by Nabil Bank and SCBL. She concludes that the SCBL shows the risk-adverse attitude. Like wise the non-performing loan to total loan is found highest in NBL, Nabil and SCBL. Moreover, Loan Loss Provision is also found highest in NBL where as the SCBL has the least Loan Loss Provision. This study is more concentrated on the credit risk of the bank and even much focused on non-performing loan only. So there exist lots of areas where further research is called for. In context of credit risk, collateral risk, concentration risk and organization risk, management system can be studied. In addition to credit risk, other risks such as market risk, operational risk, foreign exchange risk can also be studied.

Maharjan (2009), in his thesis entitled,*" Risk Management of Commercial Banks in Nepal: A Comparative Study between Nepal Credit & Commerce Bank Ltd"* has made an attempt to find out the risk management of commercial banks. He has concluded that:

i. Proper risk management is required to remain competitive in the market and achieve the goals. The major banking risks include credit risk, market risk (i.e.

liquidity risk, foreign exchange risk, interest risk) and operation risk. Among these credit risk has the major impact on banking

ii. Poor management of asset and liabilities having different maturity period is the main problem that brings market risk.

iii. Commercial Banks (MBL and NCC Bank as sample) have their own set of policies and practices, which is in consistence with NRB guidelines.

iv. Operational risk can be reduced if banks take major step in preparing and implementing the different operational guidelines and policies. His study is made on credit risk, market risk (interest risk, foreign exchange risk, liquidity risk) and operation risk and their management is the key areas where further research can be made.

2.4 Research Gap

From the review of literatures, it has been found few theses have been prepared on the credit risk, related with loan loss provision and non-performing loan. So, further research on concentration risk, collateral risk can be conducted 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. Moreover, no research has still been conducted on the basis of Basel II framework, which has to be implemented in the commercial banks from July 2008. Hence the research has been conducted to fulfill these gaps.

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. Kothari (1994) defines Research methodology as the various sequential steps (along with a rational of each steps) to be adopted by a researcher in studying a problem the certain objectives in view. 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

This study is the combination of 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 (KBL bank and MBL) 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. 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 (2002) 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 30 commercial

banks. Among the total population only two commercial banks i.e. KBL and MBL are take as sample for the study.

S.No.	Names	Operation Date (A.D.)
1	Nepal Bank Limited	11/15/1937
2	Rastriya Banijya Bank	1/23/1966
3	Agriculture Development Bank Ltd.	1/2/1968
4	Nabil Bank Limited	7/16/1984
5	Nepal Investment Bank Limited	2/27/1986
6	Standard Chartered Bank Nepal Limited.	1/30/1987
7	Himalayan Bank Limited	1/18/1993
8	Nepal SBI Bank Limited	7/7/1993
9	Nepal Bangladesh Bank Limited	6/5/1994
10	Everest Bank Limited	10/18/1994
11	Bank of Kathmandu Limited	3/12/1995
12	KBL Ltd.	10/14/1996
13	Lumbini Bank Limited	7/17/1998
14	NIC Bank Ltd.	7/21/1998
15	Machhapuchhre Bank Limited	10/3/2000
16	Kumari Bank Limited	4/3/2001
17	Laxmi Bank Limited	4/3/2002
18	Siddhartha Bank Limited	12/24/2002
19	Global Bank Ltd.	1/2/2007
20	Citizens Bank International Ltd.	6/21/2007
21	Prime Commercial Bank Ltd	9/24/2007
22	Sunrise Bank Ltd.	10/12/2007
23	Bank of Asia Nepal Ltd.	10/12/2007
24	DCBL Bank Ltd.	5/25/2008
25	NMB Bank Ltd.	6/5/2008
26	Kist Bank Ltd.	5/7/2009
27	Janata Bank Nepal Ltd.	4/5/2010
28	Mega Bank Ltd.	5/04/2010
29	Commerz & Trust	7/23/2010
30	Civil Bank Ltd	12/15/2010

(Source: List of Licenced Commercial Banks, ***www.nrb.org.np***, Nepal Rastra Bank.)

3.4 Sources of Data and Collection Procedure

For this study, both primary as well as secondary data are used. Primary data are collected from telephonic interview and personal visit. Whereas Secondary data are collected mainly form 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.

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 form different sources, are also presented wherever 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 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, nonperforming loan, loan loss provision etc, has been calculated in this study. It is computed by sing following formula:

$$Mean(\overline{X}) \text{ X} \frac{\text{X1 Γ X2 Γ X3 Γ } \} \} \} \} \} \} \} \} \} \text{ .Γ Xn}}{N}$$

$$.or \frac{X}{N}$$

Where,

X = sum of the sizes of the items

N= number of items

Standard Deviation:

The concept of standard deviation was first introduced by Karl Pearson in 1983. It is the most usual measure of dispersion and it represents the square root of the variance of a group of numbers, i.e., the square root of the sum of the squared differences between a group of numbers and their arithmetic mean. It has also been used as a measure to identify the risk. Higher the deviation greater will be the risk and vice versa. Generally, it is denoted by small Greek letter ± (read as sigma) and is obtained as follows.

Standard Deviation(σ)

N = Number of items in the series.

€X = mean

X = Variable

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. 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 (2004) defines correlation analysis as the closeness of the relationship between the variables.

Correlation may be positive or negative and ranges form -1 to +1. When r =+1, there is perfect positive correlation; where r = -1, there is prefect negative correlation; where 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 -.0999), there is high degree of positive (or negative) correlation.

When "r" lies between 0.5 and 0.666, there is a moderate degree of correlation. The simple correlation coefficient, r, is calculated by using following formula:

$$r = \frac{Cov(X\ Y)}{\exists_X \exists_Y}$$

$$\text{or } r = \frac{(X - \overline{X})(Y - \overline{Y})}{N \exists_X \exists_Y}$$

Where,

$\exists_X, \exists_Y$ are the standard deviation of the distributions of X and Y values respectively.

Cov (X,Y) = covariance of X,Y value

Probable Error

In this study, Probable Error has been used for testing the reliability of values 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 provable error ash 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,

S.E.(r) =

Where,

r = correlation coefficient r^2

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. It is given by,

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 signification coefficient are as follows, If r>P.E. (r), the value of r is definitely significant 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, 1998).

Ratio Analysis

In this study, various rations 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 Ration
iii. Non-performing Loan to Total Loans and advances Ratio
iv. Loan Loss Provision to Non Performing Loan Ratio
v. Return on Loan and Advances
vi. Sector wise Loan to Core Capital Ratio
vii. Credit Concentration on Sector
viii. Cash and Bank Balance to Total Asset Ratio
ix. Interest Income to Total Income
x. Interest Expenses to Total Expenses
xi. Core Capital to Total Risk Weighted Exposures (RWE)
xii. Supplementary Capital to Total Risk Weighted Exposures
xiii. Capital Fund to Total Risk Weighted Exposures (RWE)
xiv. On Balance Sheet RWE to Total RWE
xv. Off balance Sheet RWE to Total RWE

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, 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. Assets and liabilities have been classified into interest rate sensitive and fixed interest rate. Interest rate sensitive asset and liabilities refers to such assets/liabilities, of which interest rate keeps 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 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 time. For example, the interest on term loan of a bank is constant for a long period of time. Likewise fixed interest rate liabilities (FIRSL) refers to such liabilities of a bank, interest on which remains constant for certain period of time, though the market interest rises.

Chapter IV

Data Analysis and Presentation

4.1 Introduction

This chapter gives the presentation, detail analysis and interpretation of the accumulated data from which concrete result can be obtained. Here only secondary data are used for the analysis of different risks of the sample banks (KBL and MBL). To make the study more effective, precise and easily understandable, this chapter is categorized in presentation, analysis and interpretation and major findings of the study. In presentation section, data are tabulated. These tabulated data are then analyzed using different statistical tools mentioned in chapter three.

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

4.2.1 Ratio Analysis

4.2.1.1 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. Loan & Advances includes total loans & advances and bill purchased. Similarly total asset includes cash & bank balance, investment, loan & advances, fixed assets, non banking assets & other assets etc. 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 4-1

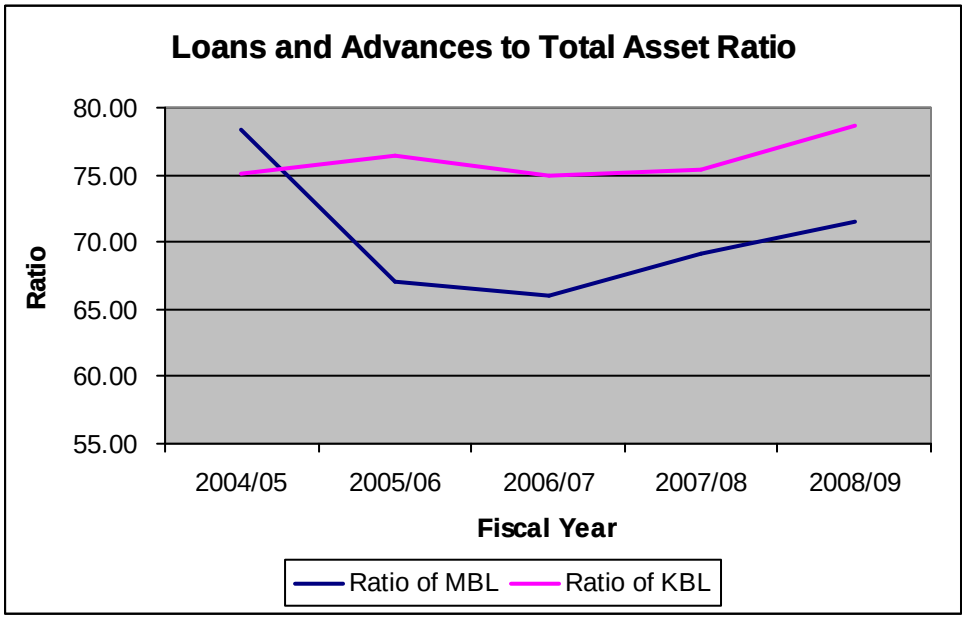
Loans and Advances to Total Asset Ratio (%)

	MBL Bank			KBL		
FY Year	Loan & Advances	Total Assets	Ratio of MBL	Loan & Advances	Total Assets	Ratio of KBL
2004/05	5,061	6,456	78.39	5,585	7,432	75.15
2005/06	6,068	9,060	66.98	6,892	9,010	76.49
2006/07	7,130	10,808	65.97	8,929	11,918	74.92
2007/08	8,642	12,498	69.15	11,335	15,027	75.43
2008/09	12,516	17,491	71.56	14,593	18,538	78.72
		Total	352.05		Total	380.71
		Mean	70.41		Mean	76.14
		S.D	4.95		S.D	1.56
		C.V%	14.22		C.V%	48.77

Source: Annual Reports (Annexure I)

Figure 4-1

Loans and Advances to Total Asset Ratio (%)



Source: Table 4-1

Table 4-1 & figure 4-1 show the loans and advances to total assets of two commercial banks for This ratio shows that both banks have the fluctuating trend. The overall ratio of MBL is 70.41 % where as ratio in KBL is 76.14%. From this, it is clear that out of total asset in balance items the proportion of loans and advances is higher in KBL as compared to MBL. This relates that the credit risk is higher in KBL as compared to MBL. It also refers that the MBL has invested in the risk-free asset such as Treasury Bills, Debentures, National Saving Bonds etc. Like wise, the standard deviation of MBL and KBL are 4.95 and 1.56 percentage. This indicates that the ratio deviate more from the average in case of MBL than KBL. The coefficient of variation (C.V) is 7.03% and 2.05% in MBL and KBL respectively, which means that per unit variation of the ratio of MBL is more than that of KBL. These indicate that the loan and advances to total asset ratio of MBL has more variation than that of KBL, which means higher risk in case of MBL than KBL.

4.2.1.2 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% ratio is considered as appropriate. This ratio is calculated by dividing total credit by total deposits.

Table 4-2

Loans and Advances to Total Deposit Ratio (%)

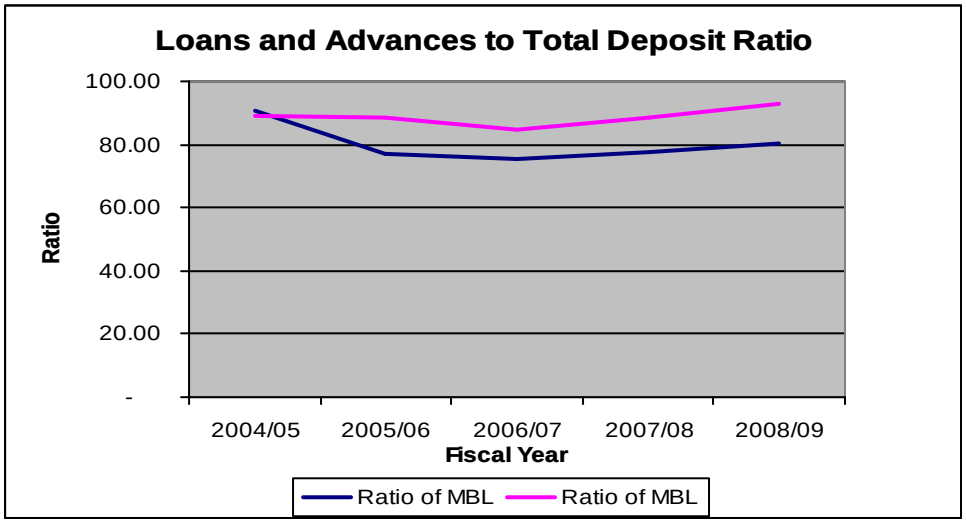
(In Million)

	MBL Bank			KBL		
FY Year	Loan & Advances	Total Deposit	Ratio	Loan & Advances	Total Deposit	Ratio
2004/05	5,061	5,587	90.60	5,585	6,269	89.08
2005/06	6,068	7,893	76.88	6,892	7,769	88.71
2006/07	7,130	9,475	75.25	8,929	10,557	84.58
2007/08	8,642	11,102	77.84	11,335	12,774	88.73
2008/09	12,516	15,597	80.25	14,593	15,711	92.89
		Total	400.81		Total	443.99
		Mean	80.16		Mean	88.80

	S.D	6.11		S.D	2.94
	C.V%	7.62		C.V%	3.31

Source: Annual Reports (Annexure I)

Figure 4-2
Loans and Advances to Total Deposit Ratio (%)



Source: Table 4-2

Table 4-2 & figure 4-2 show that the loans and advances to total deposit ratio of two commercial banks for 5 consecutives years. The loans and advances to total deposit ratio of both banks are fluctuating. The MBL has the highest CD ratio of 90.60% in the fiscal year 2004/05 where as the KBL has the highest CD ratio of 92.89% in the fiscal year 2008/09. The average CD ratio of MBL and KBL for 5 years is 80.61% and 88.80% respectively. The average CD ratio of KBL is higher than that of MBL which means that KBL has utilized its deposit higher than MBL. This again means that KBL has higher credit risk than that of MBL.

4.2.1.3 Non- Performing Loan to Total Loans and Advances Ratio

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

Table 4-3

Non Performing Loan to Total Loans & Advances

(Rs. 'in Million')

	MBL Bank			KBL		
FY Year	**NPL**	**Loan & Advances**	**Ratio of MBL**	**NPL**	**Loan & Advances**	**Ratio of KBL**
2004/05	20	5,130	0.39	54	5,681	0.95
2005/06	17	6,147	0.28	64	7,008	0.92
2006/07	85	7,320	1.16	66	9,062	0.73
2007/08	93	8,964	1.04	152	11,522	1.32
2008/09	302	12,984	2.33	65	14,795	0.44
		Total	5.19		**Total**	4.36
		Mean	1.04		**Mean**	0.87
		S.D	0.82		**S.D**	0.32

Source: Annual Reports (Annexure I & III)

Figure 4-3

Non- Performing Loan to Total Loans and Advances

Source: Table 4-1

Table 4-3 & figure 4-3 show that the ratio of non-performing loans (NPL) to total loans and advances of MBL and KBL for five consecutive years. Though the total loan and advances of both banks are in increasing trend, NPL of both banks is fluctuating. The average NPL ratio of MBL and KBL are 5.19% and 4.36% respectively. It can be related as MBL is in much higher risk than MBL. The standard deviation of MBL and KBL are 0.82% and 0.32% respectively. This indicates that the MBL has higher risk as its NPL ratio deviate more from average.

4.2.1.4 Loan Loss Provision (LLP) to Non-Performing Loan Ratio

This ratio determines the proportion of provision held to non-performing loan of bank. This ratio measures up to what extent of risk innate 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 4-4

Loan Loss Provision (LLP) to Non-Performing Loan Ratio

(Rs. 'in Million')

	MBL Bank			KBL		
Fiscal Year	LLP	NPL	Ratio of MBL	LLP	NPL	Ratio of KBL
2004/05	69	20	346.37	96	54	178.50
2005/06	78	17	461.88	116	64	180.15
2006/07	190	85	223.14	133	66	201.79
2007/08	322	93	346.27	187	152	122.83
2008/09	468	302	155.12	202	65	312.83
		Total	1,532.78		Total	996.10
		Mean	306.56		Mean	199.22
		S.D	119.56		S.D	69.90
		C.V%	39.00		C.V%	35.09

Source: Annual Reports (Annexure I & III)

Figure 4-4

Loan Loss Provision (LLP) to Non-Performing Loan Ratio

Source: Table 4-4

Table 4-4 and Figure 4-4 illustrate the ratio of loan loss provision to non-performing loan of KBL and MBL for five consecutive years. MBL has the highest ratio of 461.88% in the fiscal year 2005/06, whereas KBL has the highest ratio of 312.83% in the fiscal year 2008/09. The average NPL ratio of MBL and KBL is 306.56% and 199.22% respectively. This shows that MBL has provided higher protection of provisioning to non performing loan compared to KBL. The standard deviation of MBL and KBL are 119.56% and 69.90% respectively. This means that there exists the higher deviation in this ratio in context of MBL than KBL. The coefficient of variation of MBL and KBL is 39% and 35.09% respectively, which means that loan loss provision ratio of MBL fluctuate more from the average than that of KBL.

4.2.1.5 Loan Loss Provision (LLP) to Total Loans and Advances Ratio

This ratio indicates the amount of Loan Loss Provision, a cushion for the possibility of default, to total loans and advances of a bank. Higher provision for non performing loan 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 provable loan loss. Higher ratio implies that the bank has the higher proposition of NPL in bank loan portfolio.

Table 4-5

Loan Loss Provision (LLP) to Total Loans and Advances Ratio

(Rs. 'in Million')

	MBL Bank			KBL		
Fiscal Year	LLP	Loan & Advances	Ratio of MBL	LLP	Loan & Advances	Ratio of KBL
2004/05	69	5,130	1.34	96	5,681	1.70
2005/06	78	6,147	1.27	116	7,008	1.65
2006/07	190	7,320	2.60	133	9,062	1.47
2007/08	322	8,964	3.59	187	11,522	1.63
2008/09	468	12,984	3.61	202	14,795	1.36
		Total	12.41		Total	7.81
		Mean	2.48		Mean	1.56
		S.D	1.15		S.D	0.14
		C.V%	46.28		C.V%	8.91

Source: Annual Reports (Annexure I & III)

Figure 4-5
Loan Loss Provision (LLP) to Total Loans and Advances Ratio

Source: Table 4-1

It is observed in the table 4-5 & figure 4-5 that KBL has the least portion of loan loss provision. The average LLP to total loan and advances ratio is 2.48% and 1.56% of MBL and KBL respectively. The higher ratio of MBL than KBL reflects that MBL has higher non-performing loan compared to KBL. Likewise the standard deviation of MBL is 1.15% is much higher than that of KBL i.e. 0.14%.This indicates that MBL is in higher risk than MBL.

4.2.1.6 Return on Loan & Advances

This ratio indicates how efficiently the bank as 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 4-6

Return on Loan & Advances

In million

Fiscal Year	MBL Bank			KBL		
	Net Profit	Loan & Advances	Ratio	Net Profit	Loan & Advances	Ratio
2004/05	85	5,130	1.65	84	5,681	1.48
2005/06	134	6,147	2.18	104	7,008	1.48
2006/07	74	7,320	1.01	170	9,062	1.88
2007/08	85	8,964	0.95	175	11,522	1.52
2008/09	123	12,984	0.95	261	14,795	1.77
		Mean	1.35		Mean	1.63
		S.D	0.55		S.D	0.19
		C.V%	40.93		C.V%	11.41

Source: Annual Reports (Annexure I & II)

Figure 4-6

Return on Loan & Advances

Source: Table 4-6

It is illustrated from table 4-6 and figure 4-6 that the ratio of return on loans and advances of MBL is fluctuating every year and that ratio of KBL is nearly consistent. This shows that KBL has better return than MBL. The standard deviation of MBL and KBL for the study period is 0.55% and 0.19% respectively. This indicates that both the standard deviation of return percentage of MBL is more volatile than KBL, which also signifies the higher risk. Thus KBL is in better position than MBL.

4.2.1.7 Security-wise/Sector-wise Lending of MBL and KBL

Security wise lending refers to the lending of banks to the client against the 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 non-liquid fixed asset and immovable property. Banks even can lend without collateral for the trustworthy customers. Sector-wise lending refers to the lending of banks to client of different sectors. It helps to analyze the credit concentration of the bank.

4.2.1.7.1 Security-Wise Lending of MBL

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

Table 4-7

Security-Wise Lending of MBL

S.N	Security against Lending	Average Lending Against Each Collateral	Rank
1	Collateral of Movable/Immovable Assets	7,171	1
2	Guarantee of Local Licensed Institutions	177	3
3	Guarantee of Government of Nepal	10	7
4	Guarantee of Internationally Rated Banks	-	-
5	Export Documents	-	-
6	Own Fixed Deposit Receipts	19	6
7	FDR of Other Licensed Institution	161	4
8	Government Bonds	1	8
9	Counter Guarantees	-	-
10	Personal Guarantee	76	5
11	Other Securities	494	2

Source: Annual Reports (Annexure IV)

It is demonstrated from the table 4-7 that MBL has extended credit against the 8 securities only over the period of five years. The MBL has also granted the highest amount of loan against the movable/non movable property, the average lending against which over five years is Rs.7,171 million. Likewise, the average

loan against the other securities over five is Rs. 494 million which is ranked at 2. The bank has granted least loan against government bonds which is ranked at 8. The bank has not extended any credit against government guarantee, guarantee against internationally rated bank, export documents and counter guarantee. While it has granted loan against personal guarantee ranked at 5, which is not a good part of lending. Moreover, the bank has not extended any loan without collateral which is very risky.

4.2.1.7.2 Security-Wise Lending of KBL

This helps to analyze bank risk on collateral of KBL.

Table 4-8

Security-Wise Lending of KBL

S.N	Security against Lending	Average Lending Against Each Collateral	Rank
1	Collateral of Movable/Immovable Assets	8,261	1
2	Guarantee of Local Licensed Institutions	27	5
3	Guarantee of Government of Nepal	8	7
4	Guarantee of Internationally Rated Banks	-	-
5	Export Documents	40	4
6	Own Fixed Deposit Receipts	11	6
7	FDR of Other Licensed Institution	72	3
8	Government Bonds	0	9
9	Counter Guarantees	-	-
10	Personal Guarantee	4	8
11	Other Securities	1,191	2
12	Loan without Collateral	-	-

Source: Annual Reports (Annexure IV)

The table 4-8 demonstrates the lending of KBL against different securities over the five years. KBL has extended the credit mostly against the movable/non movable property over the five years. The average lending against movable/non movable property is 8261 million, which is highest among the lending against all securities. The bank has not granted any loan without collateral, which is the good part of lending practice. The bank even does not have lending against the guarantee against internationally rated bank. The bank has extended least credit against the government guarantee, which is ranked 7th position on the basis of

average amount of lending. From the average lending, personal guarantee is ranked in 8th position. This means the bank has been granting loan largely on personal guarantee which can be very risky. Moreover the bank has to make 100% provision for this loan, which decreases the bank's profit. And in case of default, the bank will suffer losses of the total amount of loan, as there is no collateral to cover it.

4.2.1.7.3 Sector-wise Loan to Core Capital

This is the ratio between loan extended by bank in a sector and core capital. Core capital includes share capital, retained earning, general reserve, capital adjustment fund, non-redeemable preferred stock etc. 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 2066, the loan exposure on single sector more than 50% of core capital needs to verify at least quarterly as there exists the concentration risk. Similarly, single sector loan concentration more 100% of core capital needs to be approved by the board of directors. The core capital of MBL Bank and KBL is Rs.1,677 and Rs.1,613 million respectively in fiscal year 2008/09.

Table 4-9

Sector-wise Loan to Core Capital on Fiscal Year 2008/09

S.N.	Sectors	MBL		KBL	
		Loan Amount	Sector-wise Loan to Core Capital Ratio	Loan Amount	Sector-wise Loan to Core Capital
1	Agriculture	43	3	484	30
2	Mines	46	3	124	8
3	Manufacturing	2,618	156	2,696	167
4	Construction	1,446	86	1,545	96
5	Metal productions, Machinery & Electrical Tools & fitting	84	5	226	14
6	Transportation Equipment production & Fitting	110	7	1,153	71
7	Transportation, Communications & Public Services	1,153	69	227	14
8	Wholesaler & Retailer	2,049	122	1,131	70
9	Finance, Insurance & Fixed Assets	1,150	69	2,757	171
10	Service Industries	807	48	742	46
11	Consumable Loan	129	8	1,574	98
12	Local Government		-		-
13	Others	3,350	200	2,024	125
	Total	**12,984**		**14,682**	

Source: NRB, Banking & Financial Statistics 2009

Table 4-9 illustrates that the percentage of loan on single sector to core capital of MBL Bank and KBL in fiscal year 2008/09. Above table depicts that the ratio of MBL Bank and KBL has crossed 50% in 6 & 7 sectors respectively. Out of which, the ratio of MBL Bank and KBL has crossed 100% in 3 sectors. The above table indicates both Banks have higher concentration risk. MBL has higher ratio in manufacturing sector where as KBL has in Finance, Insurance & Fixed Assets which is 156% and 171% respectively.

4.2.1.7.4 Credit Concentration on Sector

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

Table 4-10

Credit Concentration on Different Sector on Fiscal Year 2008/09

S.N.	Sectors	MBL		KBL	
		Loan Amount	%	Loan Amount	%
1	Agriculture	43	0.33	484	3.30
2	Mines	46	0.35	124	0.85
3	Manufacturing	2,618	20.16	2,696	18.36
4	Construction	1,446	11.13	1,545	10.52
5	Metal productions, Machinery & Electrical Tools & fitting	84	0.65	226	1.54
6	Transportation Equipment production & Fitting	110	0.85	1,153	7.85
7	Transportation, Communications & Public Services	1,153	8.88	227	1.55
8	Wholesaler & Retailer	2,049	15.78	1,131	7.70
9	Finance, Insurance & Fixed Assets	1,150	8.86	2,757	18.78
10	Service Industries	807	6.22	742	5.05
11	Consumable Loan	129	1.00	1,574	10.72
12	Local Government		-		-
13	Others	3,350	25.80	2,024	13.79
	Total	**12,984**	**100.00**	**14,682**	**100**

Source: NRB, Banking & Financial Statistics 2009

From the table 4-10 it is found that MBL has invested highest 25.80% of its total loan in others sector while KBL has invested highest of 18.78% of its total loan in Finance, Insurance & Fixed Assets sector. MBL has invested 20.16% of its total loan in Manufacturing whereas KBL has invested 18.36% in the same sector, which is a productive sector. Both banks have not invested any loan in local government sector while both banks have least percentage of loans extended in agriculture, Machinery and mine sector. Both the banks has not excessive concentration on any single sector. So, in this regard both banks are safe.

4.2.1.8 Correlation Analysis

4.2.1.8.1 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 and independent variable and LLP are dependent variable.

Table 4-11

Correlation Coefficients between LLP and Loans and Advances

Banks	Correlation Coefficient (r)	Probable Error (P. E.)	Test of P.E (6*P.E)
MBL	0.98	0.012	0.073
KBL	0.97	0.015	0.089

Source: Annexure V

The table 4-11 explains the relationship between loans and advances and LLP. Correlation coefficient of MBL & KBL is 0.98 & 0.97, which means that both banks have high degree of positive correlation of LLP with loans and advances The probable error when multiplied by 6, is used to test the significance of calculated correlation coefficient, which is 0.073 and 0.089 of MBL and KBL. Here, the probable error (multiplied by 6) of both banks are less than the correlation coefficient that means the correlation coefficient value is significant.

4.2.1.8.2 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 b this correlation. NPL has been treated as an independent variable, whereas the LLP a dependent variable.

Table 4-12

Correlation Coefficient between LLP and NPL

Banks	Correlation Coefficient (r)	Probable Error (P. E.)	Test of P.E (6*P.E)
MBL	0.93	0.041	0.211
KBL	0.55	0.247	1.268

Source: Annexure VI

Table 4-12 exhibits correlation between LLP and NPL of MBL & KBL. The correlation between LLP and NPL of MBL & KBL is 0.93 & 0.55 respectively, which means that MBL has high degree of positive correlation whereas KBL has moderate degree of positive correlation. This indicates that the LLP of both banks changes with the change in NPL.

The probable error multiplied by 6 which is used to test the significance of correlation coefficient, of MBL is less than the correlation coefficient that means the correlation coefficient value is significant. But the probable error multiplied by 6 of KBL is more than the correlation coefficient that means the correlation coefficient value is not significant

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 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.

4.2.2.1 Kumari Bank Ltd.(KBL)

KBL has a Credit Department that handles the all credit functions. Credit Control Department formulates the credit policies and monitoring credit. It has Recovery

Department which monitors all the credit documentation and performance of the credit client. It also acts as legal department, which handles all the legal issues before extending credit to the clients. In KBL all the credit decision is governed by Credit Policies Guidelines. Under the management level, the credit decision is taken by Chief Credit Officer but beyond his authority CEO takes the decision.

4.2.2.2 Machhapuchhre Bank Ltd.

At MBL 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 clearly or indirectly caused by weaknesses in credit risk management. According to the experience of key respondents of KBL & MBL, certain key problems tend to recur in the banking industry that results in the high credit losses. Sever 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 and MBL some of the most common problems related to the broad areas of concentrations, credit processing, and market and liquidity-sensitive credit exposures.

4.2.3.1 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:

i. 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.
ii. 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.

4.2.3.2 Credit Process Issues

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

documentation such as financial statements, credit analysis provided by the account officer and collateral appraisals. The purpose of credit review is to provide appropriate checks and balances to ensure that credits are made in accordance with bank policy 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 asspecific 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.

4.2.3.3 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.

4.3 Market Risk

Market risk is the risk to a financial institution's condition resulting from adverse movement in market rates or prices, such as interest rates, foreign exchange rates, or equity prices, which are presented below:

4.3.1 Liquidity Risk

Liquidity refers to 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:

4.3.1.1 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. Due to unavailability of data of fiscal year 2002/03, only data of 4 years is used.

Table 4-13

Gap Analysis of Asset & Liabilities of MBL and KBL

Fiscal Year	1-90 Days		91-180 Days		181-270 Days		271-365 Days		More than 1 year	
	MBL	**KBL**	**MBL**	**KBL**	**MBL**	**KBL**	**MBL**	**KBL**	**MBL**	**KBL**
2004/05	203	146	- 512	- 292	- 16	1,080	43	1,143	- 94	- 872
2005/06	192	- 270	200	584	336	- 512	- 160	1,412	396	- 393
2006/07	259	2,237	477	- 643	340	122	1,955	1,022	-1,949	-1,776
2007/08	373	3,195	123	1,071	687	203	286	1,238	-2,353	- 331
2008/09	3,559	5,452	1,375	420	1,092	139	1,025	-1,741	-5,440	-2,141
Mean	**917**	**2,152**	**333**	**228**	**488**	**206**	**630**	**615**	**- 1,888**	**- 1,103**
S.D	**1,479**	**1,660**	**418**	**787**	**287**	**655**	**967**	**165**	**1,354**	**667**

Source : Annual Reports

The table 4-13 illustrates 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 the KBL and MBL both have positive average net position in almost short term intervals in five years period. KBL has negative net position in long interval (i.e. in more than 1 year) in all fiscal year while MBL has positive in long interval in year 2005/06 only.

This means that both banks have short-term assets adequate than short-term liabilities and do not have any liquidity problem. But both banks have negative net position in time interval of more than 1 year which indicates that both banks have long-term liabilities such as deposits and other liabilities higher than long term asset such as loan and advances, fixed assets etc. Such situation is also called maturity mismatched.

The mean net position of MBL is Rs. 917 million, Rs. 333 million, Rs.488 million, Rs. 630 million, - Rs. 1888 million in time interval 1-90 days, 91 – 181 days, 182 – 270 days, 271 – 365 days and more than 1 year respectively. Likewise the mean net position of KBL is Rs.2152 million, Rs. 228 million, Rs. 206 million, Rs. 615 million, - Rs. 1103 million in time interval 1-90 days, 91 – 181 days, 182 –270 days, 271 – 365 days and more than 1 year respectively. This means, that KBL has less mean net position in almost all short time interval except in time interval 1-90 days which is a sign that KBL is in more risky positions than MBL in terms of meeting short term liquidity.

4.3.1.2 Cash and Bank Balance to Total Asset Ratio

Cash and Bank Balance to Total Asset Ratio measure 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 has 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 4-14
Cash and Bank Balance to Total Asset Ratio

(In Million)

	MBL Bank			KBL		
Fiscal Year	**Cash & Bank Balance**	**Total Assets**	**Cash & Bank Balance to Total Assets**	**Cash & Bank Balance**	**Total Assets**	**Cash & Bank Balance to Total Assets**
2004/05	731	6,456	11.32	443	7,432	5.97
2005/06	814	6,445	12.63	390	9,010	4.32
2006/07	1,284	9,070	14.16	671	11,918	5.63
2007/08	1,589	10,810	14.69	934	15,027	6.21
2008/09	2,767	12,410	22.29	1,282	18,539	6.92
		Mean	15.02		Mean	5.81
		S.D	4.28		S.D	0.96

Source: Annual Reports (Annexure I)

Figure 4-7
Cash and Bank Balance to Total Asset Ratio

Source: Table 4-14

The table 4-14 and figure 4-7 show that the cash and bank balance to total asset ratio of KBL and MBL for 5 years. The ratio of MBL is the highest of 22.29% in fiscal year 2008/09 and the lowest of 11.31% in the fiscal year 2004/05. On the other hand, the ratio of KBL is the highest of 6.92% in the fiscal year 2008/09 and lowest of 4.32% in the fiscal year 2005/06. The ratio of MBL is in increasing trend where as ratio of KBL is fluctuating. The average ratio of MBL and KBL is 15.02% and 5.81% respectively. This shows that the KBL has less amount of liquid fund such as cash and bank balance than MBL. 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 MBL and KBL is 4.28 and 0.96 respectively. This means that the fluctuation rate of cash and bank balance is lower in KBL than in MBL. This indicates that the KBL has less variation in cash and bank balance out of total asset.

4.3.1.3 Cash Reserve Ratio (CRR)

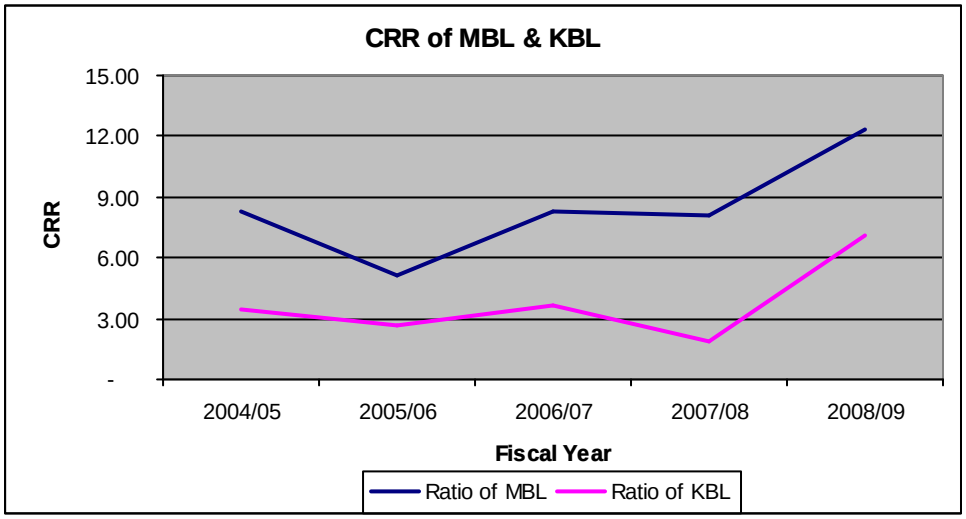
Cash Reserve Ratio refers to the portion of total local currency deposit except margin deposit that the commercial banks should maintain in NRB. The LCY deposit of two week ago is considered for CRR calculation. It is a statutory reserve that the bank should have to maintain in NRB current account. Higher CRR ratio means higher amount of bank fund is tied up in NRB, which means lower investment etc. because it is non interest earning bank balance. In FY 2008/09 the bank should maintain 5.5% CRR. Before FY 2008/09, it was 5%.

Table 4-15
Cash Reserve Ratio of MBL and KBL

Fiscal Year	Statutory Ratio	MBL		KBL	
		Ratio of MBL	Excess/ (Short)	Ratio of KBL	Excess/ (Short)
2004/05	5	8.27	3.27	3.44	- 1.56
2005/06	5	5.18	0.18	2.71	2.71
2006/07	5	8.29	3.29	3.65	- 1.35
2007/08	5	8.05	3.05	1.91	- 3.09
2008/09	5.5	12.33	6.83	7.13	1.63
	Mean	8.42		3.77	
	S.D	2.55		2.00	
	C.V%	0.30		0.53	

Source: Annual Reports

Figure 4-8
Cash Reserve Ratio of MBL and KBL



Source: Table 4-15

The table 4-15 and figure 4-8 illustrate the cash reserve ratio of MBL and KBL from fiscal year 2004/05 to 2008/09. The Cash Reserve Ratio (CRR) indicates the total amount of deposit of commercial banks in NRB. NRB prescribe CRR for the commercial banks each year. In fiscal year 2004/05, CRR is 5% which means that the bank has to maintain 5% of total deposit in NRB. From above table and graph, it is clear that KBL has maintained the statutory measure (i.e. 5%) till the fiscal year 2005/06 but in the fiscal year 2006/07, CRR of KBL is 3.94% which is below the statutory measure and also the CRR is in decreasing trend. MBL has maintained the CRR above the statutory measure though its trend is fluctuating. The higher the CRR, the more funds in NRB and the stronger will be in liquidity position. The mean CRR of KBL is 7.09 with standard deviation 1.81 where as the mean of MBL is 7.12 with standard deviation 1.31. From this, it is clear that the average CRR of MBL is higher than KBL but the deviation is higher in case of KBL than MBL. From above, it can be summarized 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 met its liabilities that come. 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.

4.3.2.1 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 is presented below:

Table: 4.16

Interest Income to Total Income

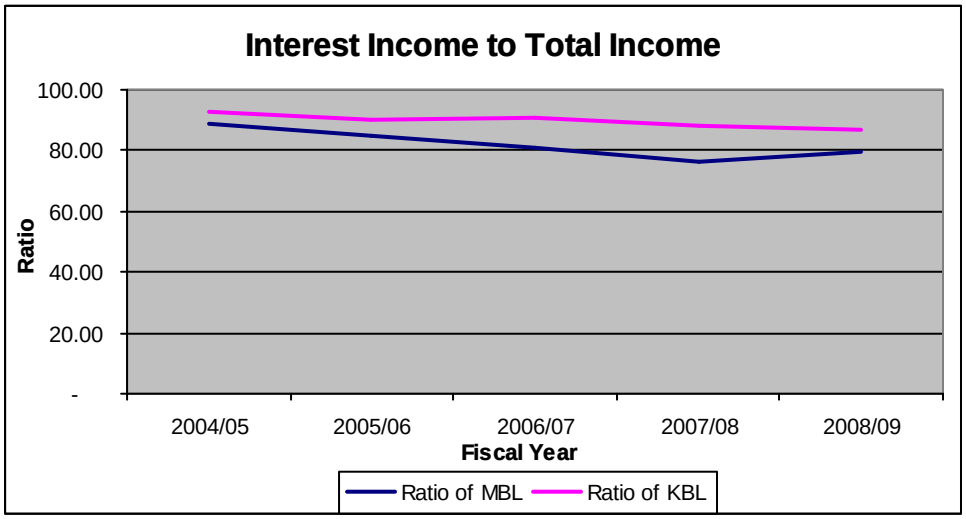
(In Million)

	MBL Bank			KBL		
Fiscal Year	Interest Income	Total Income	Ratio of MBL	Interest Income	Total Income	Ratio of KBL
2004/05	382	429	89.13	500	541	92.47
2005/06	563	665	84.66	606	673	89.93
2006/07	694	855	81.20	791	875	90.48
2007/08	797	1,043	76.35	957	1,088	87.97
2008/09	1,041	1,307	79.67	1,375	1,581	86.97
		Mean	82.20		Mean	89.56
		S.D	4.89		S.D	2.16
		C.V%	5.95		C.V%	2.42

Source: Annual Reports (Annexure II)

Figure 4-9

Interest Income to Total Income



Source: Table 4-16

The table 4-16 and figure 4-9 illustrate the interest income to total income of MBL and KBL. The interest income to total income of MBL is in decreasing trend till FY 2007/08 but it increased in FY 2008/09 and remained 79.67%. KBL has fluctuating trend in interest income to total income. The mean of ratio of MBL and KBL is 82.20% and 89.56% respectively. This ratio indicates that both banks are highly dependent on interest based income, which shows the sign of high risk for banks. Both banks need to have diversification on investment. The standard deviation of ratio of MBL and KBL is 4.89% and 2.16% with coefficient of variation of 5.95% and 2.42% respectively. This shows that MBL has higher deviation of ratios than KBL.

4.3.2.2 Gap Analysis (Interest Rate)

Gap Analysis refers to the process of analyzing mismatch between rate sensitive of 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:

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

Interest rate sensitive asset and liabilities refers to such assets/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 t he 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 MBL and KBL is presented below:

Table 4-17

Gap Analysis of IRSA and IRSL of MBL and KBL

(Rs. in million)

	MBL Bank				KBL			
Fiscal Year	**IRSA**	**IRSL**	**Gap**	**Gap Ratio**	**IRSA**	**IRSL**	**Gap**	**Gap Ratio**
2004/05	356	154	202	231.37	160	402	- 242	39.80
2005/06	1,005	131	874	767.45	425	251	174	169.16
2006/07	1,021	229	793	446.91	752	213	539	353.29
2007/08	636	89	548	718.78	532	100	432	531.84
2008/09	467	-	467	-	242	293	- 51	82.72
		Mean	576.88	432.90		Mean	170.54	235.36

Source: Annexure VII

Table 4-17 exhibits the IRSA and IRSL of MBL & KBL for 5 years. The table shows that MBL has higher level of gap in every year than KBL except in the fiscal year 2004/05. MBL has zero Rate Sensitive Liabilities in FY 2004/05. It has 467 million rupees Rate Sensitive Assets but none Rate Sensitive Liabilities. The average gap of MBL is 576.88 million and KBL is 170.54 million respectively. This average gap shows that KBL has nicely matched the IRSA and IRSL than MBL which indicates the lower interest rate risk.

4.3.2.2.2 Gap Analysis of Fixed Interest Rate Asset/Liabilities

Gap Analysis now 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 (FIRSL) 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 FIRSA and FIRSL. Higher gap ratio indicates that the bank has more FIRSA than FIRSL, 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. The bank will not suffer any losses if the ratio is 1 and gap is zero.

Table 4-18
Gap Analysis of FIRSA and FIRSL of MBL and KBL

(Rs. in million)

	MBL Bank				KBL			
Fiscal Year	FIRSA	FIRSL	Gap	Gap Ratio	FIRSA	FIRSL	Gap	Gap Ratio
2004/05	5,258	5,587	- 329	94.11	6,705	6,269	436	106.95
2005/06	7,051	7,893	- 842	89.33	8,006	7,769	237	103.05
2006/07	8,271	9,475	- 1,204	87.29	10,171	10,557	- 386	96.34
2007/08	9,791	11,102	- 1,311	88.19	12,630	13,174	- 544	95.87
2008/09	13,513	15,597	- 2,083	86.64	15,690	16,111	- 421	97.39
		Mean	- 1,154	89.11		Mean	- 135.53	99.92

Source: Annexure VIII

The table 4-18 illustrates the FIRSA and FIRSL of MBL and KBL. The table shows that MBL has high level of negative gap in all fiscal year where as KBL has positive gap in FY 2004/05. MBL has the highest negative gap of -2083 million in fiscal year 2008/09 and KBL has the highest negative gap of -544 in fiscal year 2007/08. The higher gap indicates the high level of interest rate risk of both banks. The mean gap of MBL and KBL is -1154 and -135.53 respectively. This shows that KBL has matched FIRSA and FIRSL better than MBL, which indicates lower risk than MBL.

4.3.2.2.3 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 MBL and KBL, assuming that the market interest rate will change by 1 percent.

Table 4-19

Net Interest Margin of MBL and KBL

(Rs. in million)

	MBL Bank			KBL		
Fiscal Year	IRSA	IRSL	NIM	IRSA	IRSL	NIM
2004/05	356	154	2	160	402	- 2
2005/06	1,005	131	9	425	251	2
2006/07	1,021	229	8	752	213	5
2007/08	636	89	5	532	100	4
2008/09	467	-	5	242	293	- 1
		Mean	5.77		Mean	1.71

Source: Annexure VII

Where, Δ NIM = (ΣRSAs x Δ rA) - (ΣRSLs x Δ rL)

RSA = Rate Sensitive Assets

Δ rA = Changes in interest rate received on Rate Sensitive Asset

RSL = Rate Sensitive Liabilities &

Δ rL = Changes in interest rate received on Rate Sensitive Liabilities

The table 4-19 illustrates the net interest margin of MBL and KBL for 5 fiscal years. When the interest rate changes is assumed to be 1% in both RSA and RSL, MBL shows the higher average net interest margin than KBL which is 5.77% and 1.71% respectively. This means that MBL has higher net interest margin than that of KBL.

4.3.2.3 Interest Risk Analysis According to NRB Directive No. 5

According to NRB directive no. 5, the interest rate risk is measured by calculating 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 2008/09 has been calculated as below:

Table 4-20

Interest Rate Risk Analysis of MBL for Fiscal Year 2008/09

ASSET	1 TO 90 DAYS	91 TO 180 DAYS	181 TO 270 DAYS	270-365 DAYS	MORE THAN 1 YR	TOTAL
Investment In Foreign Banks	39	78	195	20	117	449
Call Money						-
Investment In Hmg Securities	327		132	19		478
Other Investment	250				69	319
Loans & Advances	3,218	1,859	1,964	1,888	4,056	12,985
Total Assets	**3,834**	**1,937**	**2,291**	**1,927**	**4,242**	**14,232**
Liabilities	-	-	-	-	-	-
Call Deposits						-
Saving Deposits	631				6,214	6,845
Fixed Deposits	514	562	1,198	902	506	3,682
Borrowings						-
Total Liability	**1,145**	**562**	**1,198**	**902**	**6,720**	**10,527**
Net Financial Asset	**2,689**	**1,375**	**1,093**	**1,025**	**(2,477)**	**3,705**
Cumulative Financial Asset	**2,689**	**4,064**	**5,157**	**6,182**	**3,705**	
Net Profit/ Loss (Cumulative Gap X IRC)	**6.72**	**10.16**	**12.89**	**15.46**	**9.26**	**-**

Source: Annual Reports

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

The table 4-20 illustrates the net profit/loss position of asset and liabilities of each time interval of bank for the changes in interest rate. It is shown in the above table that the MBL has negative gap in the above 1 year time interval. This shows that the bank has higher liabilities than asset in the long term period and higher assets in short term period. The cumulative gap for total time interval is Rs.3,705 million and the overall profit of the bank is Rs.9.26 million if the interest rate changes by 1% in year i.e. divided into five periods (i.e. .25% in each period).

Table 4-21

Interest Rate Analysis of KBL for Fiscal Year 2008/09

(Rs. in million)

Assets	**1-90 Days**	**91-180 Days**	**181-270 Days**	**270-365 Days**	**More than 1 year**	**Total**
Investment In Foreign Banks	-	-	-	-	-	-
Call Money	-	-	-	-	-	-
Investment In Hmg Securities	-	-	-		197	197
Investment In Nrb Bonds	-	-	-	882	-	882
Interbank Loan	230	212	-	-	-	442
Loans & Advances	10,652	208	139	29	3,767	14,795
Interest Receivable	-	-	-	-	-	-
Reverse Repo	-	-	-	-	-	-
Total Assets	**10,882**	**420**	**139**	**911**	**3,964**	**16,316**
Liabilities	**1-90 Days**	**91-180 Days**	**181-270 Days**	**270-365 Days**	**More than 1 year**	**Total**
Saving Deposits	6,139				4,170	10,309
Fixed Deposits	-	-	-	2,693	1,835	4,528
Debentures	-	-	-	-	-	-
Borrowings	293	-	-	-	-	293
Repo	-	-	-	-	-	-
Total Liabilities	**6,432**	**-**	**-**	**2,693**	**6,005**	**15,130**
Net Financial Asset	**4,450**	**420**	**139**	**(1,782)**	**(2,041)**	**1,186**
Cumulative Financial Asset	**4,450**	**4,870**	**5,009**	**3,227**	**1,186**	
Net Profit/ Loss (Cumulative Gap X IRC)	**11.13**	**12.18**	**12.52**	**8.07**	**2.97**	**-**

Source: Annual Reports

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

Table 4-21 shows the net profit/loss position for each interval asset and liabilities of bank from changes in interest rate. The above table shows that KBL has negative gap in (270-365) days & in 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. 1,186 million and the bank would earn overall profit of Rs. 2.97 million if the interest rate changes by 1% in year, which consists of five periods. (i.e 0.25% in each period)

4.3.2.4 Interest Rate Spread

The interest rate spread refers to the difference between weighted average interest on loan and advances, Investment & Money at call and the weighted average interest on deposit, borrowings, debentures etc. 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 borrowing and will receive higher interest on loan/advances and investments. The interest rate spread of two banks is presented as below:

Table 4-22

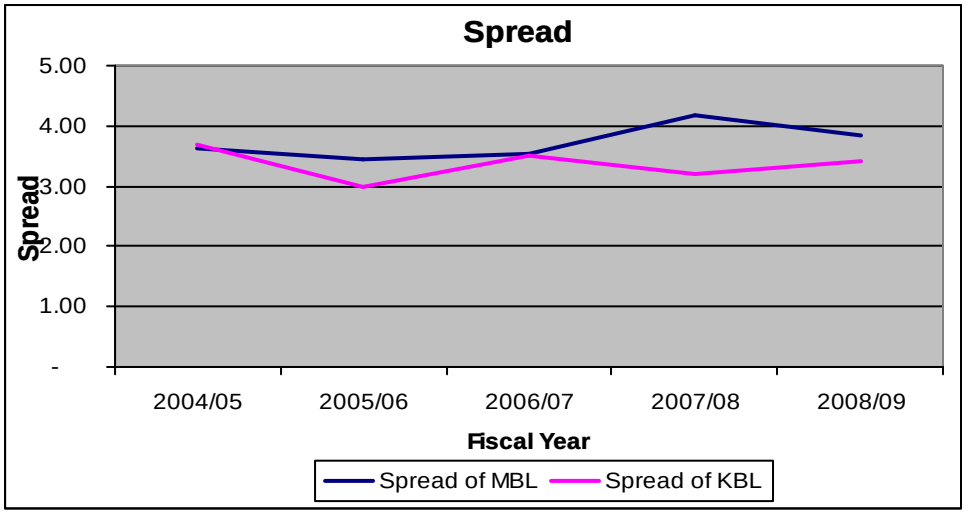
Interest Rate Spread of MBL and KBL for 4 years

	MBL			KBL		
Fiscal Year	Yield%	Cost%	Spread	Yield%	Cost%	Spread
2004/05	6.89	3.26	3.63	7.28	3.60	3.68
2005/06	7.06	3.60	3.46	7.18	4.20	2.98
2006/07	7.63	4.10	3.53	7.21	3.69	3.52
2007/08	7.84	3.65	4.19	7.08	3.87	3.20
2008/09	7.57	3.72	3.85	8.52	5.10	3.42
	Average Spread		**3.73**	**Average Spread**		**3.36**

Source: Annual Reports (Annexure IX)

Figure 4-10

Spread



Source: Table 4-22

Table 4-22 & figure 4-10 illustrate the interest rate spread of two commercial banks. The interest rate spread of both MBL & KBL is fluctuating. MBL has

highest yield of 7.84% in FY 2006/07 and cost of 4.10% on deposit in the fiscal year 2006/07. KBL has highest yield of 8.52 in the fiscal year 2008/09 and highest interest cost of 5.1% in fiscal year 2008/09. Both highest yield & cost of KBL are higher than that of MBL. The mean spread of MBL is higher than that of KBL. This interest rate spread indicates that MBL has higher net interest income than KBL, which means higher profit. However, both banks have interest rate spread less than 5%.

4.4 Operation Risk

Operational risk is the risk of loss resulting from inadequate internal processes, people, and systems, or from external events. The most important types of operational risk involve breakdowns in internal controls and corporate governance. Such breakdowns can lead to financial losses through error, fraud, or failure to perform in a timely manner or cause the interests of the bank to be compromised in some other way, for example, by its dealers, lending officers or other staff exceeding their authority or conducting business in an unethical or risky manner. Other aspects of operational risk include major failure of information technology systems or events such as major fires or other disasters. 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:

4.4.1 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:

4.4.1.1 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). Mr. Sanjeeb Sainju of KBL states the cash short and over is a regular phenomenon in banking sector, which can be minimized but cannot be completely eliminated due to the human error. The average cash short in a year is around Rs.50 thousands to 100 thousands. Mrs. Indra Thapa of MBL states 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. The short amount is covered from this teller risk fund. If the short amount is higher than the teller risk fund, the concerned staffs have to pay to the bank.

4.4.1.2 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.), if the bank opens a L.C. or provides loan against the false document, the bank has to suffer a loss. Similarly, while purchasing the cheques and bills, if the document is not genuine, this leads the 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.

4.4.1.3 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. Mr. S. Pandey of KBL opines that major settlement problem of the bank is associated with the draft payment, payment of foreign trade & visa card etc. This problem is mainly because of the unsettlement of transaction by the Nostro Banks. Nostro Bank refers to the bank in which a commercial bank maintains its fund. So, when Nepalese banks have to do transaction in foreign countries in foreign trade, they

will perform through such Nostro Banks. While making transaction by the 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.

4.4.2 Money Laundering

Money laundering is the practice of engaging in financial transactions in order to conceal the identity, source, and/or destination of illegally gained money, and is a main operation of the underground economy, (Wikipedia, 2010). In another word, 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.

In other words, it is a process by which "dirty money" is made to look clean. The money earned from drug trafficking, tax evasion, extortion, smuggling etc. are examples of dirty money. Money laundering is a major concern to the governments and regulatory authorities all over the world. It has been recognized as a major social problem and crime by the governments around the world.

Financial institutions are the medium for channeling the illegally or criminally earned money into the financial system. The simplest way to clean the illegally earned money is to bring-in-such money to the financial system through different means such as deposits of cash, traveler's cheques, drafts, electronic transfer and

other financial instruments. Money Laundering was a global issue after the September 11, 2001.

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.

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 You: 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. The bank's continuously identifies and verifies the following transactions:

- Due Diligence are collected, recorded and monitored information on customers.
- Operating staff is required to record and report all individual cash deposits and withdrawals and all incoming / outgoing electronic fund transfers, exceeding a sum prescribed by Compliance Officer.
- Unusual or Suspicious transactions/ activities identified should be reported to the Compliance Officer and after verification of the correctness should report to Senior Management in the appropriate format.
- Multiple bank accounts of a same customer in same bank
- 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.

In order to combat money laundering, laws & regulations have been formulated & implemented in various countries. In Nepal, all banks & Financial Institutions must be registered and licensed with the competent authority in order to carry out the financial transactions. Moreover, Banks & Financial Institutions Act 2006 of Nepal has specified the qualification of a Promoter, Director & Chief Executive Officer of Financial Institutions. The central bank of Nepal has also approved the policy, by which the source of funds to invest as a promoter in financial institutions must be declared. Central Bank of Nepal has issued guidelines for implementation of Know Your Customer Policy (KYC) in all Banks & Financial Institutions with effect from April 2006.

4.4.3 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. 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. Everyday both the bank record 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 are new banking product in Nepalese commercial banks, have also been launched 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 breakthrough 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 24 ATM machines which are placed in major cities of the country. Similarly, MBL is providing ATM card in collaboration of Smart Choice Technology (SCT) Network, which can 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. 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. Key Person 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) Mr. Amar Rajbhandari (Telephonic Interview, 2010 August 17) 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.

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 safer 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 i.e. 10%. If the bank fails to maintain the required ratio, bank is not allowed to increase its asset, disburse loans, collect deposits and distribute dividend.

4.5.1 Total Risk Weighted Exposures (RWE)

Risk Weighted Exposures refers to all the on balance sheet and off balance sheet assets which has been weighted by some portion of risk. Total RWE is the summation of following three types of risk weighted exposures:

i. Risk Weighted Exposure for Credit Risk
ii. Risk Weighted Exposure for Operational Risk
iii. Risk Weighted Exposure for Market Risk

RWE for credit risk refers to the capital charge (from 0% to 150%) on the different claims and off balance sheet items on the basis of level of risk (11 categories as prescribed by BASEL II). For e.g. all claims on Government of Nepal and Nepal Rastra Bank shall be risk weighed at 0 %, the risk weight for claims on domestic corporate, including claims on insurance companies and securities firm will be 100% and 150% risk weight shall be applied for venture capital and private equity investments.

RWE for operational risk refers to capital charge for operational risk equal to the average over the previous three years of a fixed percentage (denoted alpha) of positive annual gross income. The capital charge for operational risk may be expressed as follows:

$$KBIA = [\Sigma(GI_{1..n} \times \alpha)]/N$$

where:
KBIA = capital charge under the Basic Indicator Approach
GI = annual gross income, where positive, over the previous three years
N = number of the previous three years for which gross income is positive
α = 15 percent.

RWE for market risks refers to a fixed proportion capital charge on the bank's net position. The banks should allocate 5 percentages of their net open positions as capital charge for market risk.
Under Market risk, the designated Net Open Position approach requires banks to allocate a fixed proportion of capital in terms of its net open position. The banks should allocate 5 percentages of their net open positions as capital charge for market risk.

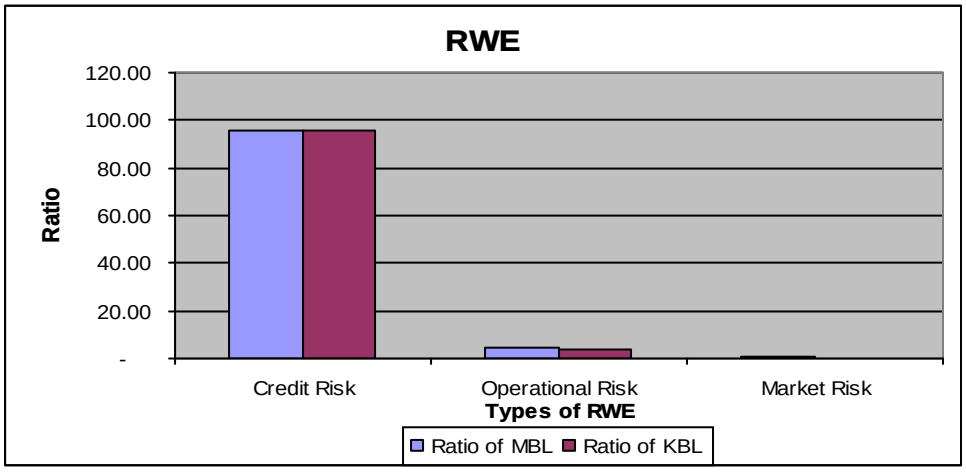
The portion of RWE for credit risk, market risk & operational risk in total RWE of MBL & KBL for FY 2008/09 are as below:

Table 4-23
Types of RWE

Types of RWE	MBL	Ratio of MBL (%)	KBL	Ratio of KBL (%)
Credit Risk	14,588.51	95.36	16,983.99	95.72
Operational Risk	651.10	4.26	709.44	4.00
Market Risk	58.61	0.38	49.81	0.28
Total RWE	15,298.22	100.00	17,743.24	100.00

Source: Annual Reports

Figure 4-11
Types of RWE



Source: Table 4-23

The table 4-23 & figure 4-11 illustrate the segregation of total RWE for credit risk, operational risk & market risk. From the above table & graph, it is clear that

both banks have charged capital about 96% for credit risk, which means both banks have excessive credit risk than operational & market risk.

So, the banks should have methodologies that enable them to assess the credit risk involved in exposures to individual borrowers or counterparties as well as at the portfolio level. The credit review assessment of capital adequacy, at a minimum, should cover risk rating systems, portfolio analysis/aggregation, large exposures and risk concentrations.

4.5.2 Core Capital to Total Risk Weighted Exposures (RWE)

Core Capital to Total Risk Weighted Exposures (RWE) ratio measures the proportion of funding of Total Risk Weighted Exposures from the core capital. Core Capital, on the other hand, refers to the shareholders equity, which includes Share Capital, Retained Earning, General Reserve, Net profit & Non redeemable Preference Share). The higher ratio does a bank maintain, the better position a bank has and vice versa. Higher ratio also means more use of equity while financing the asset, which means lower use of debt (i.e. borrowings and deposit). As we know the lower the use of the debt, the less risk a bank has and vice versa; the higher ratio is always preferred.

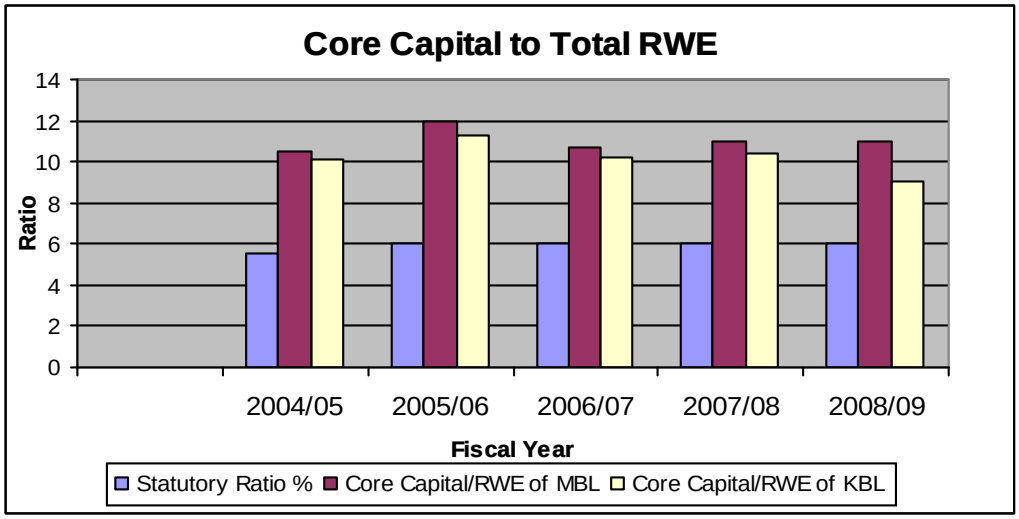
Table 4.24
Core Capital to Total Risk Weighted Exposures Ratio

(Rs. 'in Million')

		MBL Bank				KBL			
Fiscal Year	**Statutory Ratio %**	**Core Capital**	**Total RWE**	**Core Capital /RWE**	**Excess/ Shortfall**	**Core Capital**	**Total RWE**	**Core Capital/ RWE**	**Excess/ Shortfall**
2004/05	5.5	638	6,063	10.52	5.02	638	6,292	10.14	5.12
2005/06	6	912	7,632	11.94	5.94	859	7,625	11.26	5.32
2006/07	6	983	9,201	10.68	4.68	1,020	9,960	10.24	5.56
2007/08	6	1,143	10,417	10.97	4.97	1,359	13,070	10.40	5.43
2008/09	6	1,677	15,298	10.96	4.96	1,613	17,743	9.09	4.13
			Mean	11.01	5.11		Mean	10.23	5.11
			S.D	0.55	0.48		S.D	0.77	0.57
			C.V%	5.03	9.43		C.V%	7.57	11.19

Source: Annual Reports

Figure 4-12
Graph of Core Capital to Total RWE



Source: Table 4-24

The table 4-24 & figure 4-12 illustrate the ratio of core capital to total risk-weighted Exposures of MBL and KBL for 5 years. Both banks have maintained secure level of ratio. The average core capital to RWE ratio is 11.01% and of MBL is 10.23%. This indicates that both banks have employed higher capital to finance the risk-weighted asset. The average excess ratio than the statutory requirement of both banks is 5.11%.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.

4.5.3 Supplementary Capital to Total Risk Weighted Exposures

This ratio measures how much supplementary Capital does a bank has to finance the total RWE. 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 4-25

Supplementary Capital to Total Risk Weighted Exposures Ratio

In million

	MBL Bank			KBL		
Fiscal Year	Supplementary Capital	Total RWE	Core Capital/RWE	Supplementary Capital	Total RWE	Core Capital/RWE
2004/05	51	6,063	0.84	64	6,292	1.01
2005/06	65	7,632	0.85	82	7,625	1.08
2006/07	119	9,201	1.30	95	9,960	0.96
2007/08	137	10,417	1.31	524	13,070	4.01
2008/09	135	15,298	0.88	438	17,743	2.47
		Mean	1.04		Mean	1.91
		S.D	0.25		S.D	1.33
		C.V%	23.71		C.V%	69.96

Source: Annual Reports

The table 4-25 shows the Supplementary Capital to Total Risk Weighted Exposures ratio of MBL and KBL for 5 years. Both banks have very low percentage of supplementary capital to finance the total RWE. The average ratio of MBL and KBL for 5 years is 1.04% and 1.91% 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 MBL and KBL is 0.25% and 1.33% respectively. Likewise, the coefficient of variation of MBL and KBL is 23.71% and 69.96% respectively. The S.D and C.V indicate that the ratios of KBL fluctuate more than that of MBL, which depicts the less consistency in part of KBL.

4.5.4 Capital Fund to Total Risk Weighted Exposures (RWE)

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

Table 4-26

Total Capital Fund to Risk Weighted Exposures Ratio

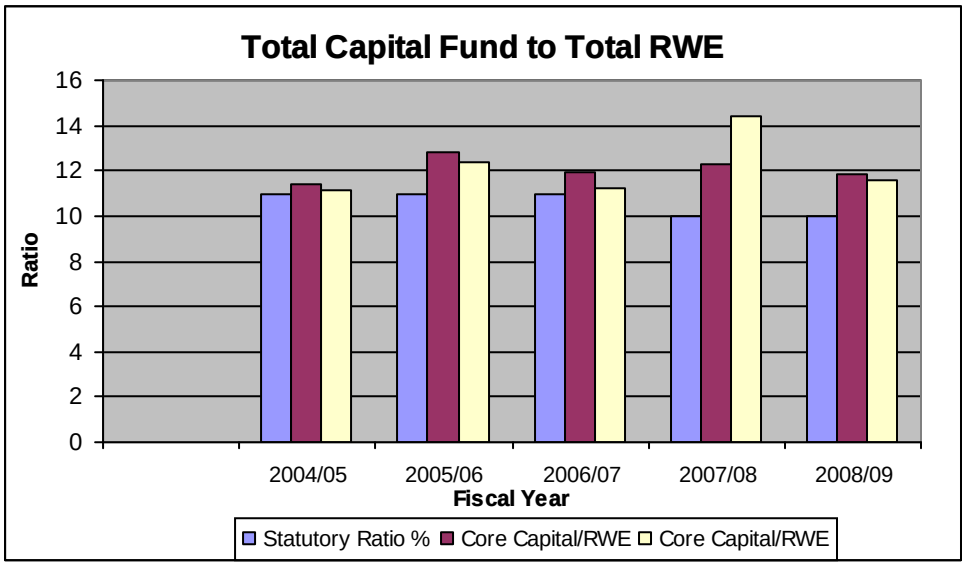
In million

		MBL Bank				KBL			
Fiscal Year	Statutory Ratio %	Capital Fund	RWE	Core Capital/RWE	Excess/ Shortfall	Capital Fund	RWE	Core Capital /RWE	Excess/ Shortfall
2004/05	11	689	6,063	11.36	0.36	702	6,292	11.15	0.15
2005/06	11	976	7,632	12.79	1.79	941	7,625	12.34	1.34
2006/07	11	1,102	9,201	11.97	0.97	1,115	9,960	11.20	0.20
2007/08	10	1,280	10,417	12.29	2.29	1,883	13,070	14.41	4.41
2008/09	10	1,812	15,298	11.84	1.84	2,051	17,743	11.56	1.56
			Mean	12.05	1.45		Mean	12.13	1.53
			S.D	0.53	0.77		S.D	1.36	1.73
			C.V%	4.40	53.17		C.V%	11.19	112.98

Source : Annual Reports

Figure 4-13

Graph of Capital Fund to Total RWE



Source: Table 4-26

The table 4-26 & figure 4-13 demonstrate the total capital fund to Risk Weighted Exposures (RWE) of MBL and KBL for 5 years. Both banks have maintained the capital adequacy ratio higher than the statutory requirement The average ratio of MBL and KBL is 12.05% and 12.13% respectively. This shows that KBL is in better position than MBL. The ratios of both banks are in fluctuating trend. The

average excess ratio than statutory requirement of MBL and KBL is 1.45% and 1.53% respectively. This figure indicates that KBL has higher excess ratio than MBL. The standard deviation of both total capital fund to Risk Weighted Exposures and Excess/Shortfall ratio of MBL is 0.53% and 0.77% respectively, whereas these ratios of KBL is 1.36% and 1.73% respectively. Similarly, the Coefficient of Variation (C.V) of both total capital fund to RWE and Excess/Shortfall ratio of MBL is 4.40% and 53.17% respectively, whereas C.V or these ratios of KBL is 11.19% and 112.98% respectively. These figures indicate that ratios of KBL are more fluctuating from average than MBL, which shows inconsistency.

4.5.5 On Balance Sheet RWE to Total RWE

This ratio measures the proportion of on balance sheet RWE on total RWE of a bank. On balance sheet RWE 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 RWE. The higher ratio refers that the bank has high amount of loans & advances, fixed asset, investment and other assets and vice versa.

Table 4-27

On Balance Sheet RWE to Total RWE Ratio

(Rs. in million)

	MBL			KBL		
Fiscal Year	On Balance Sheet RWE	Total RWE	Ratio	On Balance Sheet RWE	RWE	Ratio
2004/05	5,451.88	6,063	89.92	5,816.63	6,292	92.45
2005/06	6,518.99	7,632	85.42	7,217.43	7,625	94.65
2006/07	7,776.37	9,201	84.52	9,401.59	9,960	94.39
2007/08	9,722.89	10,417	93.34	12,309.30	13,070	94.18
2008/09	13,232.81	15,298	86.50	16,192.17	17,743	91.26
		Mean	87.94		Mean	93.39
		S.D	3.65		S.D	1.47
		C.V%	4.15		C.V%	1.58

Source: Annual Reports

The table 4-27 demonstrates the ratios of on balance sheet RWE to total RWE of MBL and KBL for 5 years. Both banks have higher amount of on balance sheet asset in total RWE. However, the ratio of both banks has been fluctuating over the years. The average ratio of MBL and KBL is 87.94% and 93.39% respectively. This indicates that KBL has more amount of on balance sheet RWE than MBL, which means that KBL has diversified its asset more than MBL and also MBL will suffer less loss than KBL. The standard deviation of ratio of MBL and KBL is 3.65% and 1.47% respectively. Likewise, the coefficient of variation of the ratio of MBL and KBL is 4.15% and 1.58% respectively. This indicates that the ratio of MBL deviate more from the average than that of KBL, which shows higher inconsistency and risk.

4.5.6 Off Balance Sheet RWE to Total RWE

This ratio measures the proportion of off-balance sheet RWE on total RWE of a bank. Off-balance sheet RWE 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 4-28

Off Balance Sheet RWE to Total RWE Ratio

(Rs. in million)

	MBL			KBL		
Fiscal Year	Off Balance Sheet RWE	Total RWE	Ratio	Off Balance Sheet RWE	RWE	Ratio
2004/05	611.26	6,063	10.08	475.21	6,292	7.55
2005/06	1,113.01	7,632	14.58	407.62	7,625	5.35
2006/07	1,424.29	9,201	15.48	558.32	9,960	5.61
2007/08	694.18	10,417	6.66	761.08	13,070	5.82
2008/09	1,355.70	15,298	8.86	791.82	17,743	4.46
		Mean	11.13		Mean	5.76
		S.D	3.78		S.D	1.13
		C.V%	33.92		C.V%	19.60

Source: Table 4-26

The table 4-28 demonstrates the ratios of ff balance sheet RWE to total RWE of MBL and KBL for 5 years. Both banks have lower amount of off balance sheet asset in total RWE. And the ratio of both banks has been fluctuating over the years. The average ratio of MBL and KBL is 11.13% and 5.76% respectively. This indicates that MBL has more amount of off balance sheet RWE than KBL, which means that MBL has higher amount of Letter of Credit, Guarantee etc. This means than MBL has diversified more on income generating business than KBL. The standard deviation of ratio of MBL and KBL is 3.78% and 1.13% respectively. Likewise, the coefficient of variation of the ratio of MBL and KBL is 33.92% and 19.60% respectively. This indicates that the ratio of MBL deviate more from the average than that of KBL, which shows higher 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.

- The average loans and advances to total asset of MBL and KBL during the study period are 70.41 % and 76.14 % respectively. Over this five years period, the proportion of loan on total asset of MBL and KBL is fluctuating. From this, it can be said that KBL and MBL have been frequently adjusting the proportion of loan. Lower average loan and advances to total asset of MBL than that of KBL (i.e 70.41%< 76.14%) 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 average CD ratio of MBL and KBL is 80.16 % and 88.60 % 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 MBL and KBL is 1.04 % and 0.87 % respectively. Hence KBL has higher

percentage of non-performing loan than MBL, which means that KBL has more credit risk than MBL. With higher amount of non- performing loan of KBL, the impact of it will be on the net profit of the bank.

- Average ratio of Loan Loss Provision to Non-performing Loan of MBL and KBL was found to be 306.56 % and 199.22 % 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 nonperforming 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 MBL and KBL is 2.48 % and 1.56 % 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 ratio of returns on loans and advances ratio shows that the average ratio for 5 years of MBL & KBL is 1.35 & 1.63 respectively. This figure indicates that both banks have been able to earn return from its loans and advances. Similarly the variation on return of MBL is higher than that of KBL, which means that return on loan and advances of MBL is more fluctuating than KBL.

- MBL has ranked 1st to the manufacturing sector while KBL has ranked 1st to the Finance, Insurance & Fixed Assets where as Agriculture is ranked last by MBL and Mines by KBL. The average lending over 5 years period of MBL and KBL against movable/ immovable property is Rs. 7171 million and 8261 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.

- The single sector loan to core capital shows that the ratio crossed 100% in 3 and 2 sectors of MBL and KBL respectively. In regard to concentration risk, MBL has more risk in manufacturing, wholesaler and retailer and other sectors where as KBL has more risk on Finance, Insurance & Fixed Assets and other sectors as the single sector credit to core capital ratio in these sectors is more than 100 %.

- Correlation coefficient between LLP and loans and advances of MBL and KBL is 0.98 and 0.97 respectively. This figure indicates that the LLP and loan and advances of both banks are highly correlated. Similarly, 6 times Probable Error (P.E) of MBL is lower than the correlation coefficient, which indicates that correlation coefficient is significant and reliable.

- The correlation between LLP and NPL revealed that there is positive correlation of both KBL and MBL. The correlation coefficient of KBL and MBL is 0.95 0.55 respectively. The 6 times P.E of MBL is 0.211 which is less than the correlation coefficient. So the correlation coefficient of MBL is significant and reliable. But the 6 times P.E of KBL is 1.268 which is more than the correlation coefficient. So the correlation coefficient of KBL is not significant and reliable.

- From the gap analysis of asset and liabilities of different time intervals, it has been found that over five years both banks have higher amount of liabilities than asset in long term time bucket (i.e. more than 1 year) in average. 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 be matured. From the Gap Analysis it is found that both banks have managed short time liabilities properly as both MBL and KBL have positive net gap. Both banks have problem in offsetting the long-term liabilities (i.e above 1 year) as both banks have negative net gap. From the analysis in terms of meeting the liquidity requirement, it can be inferred that both banks are in risk in higher time bucket when the market price of the asset decrease.

- 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 MBL and KBL in 5 years is 15.02

% and 5.81 % 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.

- The average CRR of MBL and KBL in 5 years is 8.42 % and 3.77 % respectively. This shows that MBL has maintained higher amount of liquidity in NRB than KBL. However, KBL has shortfall to statutory requirement by 1.56 %, 1.35% & 3.09% in fiscal year 2004/05, 2006/07 & 2007/08 respectively, where as the MBL has maintained the statutory requirement through out the study period though it is fluctuating. The standard deviation of CRR of MBL and KBL is 2.55 % and 2.00 % respectively, which indicates that MBL has more fluctuation in maintaining the CRR than KBL. It is also associated with higher risk.

- The interest income to total income of KBL and MBL stood very high. The average ratio for MBL and KBL is 82.20 % & 89.56 % respectively. This means that the main source of income for both the banks is interest income from loans and advances. In the fiscal year 2004/05 the ratio of MBL and KBL is 92.47% & 89.13 %. 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.

- 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 MBL and KBL is Rs. 576.88 million and Rs.170.54 million respectively. Over the five years, MBL has higher interest rate sensitive asset than interest rate sensitive liabilities where as KBL has higher IRSL than IRSA in FY 2004/05 & FY 2008/09. 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 average gap for 5 years of MBL

and KBL is 1154 and 135.53 respectively. The higher gap ratio of MBL shows that compared to KBL, FIRSA of MBL is higher than FIRSL of KBL.

- 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. 3705 million and Rs. 1186 million respectively. The higher gap means that MBL has higher amount of asset than liabilities. In different time bucket, both bank have higher amount of assets in lower time bucket (i.e. in 1-90 days and 91-180 days bucket) where as both bank have higher amount of liabilities 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. 9.26 million and Rs. 2.97 million respectively. The higher amount of cumulative net profit of KBL indicates that KBL has a positive impact with changes in interest rate than MBL. Average interest rate spread of MBL and KBL is 3.73 % and 3.36 % respectively. The higher amount of spread of MBL indicates that the net interest income (i.e. interest income less interest expenses) of MBL is more than KBL. This means MBL earns more profit than KBL.

- 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. In both banks, there is a provision of teller risk fund to safeguard the loss from cash short. Similarly, in documentary business such as Letter of Credit (L.C.), there is a risk of opening a L.C. in 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 of 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 to the key person 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.

- Both Banks use 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 both the banks, Internal Audit Department makes regular audit of each department 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.

- The average Core Capital to Total Risk Weighted Exposures of MBL and KBL is 11.01 % and 10.23 % respectively. Both banks have maintained the higher percentage of core capital than the NRB statutory requirement. The average ratio indicates that MBL has higher proportion of Core Capital to finance the risk-weighted asset than KBL. However, the standard deviation is higher in KBL than MBL, which indicates that KBL ratio fluctuates more than MBL.

- In both KBL and MBL, the portion of supplementary capital is very low. The average supplementary capital to total RWE is 1.04% and 1.91% in MBL and KBL respectively. This ratio indicates that both the banks have been fulfilling the Capital Adequacy Requirement more by core capital than supplementary

capital. The average Capital Fund to Total Risk Weighted Exposures of MBL and KBL is 12.05% and 12.13% respectively. The average ratio indicates that KBL has higher proportion of Capital Fund to finance the risk-weighted asset than MBL. However, the standard deviation is higher in KBL than MBL, which indicates that KBL ratio fluctuates more than MBL.

- In regard to Risk Weighted Exposures, both KBL and MBL has higher portion of on balance sheet asset than off balance sheet asset. The average portion of on balance sheet RWE to total RWE in MBL and KBL is 87.94% and 93.39 % respectively. This shows that KBL has higher percentage of on balance sheet RWE than MBL. The average portion of off balance sheet RWE to total RWE in MBL and KBL is 11.13% and 5.76 % respectively. This shows that MBL has higher percentage of off balance sheet RWE than KBL.

- 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, and Card etc, which have been changed and updated.

- 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.

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 30 commercial banks, 2 banks were taken as sample using judgmental sampling metho d. KBL and MBL have been taken for comparative study. 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. The average loan and advances to total asset ratio of MBL and KBL is 70.41% and 76.14% 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 MBL and KBL is 80.16% and 88.80% respectively. Similarly, the interest income holds 82.20 % and 89.56% of total income in MBL and KBL 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 borrower's poor appraisal of borrower's 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 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 (i.e. 1.04%> 0.87%). In contrary to this, KBL has provisioned more reserve

than MBL against the NPL. Collateral is also one of the important factors while extending credit. When the borrower defaults, collateral is the only mean to cover such losses.

Similarly, credit concentration on single sector of KBL and MBL shows that both banks have very high amount of concentration in single sector. In manufacturing sector, MBL has 20.16 % of total loan exposure and KBL has 18.78% in Finance, Insurance & Fixed Assets, 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. Likewise, average return on loans and advances of both banks are positive, which indicates that both banks are able to earn net profit by utilizing the loans and advances. There is positive correlation between LLP and Loan and Advances in both the 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 both banks are positively correlated. The positive correlation coefficient indicates that the provisioning amount will increase when there is an increase in NPL and vice versa. Both the banks have Credit Policies Guidelines (CPG) and well-defined organizational structure for proper management of credit risk. In KBL, 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 and 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 cash reserve ratio, cash and bank balance to total asset ratio etc. The gap analysis shows that both banks have managed their asset and liabilities in short time bucket more properly. In long term bucket, both banks have negative gap. From this analysis we found that KBL and MBL are in riskier position in higher time bucket when the market price of the asset decreases. 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 slightly more bank balance in NRB than KBL. However, KBL has shortfall to the statutory requirement in the fiscal year 2006/07, which reflects the poor liquidity

management by the 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. The average interest income to total income ratio of MBL & KBL is 82.20% and 89.56 % respectively. It 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 bank neither has nor hedged the asset and liabilities properly to minimize the risk. This also indicates that MBL has higher vulnerability of interest rate changes than KBL. The gap analysis of Fixed Interest Rate Sensitive Asset (FIRSA) and Fixed Interest Rate Sensitive Liabilities (FIRSL) of both banks depicts that both the banks' asset structure and liabilities have been changing over years. MBL has negative gap throughout the study period, whereas KBL has –ve gap in FY 2006/07, 2007/08 & 2008/09. The average gap ratio of MBL is higher than that of KBL. The higher gap ratio of MBL shows mismatch between FIRSA and FIRSL, which is more than that of KBL.

The interest rate risk analysis according to NRB directive no. 5 shows that KBL has higher amount of cumulative net profit than that of MBL, which indicates that KBL 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, and 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 the 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.

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.

In commercial banks, minimizing the risk is the major challenges. For combating the risk, both the banks have taken several measures. One of the major measures is capital adequacy ratio. The capital adequacy ratio depicts that both banks have CAR than statutory requirement. Similarly, 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.

5.2 Conclusion

Risk management in today's deregulated market is a challenge. Nepalese government has started to liberalize the financial sector since 1980s to streamline the financial sector of the country. Prior to 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 have made a significant mark with the establishment of 30 commercial banks. Though banking sector developed rapidly in quantity, it has remained far behind in terms of quality compared 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 proper handling of several problem and challenges. In current scenario, the major challenge of commercial banks is competition among 30 commercial banks. Proper risk management 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 etc.), 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. Similarly, tactfully dealing with market interest movement by adjusting the interest sensitive asset and liabilities also remain 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 on monthly basis. 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. 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 of 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. 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 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, non-performing loan & organizational structure for handling credit risk. In KBL, the major problem is a high amount of lending in Finance, Insurance & Fixed Assets, non performing loan & organizational structure for handling credit risk. As the increase in total loan brings increase in NPL, proper adjustment is needed for managing the NPL. Similarly, asset liabilities mismatch is also the problem in both the banks,

basically in MBL. Both banks are in riskier position in the asset and liabilities of longer maturity period when the market price of asset liabilities decrease.

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 in respect to different risk management:

- KBL and MBL have 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.

- Both the banks need to properly diversify its lending portfolio. The high amount of lending in manufacturing sectors by MBL and in Finance, Insurance & Fixed Assets by KBL is needed to be diversified into various sectors, which will decrease concentration risk.

- Both the banks have extended the highest amount of loan against the movable and non-movable property, which has 100% risk weight. So both these banks need to diversify its lending against different securities.

- NPL of both banks is increasing with the increase in loan and advances. So, they need to be more careful while taking credit decision.

- Both banks should establish a robust liquidity risk management framework that ensures it maintains sufficient liquidity, including a cushion of unencumbered, high quality liquid assets, to withstand a range of stress events, including those involving the loss or impairment of both unsecured and secured funding sources

- The best situation for the bank is the fewer gaps between the asset and the 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.

- Asset Liabilities mismatch needs to be given higher priority in MBL than in KBL. MBL has high mismatch amount, which needs to be frequently revised and brought under control.

- 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 the banks need to increase their fees and commission based income to minimize income concentration risk.

- 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.

- Both the banks need to monitor the gap between both types of asset and liabilities (i.e. Interest Rate Sensitive and Fixed Rate) frequently. The gaps need to be closer in both, the banks for proper interest risk management.

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

- 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 Exposures 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.

- KBL failed to maintain the CRR in FY 2004/05, 2006/07 & 2007/08. KBL should strictly follow the directives of NRB, which 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.

- Similarly, training should be given to the employees for minimizing the operation risk in these banks, such as training related to identifying fake notes to the staffs of Cash department, identifying the original documents related to LC to the staffs of LC department etc.

- Moreover, the BOD should be active in both banks. The BOD should set limit for Risk Weighted Exposures for credit risk, market risk & operational risk.

BIBLIOGRAPHY

Books

Bhandari, D. R. (2003). *Principle and Practices of Banking and Insurance*.Kathmandu: Asia Publications.

Brigham, E. F. (1995). *Fundamental of Financial Management*. 7th edition. Chicago: The Dryden Press.

Cooper, S.K. and Fraser. R.D. (1983). *The Financial Marketplace.* California: Addison- Wesley Publishing Company.

Francis, J. C. (1980). *Investment: Analysis and Management*. 3Rev Ed edition. New York: McGraw-Hill Education

Gupta, S.C (2000). *Fundamental of Statistic*. Mumbai: Himalyan Publishing House.

Joshi, S. (2000). *Micro & Macro Economic Analysis*. Bhotahity, Kathmandu: Taleju Prakashan.

Kohn, M. (1999). *Financial Institutions & Markets*. New York: Tata McGraw Hill Publishing Co. Ltd.

Kothari, C.R. (1994). *Research Methodology, Methods and Techniques*. New Delhi: Vikash Publication House Pvt. Ltd.

Pant, G.D. & Chaudhary, A.K. (2000). *Business Statistics and Mathematics*. Kathmandu: Bhandupuran Prakashan.

Radhaswami, M. and Vasudevan, S.V. (1991). *A test book of Banking: Law and Practice & Theory of Banking*. New Delhi: S. Chand & Co. Ltd.

Rose, P. S. (2003). *Money and Capital Markets, Financial Institution and Instruments in a Global Marketplace*. Chicago

Sharma, P.K. and Chaudhary, A.K. (2001). *Statistical Methods*. Kathmandu: Khanal Books Prakashan.

Sharpe, W.F, Alexander, G. J. and Bailey, J.V. (2003). *Investments*. New Delhi: Prentice Hall of India Private Limited.

Shrestha, M K. and Bhandari, D. B. (2004). *Financial Markets and Institutions*. Kathmandu: Asmita Books Publishers and Distributors

Shrestha, S. and Silwal, D. P. (2002). *Statistical Methods in Management*. Bhotahity, Katmandu: Taleju Prakashan.

Thygerson, K.J. (1992). *Financial Institutions and Capital Markets*. New York: Harper Collings College Publisher.

Van Horne, J.C. (1998). *Financial Management and Policy*. New Delhi: Prentice Hall of India Pvt. Ltd.

Weston, J. F. and Copeland, J.E. (1992). *Managerial Finance*. Chicago: The Dryden Press.

Weston. J. F. and Engene, F. B. (2003). *Managerial Finance*, University of California. University of Florida

Wolf, H.K. & Pant, P.R. (2008). *Social Science Research & Thesis Writing*. Kathmandu: Buddha Academic Enterprises Pvt. Ltd.

Journals, Reports and Articles

Basel Committee on Banking Supervision (2005). *International Convergence of Capital Measurement and Capital Standards: A Revised Framework*

Federal Reserve Bank (2006) .*Money Laundering Issues and Control: A Publication of Federal Reserve Bank of Chicago*. USA

Leippoldy, M. (2003). *Quantification of Operational risk: An Unpublished Research Paper*. University of Zurich. Switzerland

Ministry of Finance (2010). *Mid Term Evaluation of Budget Report 2066/67: A Half Yearly Publication of Ministry of Finance Nepal*. Nepal.

Nepal Rastra Bank(2010) *Unified Directives for Banking and Financial Institution*. Kathmandu. Nepal

Nepal Rastra Bank (2010). *Banking & Financial Statistics: A Journal of Banking Operation Department*. NRB. Kathmandu

Prasai, Laxmi Prasad (2004). *Interest rate structure, Its Determination & Interest Rate Policy in Nepal: Banking Prabardhan*. NRB. Kathmandu: P.39

Rana, Himalayan (2001), *New Directives Issued by Nepal Rastra Bank: ACAN* . Newsletter. Vol. 5

Santomero, A. (1997). *Commercial Bank Risk Management: An analysis of the Process*. University of Pennsylvania. USA

Unpublished Theses

Bhattarai, S. (2004). *Implementation of Directives Issued by Nepal Rastra Bank: A Comparative Study of Nepal SBI Bank Limited and Nepal Bangladesh Bank Limited*. An Unpublished Master Degree Thesis. Submitted to Shanker Dev Campus. Tribhuvan University. Kathmandu.

Dhungana, B. (2004). *A Study on NRB Prudential Directives Issued to Finance Companies: A Case Study of Nepal Share Market & Finance Companies and Nepal Finance & Saving Company*. Submitted to Shanker Dev Campus. Tribhuvan University. Kathmandu.

Khadka, A. (2002). *A Comparative Study on Investment Policy of Commercial Banks*. An Unpublished Master Thesis. Submitted to Shanker Dev Campus. Tribhuvan University. Kathmandu.

Maharjan, M. (2009) *Risk Management of Commercial Banks in Nepal: A Comparative Study between Nepal Credit & Commerce Bank Ltd. and Machhapuchhre Bank Ltd*. An Unpublished Thesis. Submitted to Shanker Dev Campus. Tribhuvan University. Kathmandu.

Nguyen, K. M.. *Financial Management and Profitability of Small and Medium Enterprises*. An Unpublished Doctorate Thesis. Southern Cross University. N.S.W. Australia.

Pandey, S. (2002). *NRB Directives, Their implementation and Impact on Commercial Banks: A Case Study of Himalayan Bank Limited*. Submitted to Shanker Dev Campus. Tribhuvan University. Kathmandu.

Shrestha, N. (2005). *A Study of Non performing Loan & Loan Loss Provision of Commercial Bank: A Case Study of Nabil, SCE and NBL*. Submitted to Shanker Dev Campus. Tribhuvan University. Kathmandu.

Shrestha, S. (2003). *Impact and Implementation of Nepal Rastra Bank (NRB's Guidelines (Directives) on Commercial Banks: A Study of Nabil Bank Limited and Nepal SBI Bank Limited*, An Unpublished Master Thesis. Submitted to Shanker Dev Campus. Tribhuvan University. Kathmandu.

Websites

http://www.basel.org
http://www.federalreserve.gov
http://www.investopedia.com
http://www.machbank.com
http://www.mof.gov.np
http://www.kumaribank.com
http://www.nrb.org.np
http://www.rib.org.np
http://www.riskglossary.com

Calculation of Spread of MBL						(Rs. 'in Million')	
Fiscal Year	Interest Income	Total Loan/Advances, Investment & Money at call	Yield%	Interest Expenses	Total Deposit & Borrowings	Cost%	Spread
2004/05	381.93	5,545.05	6.89%	187.03	5,741.02	3.26%	3.63%
2005/06	563.36	7,977.73	7.06%	288.66	8,024.97	3.60%	3.46%
2006/07	694.48	9,102.36	7.63%	397.72	9,703.96	4.10%	3.53%
2007/08	796.60	10,155.87	7.84%	407.92	11,190.75	3.65%	4.20%
2008/09	1,041.47	13,762.17	7.57%	580.04	15,596.79	3.72%	3.85%
		Mean	**7.40%**		**Mean**	**3.66%**	**3.73%**