CHAPTER - I
INTRODUCTION

1.1 Background of the Study

Nepalese Economy is predominantly a subsistent agricultural economy, which contributes about 33 percent of GDP and provides employment to more than 70 percent of the economically active population. Financial institutions, like Banks, accumulate the savings of the people from all the economic sectors and mobilize them to productive and effective sector in a systematic manner. So, sound-banking system is the crucial means to accelerate the development of a country by strengthening the economic condition in todays globalize economy of the twenty-first century. This requires the well-developed corporate culture, proper management of risk and return and healthy competitive environment that facilitate mobilization of small saving in the commercial and industrial sectors that will enhance the economic and social welfare of a country.

Bank is a financial institution, which deals with money by accepting various types of deposits, disbursing loan and rendering various types of financial services. It is the intermediary between the deficit and surplus of the financial resources. Banking when properly organized, aids and facilitates growth on trade and considered not as dealers in money but as the leader of development. Bank are not just the storehouse of the country's wealth but are the reservoirs of resources necessary for economic development (Radhaswami and Vasudevan, 1991).

In Nepal, banking sector started in 1937 A.D. with the establishment of Nepal Bank Ltd., Nepal Rastra Bank, the central bank of Nepal, established in 1957 A.D. followed by Rastriya Banijya Bank in 1966 A.D. As Nepalese government took liberal economic policy, joint venture banks started to operate since 1984 A.D.

with the establishment of Nepal Arab Bank Ltd. Till May, 2009. Twenty six commercial banks have been operating in the country.

Present challenges to the baking sector are: to mange the excess liquidity outstanding to invest the money in productive as well as new sector, to manage the accumulated non-performing loan. Commercial banks collect deposits from individuals 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.

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 form credit risk, which is associated with the non-payment of loan by the borrowers. Nepal Bank Limited, Rastriya Banijya Bank are the greatest victims of such risk, leading the banks to have negative net worth.

In addition to the credit bank faces other risks. According to the Nepal Rastra Bank Unified Directives 2005, the major source of risk is credit risk, liquidity risk, foreign exchange risk, and interest rate risk and operation risk etc. In this world of globalization, the activities of banks and financial institutions have become more complex and challenging due to the privatization, free market and economic liberalization etc. More over the development in science and information technologies has turned the world a small place because of which banks and financial institutions are needed to be much more conscious in their work.

1.2 Brief Introduction of Banks under Study

Two commercial banks, Himalayan Bank Limited (HBL) and Kumari Bank Limited (KBL) have been selected for the study. This study shows the comparison of risk management between the joint venture based bank (HBL Bank) and national based bank (KBL).

1.2.1 Himalayan Bank Limited (HBL)

Himalayan Bank Ltd. was incorporated in 1993 by the distinguished business personality of Nepal in partnership with Employee Provident Fund and Habib Bank Limited, one of the largest commercial Bank of Pakistan. Banks operation was commenced from January 1993. It is the first commercial bank of Nepal with maximum share holding by Nepalese Private Sector. Promoter's Shareholders are 51%, Habib Bank 20%, Employee Provident Fund 14%, and Nepal Public shareholders 15%. Beside commercial activities, the bank also offers industrial and merchant banking.

Despite the cut-throat competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities- Loans and Deposits.

Legacy of Himalayan lives on in an institution that's known throughout Nepal for its innovative approaches to merchandising and customer service. Products such as Premium Savings Account, HBL Proprietary Card and Millionaire Deposit Scheme besides services such as ATMs and Tele-banking were first introduced by HBL. Other financial institutions in the country have been following our lead by introducing similar products and services. Therefore, we stand for the innovations that we bring about in this country to help our Customers besides modernizing the banking sector. With the highest deposit base and loan portfolio amongst private sector banks and extending guarantees to correspondent banks covering exposure

of other local banks under our credit standing with foreign correspondent banks, we believe we obviously lead the banking sector of Nepal. The most recent rating of HBL by Bankers' Almanac as country's number 1 Bank easily confirms our claim.

All Branches of HBL are integrated into Globus (developed by Temenos), the single Banking software where the Bank has made substantial investments. This has helped the Bank provide services like 'Any Branch Banking Facility', Internet Banking and SMS Banking. Living up to the expectations and aspirations of the Customers and other stakeholders of being innovative, HBL very recently introduced several new products and services. Millionaire Deposit Scheme, Small Business Enterprises Loan, Pre-paid Visa Card, International Travel Quota Credit Card, Consumer Finance through Credit Card and online TOEFL, SAT, IELTS, etc. fee payment facility are some of the products and services. HBL also has a dedicated offsite 'Disaster Recovery Management System'. Looking at the number of Nepalese workers abroad and their need for formal money transfer channel; HBL has developed exclusive and proprietary online money transfer software-Himal Remit TM. By deputing our own staff with technical tie-ups with local exchange houses and banks, in the Middle East and Gulf region, HBL is the biggest inward remittance handling Bank in Nepal. All this only reflects that HBL has an outside-in rather than inside-out approach where Customers' needs and wants stand first.

The bank at present has Nine branches in Kathmandu Valley namely Thamel, Newroad, Maharajgunj, Dillibazar, Teku, Syambhu, Baneshwor, Sorakhutte and Chabahil. Beside, it has twenty three branches outside the Kathmandu Valley namely Bhaktapur, Patan, Banepa, Tandi, Bharatpur, Birgunj, Hetauda, Bhirawa, Biratnagar, Pokhara, Dharan, Butwal, Nepalgunj , Itahari, Palpa, Ghorahi, Trishuli, Damak Baglung Parsha,Dhangadi and Gorkha. The bank is also

operating a counter in the premise of the Royal Palace. The Bank has a very aggressive plan of establishing more branches in different parts of the kingdom in near future.

1.2.2 Kumari Bank Limited

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) under the company act 2021 B.S. with an objective of providing competitive and modern banking services in the Nepalese financial market. The bank has paid up capital of Rs. 1,304,935,920.00 of which 70% is contributed from promoters and remaining from public.

- Founded in April 03, 2001
- Corporate Office , Durbar Marg
- Capital
  - Authorized Capital Rs. 1,600,000,000.00
  - Issued & Paid-Up Capital Rs. 1,304,935,920.00
- Branches
  - 19 Outside valley
  - 9 Inside valley
- ATMs
  - Total - 23

Kumari Bank Ltd has been providing wide - range of modern banking services through 28 points of representations located in various urban and semi urban part of the country, 19 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

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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 23 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.

1.3 Statement of the Problem

In general perception, the banking is a very profitable industry with an annual profit of Rs. 15946.9 million in the fiscal year 2008/09. 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 2008/9 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.1 billion by 2010 May perhaps challenge most of the commercial banks in Nepal, (NRB 2008).

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 2008). 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 banks' 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 16 unified directives by the NRB in 2008 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 2008, 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%, (Basel 2008). 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. Himalayan Bank Limited & Kumari Bank Limited 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: -
  a. How important is the management of different risk to the commercial banks?
  b.   How do different risks affect the profitability of the commercial banks?
  c.   How the different risks of commercial banks can be analyzed?
  d.   What actions can minimize these risks in order to maximize the profit?
  e. Are the commercial banks implementing the NRB Directives and Based II?
  f. 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:

- To analyze risks of the bank and management of such risks by the Himalayan Bank Limited and Kumari Bank Limited.
- To analyze Nepal Rastra Bank's directives and measures on the risk management of commercial banks.
- To enquire the relationship between the following of NRB guidelines and the risk management system of Himalayan Bank and Kumari Bank Limited.

1.5 Limitations of the Study

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

- The study is based on the secondary data provided by the HBL and KBL. Therefore, the accuracy of results and conclusions highly depends on the reliability of the data.
- The evaluation is made through the analysis of financial statement published and presented by the banks. Therefore generalization of the whole banking industry cannot be made.
- Resource, time, money constraints and inaccessibility of sufficient information also limit the conclusion drawn from study.
- This study may not be precise as it is prepared to fulfill the partial requirement of the MBS program
- The study has covered only the five years data from fiscal year 2004/05 to 2008/09.

1.6 Organization of the Study

The first chapter includes general background of the study, historical perspective of banking industry, overview of sample banks, statements of the problem, objectives of the study, significance of the study and limitation of the study. The second chapter, Review of Literature contains the review of related books, journals, and past research works. Similarly the third chapter expresses the way and the technique of the studying applied in the research process. It includes research design, population and sample, data collection procedure and processing, tools and methods of analysis. The fourth chapter is the important chapter in which collected and processed data are presented, analyzed and interpreted with using financial tools as well as statistical tools. Finally, the fifth and the last chapter provide the summary of the study, conclusion and recommendations which are forwarded to the related banking industries to improve and understand their risk and return associated with their business.

CHAPTER - II
REVIEW OF LITERATURE

2.1 Theoretical Review

Problems of risk management are very much on the agenda in banking and finance. There is a clear sense that risk exposure of the financial system has been increased by the changes that have taken place over the past two decades. The changes may be due to the incapability of accumulating the credit, interest rate positions taken or derivative exposures that may or may not have been assumed to hedge balance sheet risk. For the minimization of this risk, commercial banks have felt the need of upgrading their risk management and control system.

2.1.1 Meaning of Risk and Risk Management

Risk, in most methodologies, tends to be viewed in a very negative sense. It is generally defined in terms of something that might occur to adversely affect the 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.

Risk management is a central part of any organization's strategic management. It is the process whereby organizations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities. In other words, risk management is the process of measuring, or assessing risk and then developing strategies to manage the risk. In general, the strategies employed include transferring the risk to another party, avoiding the risk, reducing the negative affect of the risk, and accepting some or all of the consequences of a particular risk.

For the good risk management, it must focuses in the identification and treatment of the risks. The objective must be to add maximum sustainable value to all the activities of the organization. It has to marshal the understanding of the potential upside and downside of all those factors, which can affect the organization. It increases the probability of success, and reduces both the probability of failure and the uncertainty of achieving the organization's overall objectives. Risk management should be a continuous and developing process, which runs throughout the organization's strategy and the implementation of that strategy. It should address methodically all the risks surrounding the organization's activities past, present and in particular, future. It must be integrated into the culture of the organization with an effective policy and a program led by the most senior management. It must translate the strategy into tactical and operational objectives, assigning responsibility throughout the organization with each manager and employee responsible for the management of risk as part of their job description. It supports accountability, performance measurement and reward, thus promoting operational efficiency at all levels.

2.1.2 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: -

2.1.2.1 Credit Risks

Credit risk arises from potential that a borrower or counter-party to a transaction will fail to perform on an obligation. In other words, credit risk involves inability or counterparty to meet commitments in relation to lending, trading, hedging, settlement and other financial transactions. Santomero (1997) views credit risk is generally made up of transaction risk or default risk and portfolio risk. The portfolio risk in turn comprises intrinsic and concentration risk. The portfolio risk depends on both external and internal factors. The external factors are the state of the economy, wide swings in commodity/equity prices, foreign exchange rates and interest rates, trade restrictions, economic sanctions, government policies, etc. The internal factors are deficiencies in loan policies/administration, absence of prudential credit concentration limits, inadequately defined lending limits for Loan Officers/Credit Committees, deficiencies in appraisal of borrowers'financial position, excessive dependence on collaterals and inadequate risk pricing, absence of loan review mechanism and post sanction surveillance, etc.

Another variant of credit risk is counterparty risk. Counterparty risk comes from non-performance of a trading partner. The non-performance may arise from counterparty's refusal to perform due to an adverse price movement caused by systematic factors, or from some other political or legal constraint that was not anticipated by the principals. Diversification is the major tool for controlling nonsystematic counterparty risk. Counterparty risk is like credit risk, but it is generally viewed as a more transient financial risk associated with trading than standard creditor default risk. In addition, counterparty's failure to settle a trade can arise from other factors beyond a credit problem.

2.1.2.2 Market Risk

Market risk is the change in net asset value due to changes in underlying economic such as interest rates, exchange rates, and equity and commodity prices. Or in other words, market risk is exposure to the uncertain market value of the firm's assets. Major components of market risk are: -

〕 Liquidity risk

〕 Interest rate risk

〕 Foreign exchange risk

2.1.2.2.1 Liquidity Risk

The term liquidity is used in various ways, all-relating to availability of, access to, or convertibility into cash. An institution is said to have liquidity if it can easily meet its needs for cash either because it has cash on hand or can otherwise raise or borrow cash. A market is said to be liquid if the instruments it trades can easily be bought or sold in quantity with little impact on market prices. Similarly, an asset is said to be liquid if the market for that asset is liquid. The common theme in all three contexts is cash. A corporation is said to be liquid if it has ready access to cash. A market is liquid if participants can easily convert positions into cash. An asset is liquid if it can easily be converted to cash. The liquidity of an institution depends on:

The institution' short-term need for cash;

-) Cash on hand;
-) Available lines of credit;
-) The liquidity of the institution' assets;
-) The institution' reputation in the marketplace-how willing will counterparties be   to transact trades with or lend to the institution.

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

In banking sector, liquidity risk is created when banks hold different sizes of assets and liabilities and mismatch occurs in maturity of the assets and liabilities. The world over, liquidity is the primary concern of every bank ass it affects the bank to sustain itself in the market. Extreme liquid asset in bank may result in bankruptcy where as excess liquid asset may; carry interest rate risk over the period of time. As it is fatal risk, prudent liquidity management is the primary function of banking sector. Liquidity management is also to make sure that expected shortfall amounts

are funded at a reasonable cost, ensure excess fund are invested properly with reasonable returns and without carrying any interest rate risk to the bank.

2.1.2.2.2 Interest Rate Risk (IRR)

Interest Rate Risk is the risk of negative effects on the financial result and capital of the bank caused by changes in interest rates. In simple word, interest rate risk is the probability of decline in earnings, due to the adverse movements of the interest rate risk in various markets. The applicable interest earned on asses and liabilities and hence net interest margin is the function of market variables and it may get changed overnight or over a period of time according to the market situation. Changes in the interest rate can significantly alter net interest income depending on the mismatch of assets and liabilities held by the bank. Changes in interest rates also affect the market value of bank's equity.

2.1.2.2.3 Foreign Exchange Risk

Foreign exchange risk is the risk that a bank may suffer losses as a result of adverse exchange rate movements during a period. The bank is also exposed to interest rate risk, which arises from the maturity mismatching of foreign currency position. Even in cases where spot and forward positions in individual currencies are balanced, the maturity pattern of forward transactions may produce mismatches. In consequence, banks may suffer losses as a result of changes in premium/discounts of the currencies concerned.

In foreign exchange business, banks also face the risk of default of the counterparties or settlement risk. While such type of risk crystallization will not cause principal loss, banks may have to undertake fresh transactions in the cash/spot market to replace the failed transactions. Thus, the bank may incur replacement cost, which depends upon the currency rate movements.

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

2.1.2.3 Operational Risk

Operational risk arises from the potential that inadequate information systems, operational problems, breaches in internal controls, fraud, or unforeseen catastrophes will result in unexpected losses. It is also associated with the problems of accurately processing, settling, and taking or making delivery on trades in exchange for cash. Individual operating problems are small probability events for well-run organizations but they expose a firm to outcomes that may be quite costly. The Basel Committee on Banking Supervision (2000) defines operational risk as "the risk of loss resulting form inadequate or failed internal processes, people and systems or from external events." Example of operation risks are: -

) Risk associated with settlement or payment risk and business interruption and legal risk

) Risk of fraud by employees and outsiders; unauthorized transaction by employees and errors relating to computer and telecommunication system.

Many of the operational risk related functions such as regulatory compliance, finance management, frauds, IT, legal, and insurance are carried out by the staff and thus human resources itself becomes a cause for operational risk, (Leippoldy 2003). The quantification of operational risk is difficult, as it is difficult to build a clear mathematical or statistical link between individual risk factors and the likelihood of loss. Data limitations and lack of analytical tools are contributing factors.

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

The main focus of this study is analysis of the directives of Nepal Rastra Bank issued to commercial banks. The directives issued fro 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 2005, NRB has issued unified directives to regulate all three categories of financial sectors in Nepal to ensure that the banking industry functions as per the international standard. NRB (2005) 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 2005

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 Government of Nepal securities shall be included under "Good Loan"/Pass Loan category. However, where collateral of fixed deposit receipt or Government of Nepal 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 2008, shall be provided as follows: -

Classification of 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.

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).

) In respect of swapped loans, the bank accepting the loans in swapping has to provide loan loss provision classifying the loan under the same classification as existed. The bank accepting the loan in swapping shall obtain certification from the concerned bank of financial institution as to the existing classification.

Directive No. 3 (Single Person or Group Limit/Single Obligor Limit)

Single obligor limit refers to the limit of loan disbursement to a person or a firm or a group of borrowers. NRB has provisioned single obligor limit while providing credit facilities by the bank. According to unified directive No. 3, the single obligor limit for the fund-based loan is 25% of core capital where as for non-fund based loan is 50% of core capital. 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.

Loan Loss Provisioning for Minimizing Concentration Risk

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

Sector wise Lending

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

Loan Concentration on Single Sector

According to NRB directive No. 3, if the commercial bank has extended the credit facilities more than 100% of core capital in single sector, such loan should have to approve by the board of directors.

2.2.2 Operation Risk and NRB Directive No. 5

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

2.2.2.1 Liquidity

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

  a. Maturity period upto 90 days

  b. Maturity period between 90 days to 180 days

  c. Maturity period between 180 days to 270 days

  d. Maturity period between 270 days to 1 year

e. 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

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

Liabilities with no Fixed Maturity Period

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

Procedure for Gap Analysis

) The gap is determined by deducting total liabilities from the total liabilities of various periods and such gap can be positive or negative

) For minimizing the interest rate risk, the cumulative gap should have to be calculated at each maturity period.

) The changes in interest rate should have to be estimated (generally 1 percentage can be assumed)

) 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: -

$$\text{Interest Rate Change (IRC)} = \frac{\text{Maturity Period}}{\text{Days in Year}} \times \text{Changes in Interest Rate}$$

) 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

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

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 asset of a bank. In other words, it is the capital

portion, which is used to finance the asset. The total risk weighted asset, on the other hand, includes both on & off balance sheet items, which has been rated with certain percentage of risk. The risk weight of asset ranges from zero for cash, balance a NRB and investment in government bonds to 100% for loans and advances. The higher the risk weighted asset means lower will be the capital adequacy ratio as CAR is the ratio between capital fund and risk weighted asset. According to unified directive 2008, the capital fund includes two types of capital:

2.2.3.1 Primary Capital

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

1. Paid Up Capital
2. Share Premium
3. Non-Redeemable Preference Share
4. General Reserve Fund
5. Retained Earnings
6. Capital Redemption Reserve
7. Net Profit after Provision, Tax & Bonus (Current Year)
8. Capital Adjustment Fund
9. Other Free Reserve

2.2.3.2 Supplementary 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: -

1. General Loan Loss Provision (Good Loans)
2. Asset Revaluation Reserve
3. Hybrid Capital Instrument

4. Unsecured Subordinated Term Debt
5. Exchange Equalization Reserve
6. Additional Loan Loss Provision
7. Investment Adjustment Reserve

2.2.3.3 Capital Fund

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

Capital Fund = Primary Capital + Supplementary Capital

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

On balance sheet asset includes three types of risk-weighted asset (i.e. 0%, 0% and 100%). Zero percentage risk weighted assets include cash and bank balance, old (tradable), investment in NRB and Government Bonds, loan against own bank's fixed deposit receipts and government bonds, Interest receivable on National Saving Bonds. 20% risk weighted asset includes balance with local and foreign banks, loan against other bank's fixed deposit receipts, money at call, loan against internationally rated bank's guarantee and other investment on internationally rated banks. 100% risk weighted asset includes investment on shares and debentures, loans and advances, fixed assets, other investment, all other assets (excluding tax paid and accrued interest receivable). Off balance sheet assets includes four types of risk-weighted asset (i.e. 0%, 20%, 50% and 100%). Bills collection has 0% risk. Letter of credit with maturity period less than 6 months and guarantee against counter guarantee of international rated foreign banks have 20% risk, 50% risk weighted asset includes letter of credit with maturity period more

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than 6 months, bid bond, underwriting and performance bond. 100% risk weighted items include advance payment guarantee, financial guarantee, other guarantee, irrevocable loan commitment, contingent liability on income tax and acceptance and other contingent liability. The Capital Adequacy ratio of a bank is calculated as below: -

a) Capital Adequacy Ratio for Core Capital

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

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

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

According to NRB directive 2008, the statutory Capital Adequacy Ratio (CAR) for core capital is 6% where as CAR for total capital fund is 12% for fiscal year 2008/09.

2.3 Review of Literatures

Santomero (1997) has analyzed the various risk faced by commercial banks. According to him, the major risk of commercial bank includes credit, market risk, interest risk, counterparty risk and liquidity risk. He has categorized this risk into following categories:

  a. Risk that can be eliminated by simple business practices.
  b. Risk that must be actively managed at the firm level.
  c. Risk that can be transferred to other participants.

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

  a. Managerial self interest
  b. Non linearity of tax structure

c. Cost of financial distress

d. Existence of capital market imperfection.

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

For Credit Risk

Sound evaluation of credit rating and making rating system compatible Credit losses, currently regularly related to credit rating, need to be closely monitored. Sound analysis of the evaluation of the diversified portfolio is for Interest Rate Risk, Gap Analysis of both interest sensitive and fixed rate asset and liabilities. Similarly for liquidity risk management, crises model coupled with operational details is prescribed. However usefulness of such model is limited by the realism of the environment considered. In case of Foreign Exchange Risk, VAR (Value at Risk) model is the main tool. Basel Committee of Bank Supervision (2000) has mentioned that the main reason of serious problems in banking sector is related to lack of credit standards for borrowers and counterparties, poor portfolio risk management or lack of attention to changes in economic or other circumstances that can led to a deterioration in the credit standing of a bank's counterparties. This phenomenon is common both G 10 and non G 10 countries. In this publication, the credit risk has been defined as the potential that a bank borrower or counter party will fail to meet its obligation in accordance with the agreed terms. Five principal has been laid down for the credit risk management. They are:

〕 Establishing appropriate credit risk environment

〕 Operation under sound credit granting process

〕 Maintaining appropriate credit administration, measurement and monitoring process

〕 Ensuring adequate controls over credit risk

〕 Effective role of supervisor

Rana (2001) alerts 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. Rana has highlighted the following points in his article: -

a. Capital adequacy ratio for commercial bank prescribed by Nepal Rastra Bank is even higher than the requirement in India.

b. Classification of loans and advances into four categories instead of six categories prescribed earlier.

c. The newly prescribed change in income recognition system will require most of the banks to either upgrade or change their banking software

d. 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: -

a. Upgrade/change the banking software, which facilitates generating numerous reports required by Nepal Rastra Bank.

b. Foresee capital adequacy position for a number of years ahead and initiate measures for increasing the capital if required.

c. Review and revise overall credit policies to address new directives governing loan classification and loan loss provisioning.

d. 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.

e. 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.

Kupper (2003) has made a study to identify the different types of risk and prescribes the method to handle those risks. He has identified three types of risk in the banking business (i.e. credit risk, market risk and operation risk). According to his study, credit risk has almost 70% of shares in total banking risks. The typical credit risk share of total capital is 80% in Wholesale Banking, 50% on Personal Banking and 10% on financial Market. He has presented the role of a banks' risk management function in the context of the need to break the vicious cycle of risk.

The cycle refers to the process by which a bank assumes uneconomic risks and by definition, key large losses. As a consequence, the risk appetite of the bank is reduced, lending and trading risks are foregone and the bank loses market share. In turn, the bank adopts an aggressive marketing strategy to regain market share and the cycle starts over. His vicious cycle aptly describes the risk taking practices observed in the industry time and time again.

Tiwari (2004) states that Nepal's financial institution have failed in delivering beneficial services to needy people by developing credit-giving centers in rural areas without which sustained economic growth is impossible. On the other hand banks and financial institutions have enough liquidity but they are finding it difficult to find suitable places for investment.

Problems such as insecurity, lack of market research from banks, low investment opportunities, weak operational policies for carrying out financial transaction, among others have contributed to the problems of this sector. Despite central banks directives regulating banks and financial institution, private and government banks are functioning haphazardly. Nepal Bank Limited (NBL) and Rastriya Banijya Bank (RBB), the two largest banks, occupy about 50% of the country's banking assets. Effective reform of these two is keys to improved performance of the whole sector. The process currently underway to reform these two institutions, despite paying huge amounts to foreign experts, has not given expected results. Besides NBL and RBB, the Non-Performing Assets (NPA) of some private banks is also very high. If the government and central bank allow the financial sector reforms to focus only on RBB and NBL, it might become a futile effort. The current management of RBB and NBL has not been able to reduce their NPL even after two years, which has crossed over 60%.

Pandey (2002) 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 her thesis has tried to find out the impact of NRB directives on commercial banks. She has also made effort to find out whether the directives are

actually implemented and are being monitored by NRB or not. She has stated that both NABIL and Nepal SBI are implementing the NRB directives.

She concludes that all the changes in NRB directives made both positive and negative impacts on the commercial banks. Even though 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) 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 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.

Subba (2006) in his study has made an attempt to find out the risk management of commercial banks. He has concluded that:

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

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

b. Commercial Banks (HBL and Kumari Bank taken as sample) have their own set of policies and practices, which is in consistence with NRB guidelines.

c. 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 that no such research has been made in the risk management of banking sectors. Few theses have been prepared on the credit risk. These researches are related only with loan loss provision and non-performing loan. So, 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. Hence the research has been conducted

CHAPTER - III
RESEARCH METHODOLOGY

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.

3.1 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 (HBL and KBL) have been selected for the study, this study is a comparative study between these two banks in different risks and their management system. Both primary and secondary data are used for analysis of various risks. In credit, interest and liquidity risk, secondary data published in annual reports of banks under study and NRB publications are mainly used. However, some primary data, collected through

personal interview and questionnaires, are also used in analysis of credit risk and hypothesis test of such data are also made whenever felt necessary. The operation risk is all about the descriptive research as the quantification of operation risk variable is not feasible.

3.2 Population and Sample

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 27 commercial banks.

Among the total population only two commercial banks are take as sample for the comparative study. The sample is chosen with an objective to find out the risk management system of new commercial banks, which have completed 5 years HBL and KBL are taken for the study.

3.3 Sources of Data and Collection Procedure

For this study, both primary and secondary data are used. Secondary data are collect 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 whereas, the primary data are mainly collected via questionnaire, interview and direct observation. For the credit risk analysis, information is collected through questionnaire form 10 staffs each from both HBL and KBL working in Credit and credit Control Divisions. Besides, interview has also been taken from 6 and 4 key informants of HBL and KBL respectively.

3.4 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.

3.5 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.

Arithmetic mean is also known as the arithmetic average. In general x_1, x_2, …………x_n be the n values of the variable than their arithmetic mean is denoted by x mean is defined by: -

$$\bar{x} = \frac{x_1 + x_2 + \ldots\ldots x_n}{n} \qquad Or, \quad \bar{x} = \frac{\sum x}{n}$$

Standard Deviation

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

Standard deviation is defined as the positive square root of the mean of the square of the deviation taken from the arithmetic mean. It is denoted by: -

$$\text{Standard deviation } (\exists) = \sqrt{\frac{\sum (X_1 - X_1)^2}{N-1}}$$

Where,

X   =   Expected return of the historical data.

N   =   Number of observations.

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.

$$r = \frac{N \sum XY - \sum X \sum Y}{\sqrt{[N \sum X^2 - (\sum X)^2]} . \sqrt{[N \sum Y^2 - (\sum Y)^2]}}$$

Where,

     N   =   No. of observation

     X =   Sum of observation in series X

     Y =   Sum of observation in series Y

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,

$$P.E.\ (r) = 0.6745 \frac{1-r^2}{\sqrt{n}}$$

Where,

P.E. (r) = Probable error of correlation coefficient

r   = Correlation coefficient

n   = Number of observation.

Hypothesis Test

In this study, hypothesis test has been used as one of the important aspects of decision making. It consists of decision rules required for drawing probabilistic inferences about the population parameter. Hypothesis is a quantitative statement about the population parameter, where as hypothesis test is the act of verification of such statement. While testing a hypothesis, to complementary hypotheses are

set up at one time. If one of the hypotheses is accepted, then the other hypothesis is rejected.

2 – Test (Chi-square test)

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

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

Where,

O = Observed frequencies

E = Expected frequencies

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

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

Ratio Analysis

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

)   Loans and advances to Total Asset Ratio

)   Loans and Advances to Total Deposit Ration

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- Non-performing Loan to Total Loans and advances Ration
- Loan Loss Provision to Total Loans and Advances
- Return on Loan and Advances
- Current Ration of NCC BANK and MBL
- Cash and Bank Balance to Total Asset Ratio
- Cash and Bank Balance to Total Asset Ratio
- Interest Income to Total Income
- Interest Expenses to Total Expenses
- Core Capital to Total Risk Weighted Asset (RWA)
- Supplementary Capital to Total Risk Weighted Assets
- Capital Fund to Total Risk Weighted Asset (RWA)
- On Balance Sheet RWA to Total RWA
- Off balance Sheet RWA to Total RWA

Gap Analysis

Gap Analysis is the process of analyzing the mismatch between asset and liabilities within various maturity periods. Under this measure, asset and liabilities are categorized into various groups as prescribed by the NRB Directive No 5. The main objective of this gap analysis is to identify the mismatch between asset and liabilities, 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 asset/liabilities, interest rate of which 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.

CHAPTER - IV
DATA PRESENTATION AND ANALAYSIS

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 (HBL Bank and KBL). To make the study more effective, precise and easily understandable, this chapter is categorized in three parts; presentation, analysis and interpretation. In presentation section, data are tabulated. These tabulated data are then analyzed using different statistical tools mentioned in chapter three.

4.1 Comparative Analysis of Credit Risk

Credit risk is simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. The goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization, (Basel 2000). The key performance indicators of credit performance of HBL and KBL are as follows: -

4.1.1 Ratio Analysis
4.1.1.1 Loan and Advances to Total Asset Ratio

The ratio of loan and advances to total assets measures the volume of loans and advances in the structure of total assets. The high degree of ratio indicates the good performance of the banks in mobilizing its fund by way of lending functions.

However, in its reverse side, the high degree is representative of low liquidity ratio. Granting loans and advances always carry a certain degree of risk. Thus, this asset of banking business is regarded as risky assets. Hence this ratio measures the management attitude towards risky assets. The lower ratio is indicative of lower proportion of income generating asset and high degree of safety in liquidity and vice versa.

Table 4.1

Loan and Advance to Total Assets Ratio

(Rs. in '000)

F.Y	HBL			KBL		
	Loan and Advances	Total Assets	Ratio	Loan and Advances	Total Assets	Ratio
2004/05	13451168	28871343	46.59	5125436	7458632	68.72
2005/06	15761976	30579808	51.54	6891855	9010276	76.49
2006/07	17793723	34314868	51.85	8929013	19918311	44.83
2007/08	19497520	36175531	53.90	11335087	15036249	75.38
2008/09	24793155	39320322	63.05	14593346	18538565	78.72
Average			53.39	Average		68.83
SD			6.03	SD		13.59
C.V.			11.29%	C.V.		19.75%

Source: - Annex 1

Figure 4.1

Loan and Advance to Total Assets Ratio
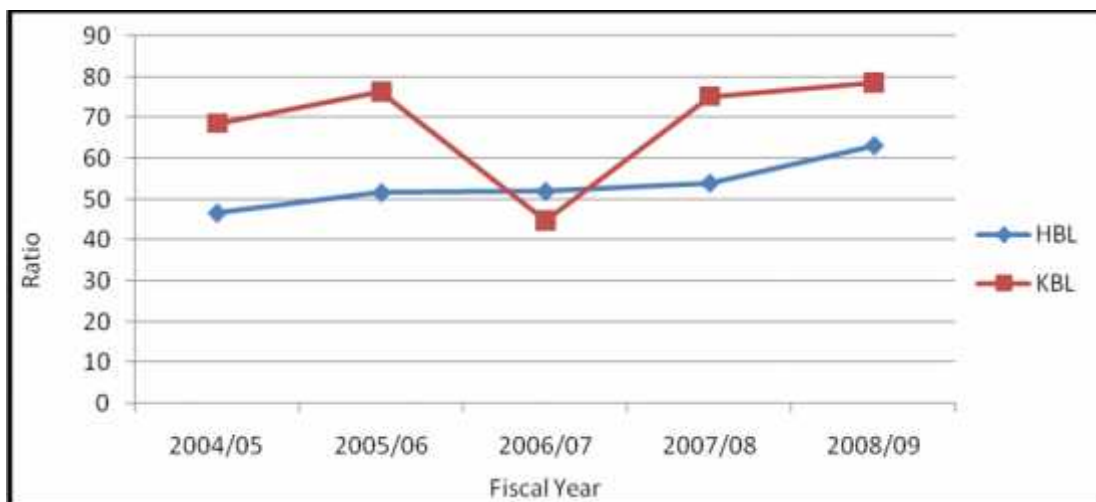
The above table and graph exhibit the loans and advances to total assets of two commercial banks for five consecutive years. This ratio shows the increasing trend in HBL and also in KBL except in the year 2006/07 where there is downfall in the ratio. The average ratio of HBL is 53.39 % where as ratio in KBL is 68.83%. 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 HBL. This relates that the credit risk is higher in KBL as compared to HBL. It also refers that the KBL has invested in the risk-free asset such as Treasury Bills, Debentures, and National Saving Bonds etc.

Like wise, the standard deviation of HBL and KBL are 6.03 and 13.59 percentage. This indicates that the ratio deviate more from the average in case of KBL than HBL. The coefficient of variation (C.V) is 11.29% and 19.75% in HBL and KBL respectively, which means that per unit variation of the ratio of KBL is more than that of HBL. These indicate that the loan and advances to total asset ratio of KBL has more variation than that of HBL, which means higher risk in case of KBL than HBL.

4.1.1.2 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

Loan and Advance to Total Deposits Ratio

(Rs. in '000)

F.Y	HBL			KBL		
	Loan and Advances	Total Deposits	Ratio	Loan and Advances	Total Deposits	Ratio
2004/05	13451168	24814011	54.21	5125436	6256152	81.92
2005/06	15761976	26490851	59.50	6891855	7768957	88.71
2006/07	17793723	30048417	59.22	8929013	10557416	84.57
2007/08	19497520	31842789	61.23	11335087	12780153	88.69
2008/09	24793155	34181345	72.53	14593346	15710925	92.88
Average			61.34	Average		87.35
SD			6.78	SD		4.22
C.V.			11.05%	C.V.		4.83%

(Source: - Annex 2)

Figure 4.2

Loan and Advance to Total Deposits Ratio
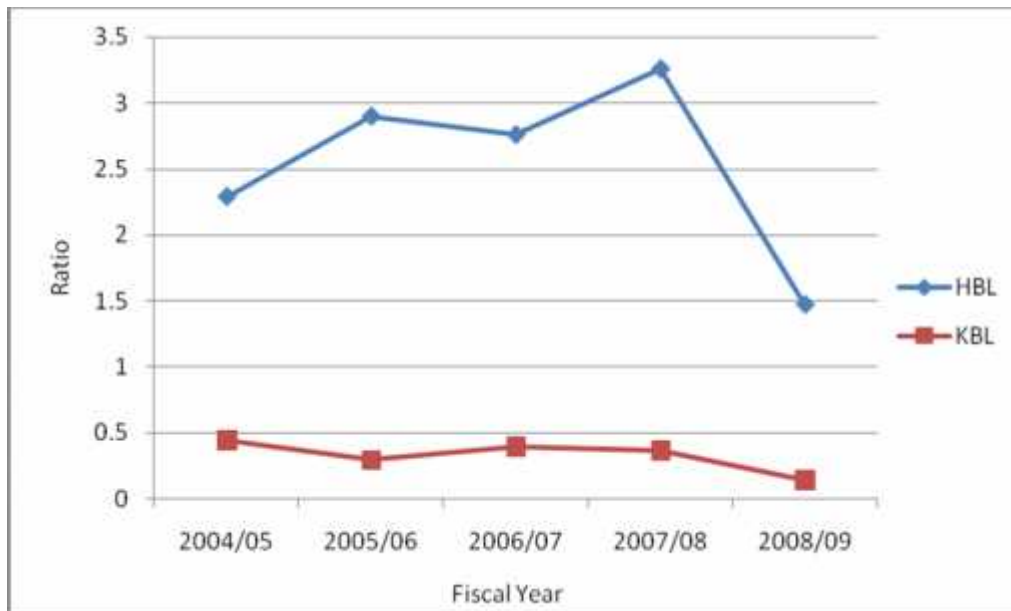
Above chart and table shows that the loans and advances to total deposit ratio of two commercial banks for 5 consecutives years. The loans and advances to total deposit ratio of both banks are in increasing trend except in the year 2006/07

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where there is decrease in the ratio of both the banks in the same year. The HBL has the highest CD ratio of 72.53% in the fiscal year 2008/09 where as the KBL has the highest CD ratio of 92.88% in the fiscal year 2008/09. The average CD ratio of HBL and KBL for 5 years is 61.34% and 87.35% respectively. The average CD ratio of KBL is higher than that of HBL which means that the KBL has utilized its deposit higher than HBL Bank. This again means that KBL has higher risk than HBL. But the C.V. and Standard deviation of HBL is higher than that of KBL, which shows that HBL has greater deviation in ratios and also more risky than that of KBL.

4.1.1.3 Non- Performing Loan to Total Loan 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 Loan and Advance Ratio

(Rs. in million)

F.Y	HBL			KBL		
	NPL	Loan and Advances	Ratio	NPL	Loan and Advances	Ratio
2004/05	1000766.89	13451168	7.44	48691.64	5125436	0.95
2005/06	1040290.42	15761976	6.60	63405.07	6891855	0.92
2006/07	642353.40	17793723	3.61	65181.79	8929013	0.73
2007/08	460141.47	19497520	2.36	149623.15	11335087	1.32
2008/09	535532.15	24793155	2.16	64210.72	14593346	0.44
Average			4.43	Average		0.87
SD			2.44	SD		0.32
C.V.			55.14%	C.V.		37.06%

(Source: - Annex 3)

Figure 4.3

Non-Performing Loan to Total Loan and Advance Ratio
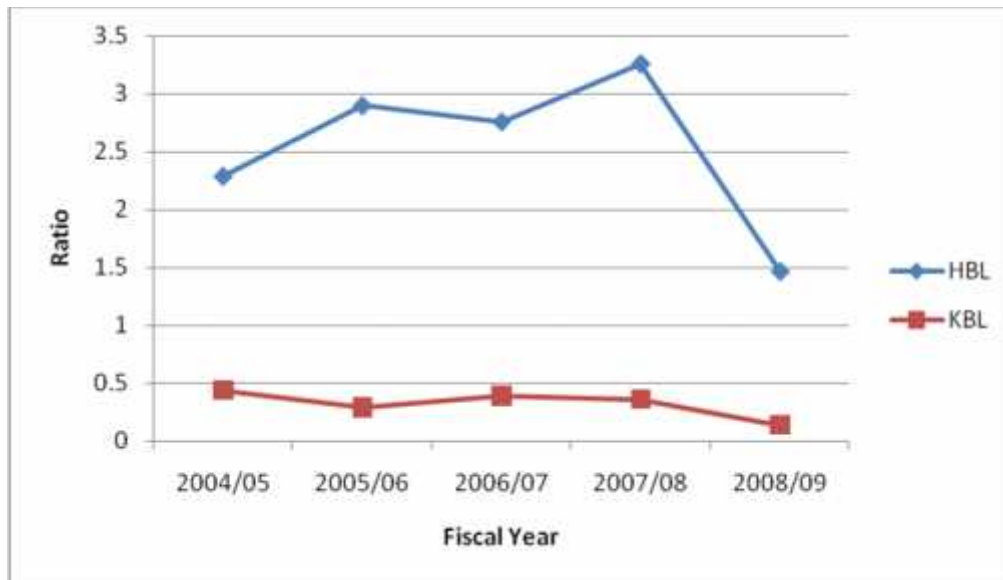
Above table and graph show that the ratio of non-performing loans (NPL) to total loans and advances of HBL and KBL for five consecutive years. Here, it is found that the NPL of HBL is in decreasing trend. Similarly, the NPL of KBL is also in decreasing trend except in the fiscal year 2007/08 where it is in increasing trend. The average NPL ratio of HBL and KBL are 4.43% and 0.87% respectively. It can be related as HBL is in much higher risk than KBL. The standard deviation of HBL and KBL are 2.44% and 0.32% respectively. This indicates that the HBL has higher risk as its NPL ratio deviate more from average.

4.1.1.4 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)

F.Y	HBL			KBL		
	LLP	**NPL**	**Ratio**	**LLP**	**NPL**	**Ratio**
2004/05	858625.62	1000766.89	85.80	25463.25	48691.64	52.29
2005/06	745623.56	1040290.42	71.67	24673.18	63405.07	38.91
2006/07	445621.47	642353.40	69.37	23752.86	65181.79	36.44
2007/08	356314.25	460141.47	77.43	61113.31	149623.15	40.84
2008/09	396521.86	535532.15	74.04	57403.00	64210.72	89.39
Average			75.66	Average		51.57
SD			6.40	SD		21.99
C.V.			8.46%	C.V.		42.65%

Source: - Appendix 4

Figure 4.4

Loan Loss Provision (LLP) to Non-Performing Loan Ratio
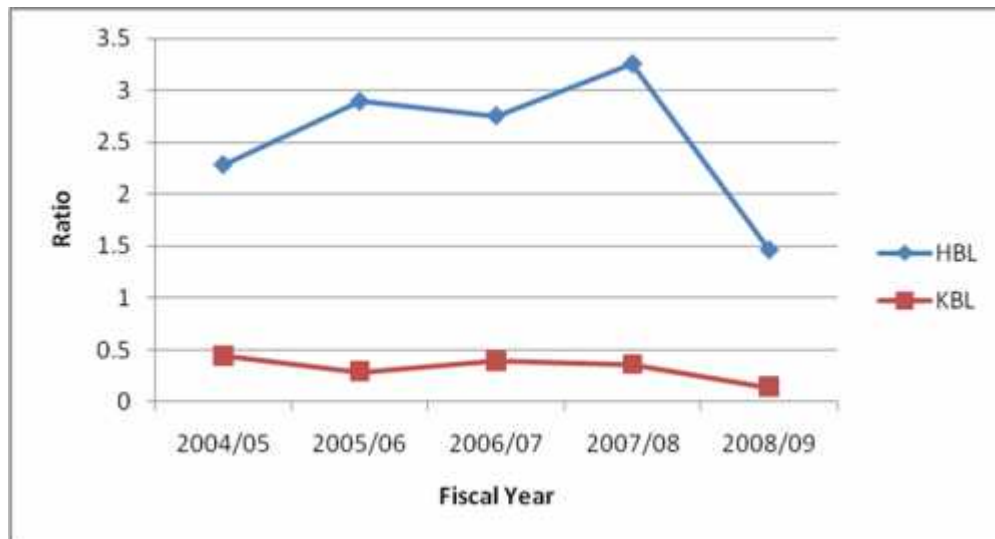
The above table and Graph illustrate the ratio of loan loss provision held to non-performing loan of HBL and KBL for five consecutive years. The graph and the values in the table represents that the HBL has fluctuating trend of the ratio and has the highest ratio of 85.80% in the fiscal year 2004/05 and lowest of 69.37 in

the fiscal year 2006/07. The ratio is in decreasing trend till year 2006/07 and then increasing in 2007/08 and again decreasing in the final year of the study period. Similarly, KBL has the highest ratio of 89.39% in the fiscal year 2008/09 and lowest is in the fiscal year 2006/07 of 36.44. The average NPL ratio of HBL is higher than that of KBL that is 75.66% > 51.57%. This shows that HBL has provided higher protection of provisioning to non performing loan compared to KBL Bank.

The standard deviation of HBL Bank and KBL are 6.40% and 21.99% respectively. This means that there exists the higher deviation in this ratio in context of KBL than HBL. The coefficient of variation of HBL and KBL are 8.46% and 42.65% respectively, which means that loan loss provision ratio of KBL fluctuate more than that of HBL.

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

(Rs. in million)

F.Y	HBL			KBL		
	LLP	Loan and Advances	Ratio	LLP	Loan and Advances	Ratio
2004/05	858625.62	13451168	6.38	25463.25	5125436	0.50
2005/06	745623.56	15761976	4.73	24673.18	6891855	0.36
2006/07	445621.47	17793723	2.50	23752.86	8929013	0.27
2007/08	356314.25	19497520	1.83	61113.31	11335087	0.54
2008/09	396521.86	24793155	1.60	57403.00	14593346	0.39
Average			3.41	Average		0.41
SD			2.07	SD		0.11
C.V.			46.78%	C.V.		26.58%

Source: - Annex 5

Figure 4.5

Loan Loss Provision (LLP) to Total Loan and Advances Ratio
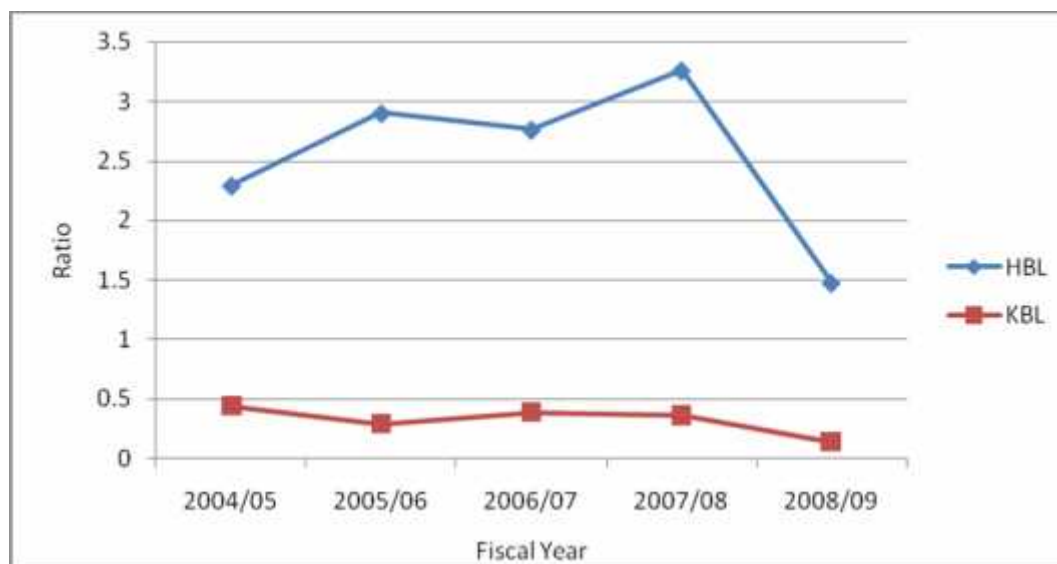
The above table and graph illustrate that KBL has the least portion of loan loss provision. The average LLP to total loan and advances ratio is 3.41% and 0.41%

of HBL and KBL respectively. The higher average ratio of HBL than KBL reflects that HBL has higher non-performing loan compared to KBL.

Likewise the standard deviation and coefficient of variation of HBL are 2.07% and 46.78% respectively, which is much higher than that of KBL (i.e. 0.11% standard deviation and 26.58% coefficient of variation). This indicates that HBL is in higher risk than KBL.

4.1.1.6 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 and Advances Ratio

(Rs. in million)

| F.Y | HBL | | | KBL | | |
	Net Profit	Loan and Advances	Ratio	Net Profit	Loan and Advances	Ratio
2004/05	308277	13451168	2.29	22635	5125436	0.44
2005/06	457458	15761976	2.90	20211	6891855	0.29
2006/07	491824	17793723	2.76	35031	8929013	0.39
2007/08	635868	19497520	3.26	41357	11335087	0.36
2008/09	365255	24793155	1.47	20727	14593346	0.14
Average			2.54	Average		0.32
SD			0.69	SD		0.22
C.V.			27.13%	C.V.		68.75%

Source: - Annex 6

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Figure 4.6

Return on Loan and Advances Ratio
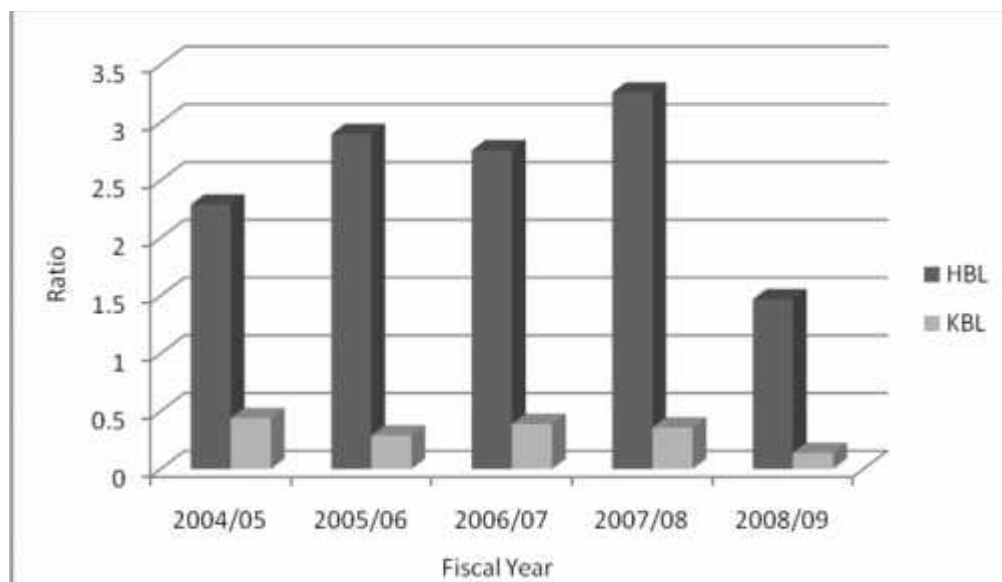
It is illustrated from above table and graph that the ratio of return on loans and advances of HBL is greatly high than that of KBL Bank. The graph and the table shows that ratio of KBL is just above the 0. The average ratio for 5 years of HBL and KBL is 2.54% and 0.32% respectively. This shows that HBL has better return than KBL.

The standard deviation of HBL and KBL for the study period is 0.69% and 0.22% respectively. Similarly the coefficient of variation of HBL and KBL is 27.13% and 68.75% respectively. These two figures indicate that both the deviation and variation of return percentage of KBL is more volatile than HBL, which also signifies the higher risk. Thus, HBL is in better position than KBL.

4.1.1.7 Security-wise/Sector-wise Lending of HBL 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.

4.1.1.7.1 Security-Wise Lending of HBL

This analysis is done to identify the various types of securities on the basis of which loans have been provided by HBL. 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 HBL includes 12 types of securities, including without collateral lending.

Table 4.7

Security-Wise Lending of HBL

(Rs. in Million)

S. No.	Security Against Lending	Average Lending against each collateral	Rank
1.	Movable/Non-movable Assets	4172	1
2.	Guarantee of local licensed institution	136	3
3.	Government Guarantee	0.06	10
4.	Guarantee against internationally rated bank	-	-
5.	Export Documents	43.2	4
6.	Own FDR	29.8	5
7.	FDR of other licensed institution	9.0	7
8.	Government Bonds	1.12	8
9.	Counter guarantee	0.6	9
10.	Personal guarantee	27.4	6
11.	Other Securities	607.8	2
12.	Lending without collateral	-	-

Source: - Annual Reports of HBL 2004/05 to 2008/09

The above table demonstrates the lending of HBL against different securities over the five years. HBL has extended the credit mostly against the movable/non movable property over the five years. The average lending against movable/non movable property is 4172 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 10th position on the basis of average amount of lending. From the average lending, personal guarantee is ranked in 6th position. This means the bank has been granting loan largely on personal guarantee which can be very risky. On the contrary, the bank has been granting less loan against the more liquid and secured collateral like government guarantee, government bonds and FDR of other licensed institution, which are ranked at 10, 8 and 7 respectively. This means that the bank has been lending in very risky securities only.

4.1.1.7.2 Security-wise Lending of KBL

Table 4.8

Security-wise Lending of KBL

(Rs. in Million)

S. No.	Security Against Lending	Average Lending against each collateral	Rank
1.	Movable/Non-movable Assets	3480.8	1
2.	Guarantee of local licensed institution	164.4	3
3.	Government Guarantee	-	-
4.	Guarantee against internationally rated bank	-	-
5.	Export Documents	-	-
6.	Own FDR	14.72	6
7.	FDR of other licensed institution	60	4
8.	Government Bonds	1.2	8
9.	Counter guarantee	-	-
10.	Personal guarantee	37.02	5
11.	Other Securities	405	2
12.	Lending without collateral	3.8	7

Source: - Annual Reports of KBL 2004/05 to 2008/09

It is demonstrated from the above table that KBL has extended credit against the 8 securities only over the period of five years. The KBL has also granted the highest amount of loan against the movable/non movable property, the average lending against which over five years is Rs.3840.8 million. Likewise, the average loan against the other securities over five is Rs. 405 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 extended loan without collateral which is very

risky. Since KBL has granted loan without collateral, the bank has higher risk because of two reasons: -

⟩ The bank has to make 100% provision for this loan, which decreases the bank's profit.

⟩ In case of default, the bank will suffer losses of the total amount of loan, as there is no collateral to cover it.

4.1.1.7.3 Risk Weighted Lending Analysis

Risk Weighted lending refers to weighed provided to the bank loan according to level of risk while risk level of the loan is categorized on the basis of the collateral. The lending against own bank Fixed deposit receipt and government securities are considered as risk free lending. Similarly, the loan against other banks Fixed Deposit Receipt, Counter guarantee of internationally rated banks are considered as moderate level risk lending and loan against all other securities or without collateral are taken as high level risk lending. The risk weighted for moderate level and high-level risk lending in 20% and 100% respectively. The higher the risk free and moderate level lending, the lower is the credit risk of the bank and vice versa. The loan has been categorized on the basis of NRB Risk weighted Asset basis. The proportion of different category of risk weighed lending of both banks is presented below.

Table 4.9

Proportion of Different Category of Risk Weighted Lending of HBL

Security	Risk Weighted (%)	2004/05	2005/06	2006/07	2007/08	2008/09	Average
Risk free Lending to Total Loan	0	0.44	0.17	0.35	8.19	1.22	2.07
Moderate Level Risk Lending to Total Loan	20	0.15	0.62	0.02	0.14	0.10	0.20
High Level Risk Lending to Total Loan	100	99.41	99.22	99.63	99.05	98.68	99.20

Source: - Annual Reports of HBL 2004/05 to 2008/09

Above table exhibits percentage of different categories of risk lending of HBL for 5 years. The table further reveals that HBL has the highest lending on 100% risk lending. The bank has extended 0.44, 0.17, 0.35, 8.19 and 1.22% of total lending against the risk free collateral in the year 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 respectively. Likewise, the bank has extended 0.15, 0.62, 0.02, 0.14, 0.10 and 0.20% of total loan against the moderate level risk collateral in the fiscal year 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 respectively. The average lending in 5 years on risk free, moderate level and high risk level lending is 2.07, 0.20 and 99.20% respectively.

Table 4.10

Proportion of Different Category of Risk Weighted Lending of KBL

Security	Risk Weighted (%)	2004/05	2005/06	2006/07	2007/08	2008/09	Average
Risk free Lending to Total Loan	0	0.13	0.02	0.31	0.68	0.26	0.28
Moderate Level Risk Lending to Total Loan	20	-	-	0.12	1.35	2.88	0.87
High Level Risk Lending to Total Loan	100	99.87	99.98	99.57	97.97	96.86	98.85

Source: - Annual Reports of KBL 2004/05 to 2008/09

The above table illustrates the percentage of lending of different categories of risk of KBL for 5 years. The table further reveals that KBL has also the highest lending on 100% high risk level category. The bank has extended 0.13, 0.02, 0.31, 0.68 and 0.26% of total lending against the risk free collateral in the fiscal year 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 respectively. Likewise the bank has not made moderate level risk lending for two fiscal years 2004/05 and 2005/06. It has extended 0.12, 1.35 and 2.88% of its total lending against the moderate level risk lending in the fiscal year 2006/07, 2007/08 and 2008/09 respectively. The average lending in 5 years on risk free, moderate level and high level risk lending is 0.28, 0.87 and 98.85% respectively.

Now, from above it is clear that both banks have extended least amount of loan against lower level risk collateral and more amount of loan against in high level

risk collateral. However the average lending in high level risk collateral of KBL is slightly less than HBL. So, HBL is slightly in risk than KBL.

4.1.1.8 Correlation Analysis

4.1.1.8.1 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 Coefficient of LLP and Loan and Advances

Banks	Correlation Coefficient (r)	Probable Error P.E.	Test of P.E. 6 × P.E.
HBL	-0.8142	0.1017	0.6106
KBL	0.8442	0.0866	0.4330

Source: - Annex 7

Above table explains the relationship between loan loss provision and loan and advances. Correlation coefficient of HBL is -0.8142, which means that the LLP moderately negatively correlated with loans and advances. The correlation coefficient of KBL is 0.8442 which also shows that there exists positive correlation between the LLP and loan and advances.

The probable error when multiplied by 6, is used to test the significance of calculated correlation coefficient, which is 0.6106 and 0.4330 of HBL and KBL. Here, the probable error (multiplied by 6) of HBL is more than the correlation coefficient that means the correlation coefficient value is not significant. Where as the probable error (multiplied by 6) of KBL is less than the correlation coefficient. Therefore, the correlation coefficient value of KBL is significant.

4.1.1.8.2 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 of LLP and NLP

Banks	Correlation Coefficient (r)	Probable Error P.E.	Test of P.E. 6 * P.E.
HBL	0.9686	0.0186	0.1116
KBL	06990	0.1542	0.9252

Source: - Annex 8

Above table exhibits correlation between LLP and NPL of two commercial banks. The correlation between LLP and NPL of HBL and KBL are positive. 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 HBL is less than the correlation coefficient. Hence, HBL correlation coefficient values is significant. But in case of KBL, the probable error multiplied by 6 is more than the Correlation coefficient. Thus, KBL correlation coefficient value is not significant or insignificant.

4.1.2 Organizational Structure for Credit Risk Management

As the credit risk has the highest proportion of risk in banking sector, the bank should have a well-defined management committee to analyze and manage the credit risk. For handling the credit function of bank, both banks have credit department headed by the credit manager. The credit manger will take credit decision to a certain extent after that the decision is made by the CEO or sometimes by the Board of Director if the bank has to extend credit to single

borrowers above 25 % of fund based and 50 % of non fund based loan. For the effective credit risk management HBL and KBL have separate Committees, which monitors the risk associated with the lending practice and the develop strategies and plans to minimize the risk.

4.1.2.1 Himalayan Bank Limited (HBL)

HBL 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 HBL 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.

4.1.2.2 Kumari Bank Limited (KBL)

D. Sharma (Personal Interview, May 12, 2006) states that a special Credit Committee exists for formulating credit policies in the bank. Besides, this committee also takes a credit decision beyond the limit of Chief Executive officer. The committee includes Chief Executive Officer, 3 Board of Directors, Assistant General Manager and Credit Manager. The main responsibility of this committee is to take decision beyond the jurisdiction of the management of KBL, to provide support to the board of directors etc.

In KBL, 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.

4.1.3 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 HBL and KBL, 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 HBL and KBL some of the most common problems related to the broad areas of concentrations, credit processing, and market- and liquidity-sensitive credit exposures.

4.1.3.1 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: -

⎠ Conventional credit concentrations include concentrations of credits to single borrowers or counterparties, a group of connected counterparties, and sectors or industries, such as commercial real estate, oil and gas.

⎠ Concentrations based on common or correlated risk factors reflect subtler or more situation-specific factors, and often cannot be covered through analysis. Disturbances in economic sector because of strikes, curfew, and

blockade have also slowed down the business of the banks as well as the borrowers. Similarly, a highly leveraged borrower will produce larger credit losses for a given severe price or economic shock than a less leveraged borrower whose capital can absorb a significant portion of any loss.

4.1.3.2 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 as specific commodity prices, shifts in the competitive landscape and the uncertainty of success in business strategy or management direction. Many lenders fail to "stress test" or analyze the credit using sufficiently adverse assumptions and thus fail to detect vulnerabilities.

4.1.3.3 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.

4.1.4 Analysis of Primary Data

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

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

Regarding the single sector lending, 8 staffs of HBL have responded that HBL can lend 0-10% of total loan on single sector, where as 2 have responded that it can lend 10-20 % of total loan in single sector. Likewise, out of total 10 staffs of KBL, 6 have agreed that the bank can lend 0-10 % of total loan. where as 1 has agreed that the bank can lend 20- 30 % of total loan and rest have agreed on 10-20% of total loan. Regarding credit rating system, all 20 staffs have answered that both banks have rating system for the credit client.

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

Table 4.13

Ranking of Different Characteristics while Lending

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

Source: - Annual Report of HBL and KBL 2004/05-2008/09

From above, it is clear that HBL prefers Manufacturing, Service Industry, Real Estate, Consumer Loans, mine and minerals and agriculture in first, second, third, fourth, fifth, sixth respectively. In contrast, KBL prefers real estate in second priority, where as HBL takes it into third priority. The KBL takes both the consumer loans and service industry in third priority. Both HBL and KBL has similar ranking for manufacturing and agriculture. Both the bank would like to invest more on the manufacturing sector and least to the agriculture sector.

Regarding an importance of the directives related to loan classification and provisioning, 100% of the respondents agreed that the directives are very important.

Regarding an impact of new directives on provision for loan loss of commercial bank, 100% of the respondents are of the view that newly issued directives regarding loan classification and provisioning will increase the provision.

When asked about the effect of present loan classification and provisioning directive on the shareholders of the bank, 100% of the respondents think the

shareholders will enjoy lesser dividend and will have their EPS decreased however everyone believes that is only for short term.

When asked about to what extent today's banking industry is effected by problem of NPL, 90% of the respondents were of the view that it is severely affected.

Whereas 10% were of the view that today's banking industry is moderately affected by the problem of NPL.

4.1.5 Test of Hypothesis

Hypothesis–I

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

Table 4.14

Sector wise Lending

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

Source: - Field Study Annex 9

Null Hypothesis (H0): There is no significant difference between observed and expected frequencies regarding the choice of sector of lending.

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

Fixing the level of significant at 5%.

Calculation of Expected Frequencies (E)

Expected Frequency of R1C1 $= \dfrac{\text{Row Total} \times \text{Column Total}}{\text{Grand Total}}$

$$= \dfrac{316 \times 63}{623}$$

Similarly,

R1C2 = 31.96	R1C3 = 40.58	R1C4 = 58.84	R1C5 = 68.98
R1C6 = 55.79	R2C1 = 31.04	R2C2 = 39.42	R2C3 = 57.16
R2C4 = 67.02	R2C5 = 54.21	R2C6 = 58.15	

Table 4.15

Test of Chi- Square

Observed Frequencies (O)	Expected Frequencies (E)	(O – E)	$(O - E)^2 / E$
31	31.96	-0.96	0.03
39	40.58	-1.58	0.06
58	58.54	-0.84	0.01
70	68.98	1.02	0.02
55	55.79	-0.79	0.01
63	59.85	3.15	0.17
32	31.04	0.96	0.03
41	39.42	1.58	0.06
58	57.16	0.84	0.01
66	67.02	-1.02	0.02
55	54.21	0.79	0.01
55	58.15	-3.15	0.17
Total			0.60

Test Statistics

$$x^2 = \dfrac{\sum (O - E)^2}{E} = 0.60$$

Degree of Freedom

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

= (2-1) (6-1)

= 5

χ^2 tabulated at 5% level of significance for 5 d.f. is 11.07.

Decision: - Since tabulated value of χ^2 is greater than calculated value of χ^2 (i.e. 11.07 > 0.6), null hypothesis is accepted which means that there is no significant difference between observed and expected ranking of lending on different sectors.

Hypothesis – II

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

Table 4.16

Hypothesis Test Regarding the Ranking of Various Factors to be Considered

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

Source: - Field Study, Annex 9

Null Hypothesis (H0) There is no significant difference between observed and expected frequencies regarding to the ranking of various factors.

Alternative Hypothesis (H1) There is significant difference between observed and expected frequencies regarding to the ranking of various factors.

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Fixing the level of significant at 5%

Calculation of Expected Frequencies (E)

Expected Frequency of R1C1 $= \dfrac{\text{Row Total} \times \text{Column Total}}{\text{Grand Total}}$

$= \dfrac{127 \times 269}{532}$

Similarly,

R1C2 = 52.08   R1C3 = 50.06   R1C4 = 44.50   R1C5 = 58.15

R2C1 = 62.78   R2C2 = 50.92   R2C3 = 48.94   R2C4 = 43.50

R2C5 = 56.85

Table 4.17

Test of Chi- Square

Observed Frequencies (o)	Expected Frequencies (E)	(O – E)	$(O – E)^2 / E$
63	64.22	-1.22	0.02
58	52.08	5.92	0.67
45	50.06	-5.06	0.51
48	44.50	3.50	0.28
55	58.15	-3.15	0.17
64	62.78	1.22	0.02
45	50.92	-5.92	0.69
54	48.94	5.06	0.52
40	43.50	-3.50	0.28
60	56.85	3.15	0.17
Total			3.34

Test Statistics

$$x^2 = \frac{\sum (O - E)^2}{E} = 3.34$$

Degree of Freedom

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

= (2-1) (5-1)

= 4

^{2} tabulated at 5% level of significance for 4 d.f. is 9.49.

Decision:- Since tabulated value of ^{2} is greater than calculated value of ^{2} (i.e. 9.48 > 3.34), null hypothesis is accepted which means that there is no significant difference between observed and expected ranking of lending on different sectors.

4.2 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:

4.2.1 Liquidity Risk

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

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

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

The key tools for analyzing the liquidity risk are: -

4.2.1.1 Current Ratio of HBL and KBL

Current ratio is the ratio of current assets to current liabilities. Current assets and liabilities change frequently, unlike long term assets such as land and building or long term liabilities like equity capital or long term loans. The word `current' denotes that the particular asset or liability is expected to be converted into cash or paid for with cash within twelve months or over the operating cycle, whichever is longer. In other word, the current ratio indicates how much proportion of current assets has been financed by the current liabilities. If the current liabilities are lower than the current asset it means that the bank current asset has been financed by the long-term liabilities and capital. On the contrary, if the current ratio is very low it means the current liabilities are more than the current asset.

<div align="center">

Table 4.18

Current Ratio

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(Rs. in '000)

</div>

	HBL			KBL		
F.Y	**Current Assets**	**Current Liabilities**	**Ratio**	**Current Assets**	**Current Liabilities**	**Ratio**
2004/05	15906720	13587965	1.17	11425825	10564123	1.08
2005/06	18484609	16127847	1.15	13458642	11258305	1.19
2006/07	21261089	18956958	1.12	15842533	12548354	1.26
2007/08	23456874	17456985	1.34	16458285	15458608	1.06
2008/09	24586895	18452369	1.33	18475236	17894251	1.03
Average			1.22	Average		1.12

Figure 4.7

Current Ratio
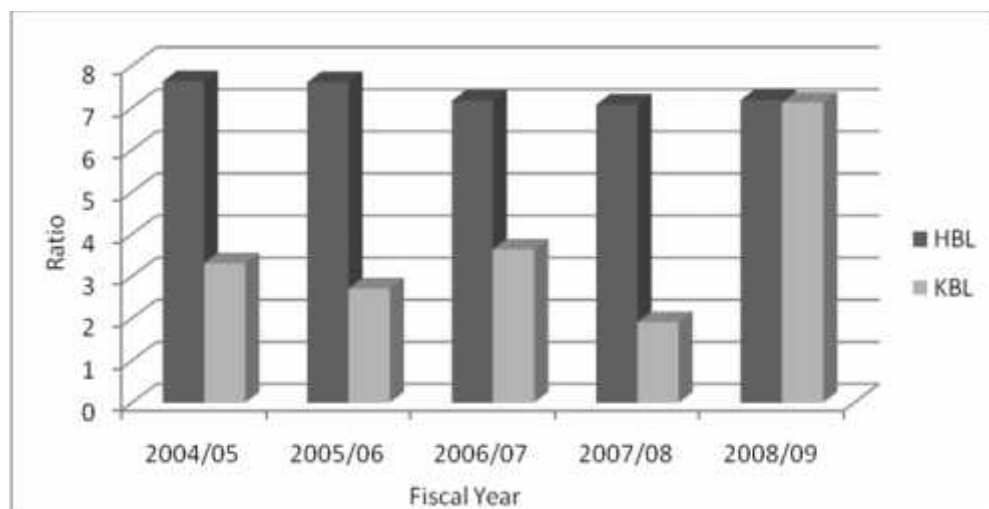
Above table and exhibits the current ratio of HBL and KBL over 5 years. It is clear that the average current ratio of HBL and KBL is 1.22 and 1.12 respectively. This means that the HBL has used most of current liabilities to finance the current assets. Both banks have failed to meet the standard ratio of 2:1 while KBL has low current ratio which indicates that it has low ability to meet the short-term obligations as they come due.

4.2.1.2 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 4.19

Cash and Bank Balance to Total Assets Ratio

(Rs. in '000)

F.Y	HBL			KBL		
	Cash & Bank Balance	**Total Assets**	**Ratio**	**Cash & Bank Bal.**	**Total Assets**	**Ratio**
2004/05	2014471	28871343	6.97	314856	7458632	4.22
2005/06	1717352	30579808	5.61	389628	9010276	4.32
2006/07	1757341	34314868	5.12	672112	11918311	3.37
2007/08	1978654	36175531	5.47	933841	15036249	6.21
2008/09	1846932	39320322	4.70	1776297	18538565	9.58
Average			5.57	Average		5.54
SD			0.86	SD		2.48
C.V.			15.39%	C.V.		44.86%

Source: - Annex 10

Figure 4.8

Cash and Bank Balance to Total Assets Ratio
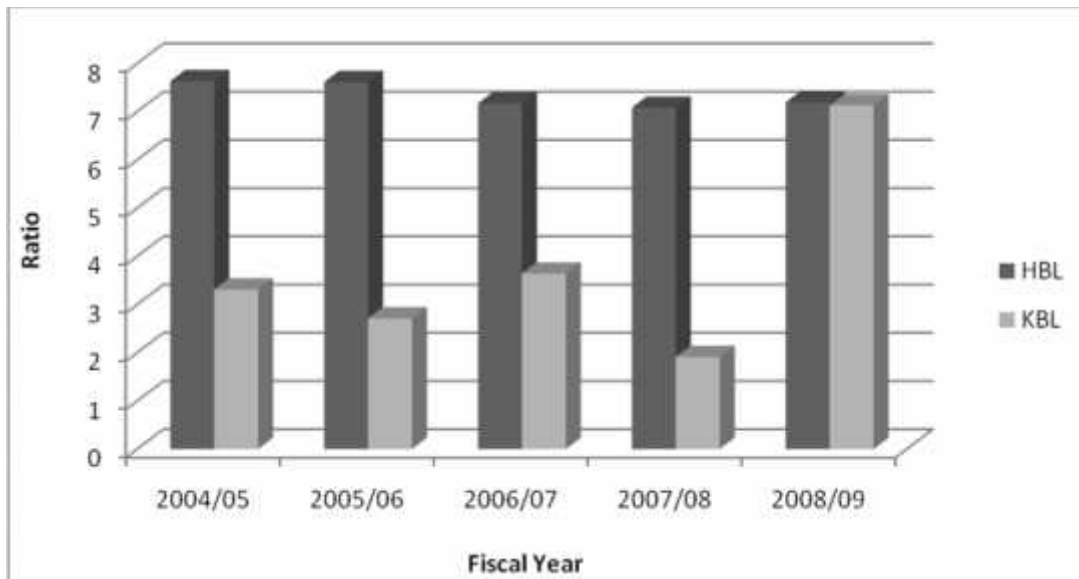
The table and graph above show that the cash and bank balance to total asset ratio of HBL and KBL for 5 years. The ratio of HBL is the highest of 6.97% in fiscal

year 2004/05 and the lowest of 4.70% in the fiscal year 2008/09. On the other hand, the ratio of KBL is the highest of 9.58% in the fiscal year 2008/09 and lowest of 3.37% in the fiscal year 2006/07. The ratios of HBL are in decreasing trend except in the fiscal year 2007/08 but the ratios of KBL are in increasing trend except in the fiscal year 2006/07. The average ratio of HBL is slightly higher than that of KBL (that is 5.57% > 5.54%). This shows that the KBL has less amount of liquid fund such as cash and bank balance than that of HBL. This means HBL is in more liquid position than KBL, which also indicates the lower level of liquidity risk. The standard deviation of ratio of HBL and KBL are 0.86 and 2.48 respectively. This means that the fluctuation rate of cash and bank balance is lower in HBL than KBL. This indicates that the HBL has less variation in cash and bank balance out of total asset.

4.2.1.3 Cash Reserve Ratio (CRR)

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

Table 4.20

Cash Reserve Ratio

(Rs. in '000)

F.Y	HBL			KBL		
	Balance with NRB	Total Deposit	Ratio	Balance with NRB	Total Deposit	Ratio
2004/05	1894756	24814011	7.63	206946	6256152	3.31
2005/06	2014852	26490851	7.61	210552	7768957	2.71
2006/07	2154823	30048417	7.17	384844	10557416	3.64
2007/08	2254868	31842789	7.08	244576	12780153	1.91
2008/09	2458695	34181345	7.19	1120760	15710925	7.13
Average			7.34	Average		3.74
SD			0.35	SD		2.00

C.V.	4.72%	C.V.	53.63%

Source: - Annex 11

Figure 4.9

Cash Reserve Ratio
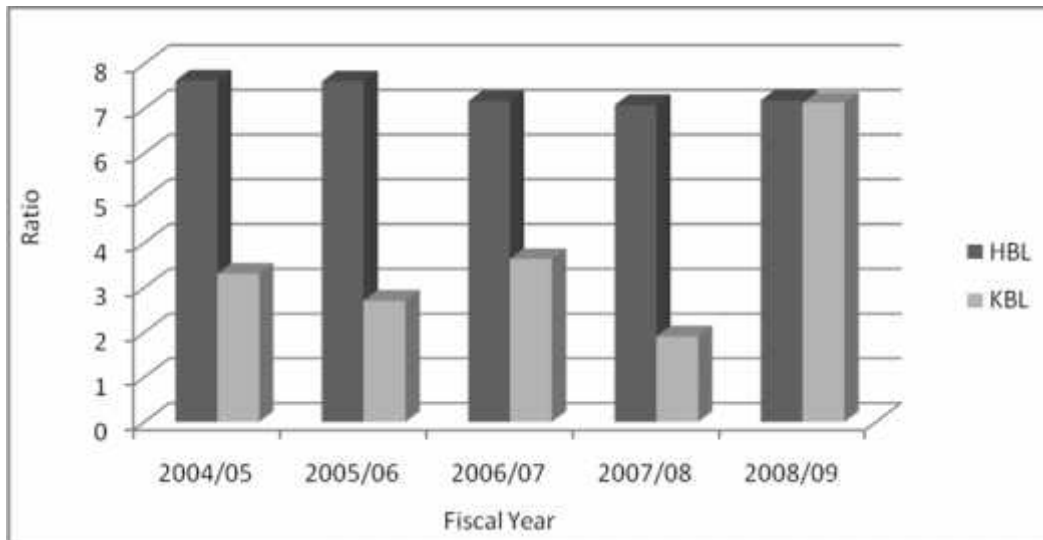
Above table and graph illustrate the cash reserve ratio of HBL and KBL from fiscal year 2004/05 to 2008/09. The Cash Reserve Ratio (CRR) indicates the total amount of deposit of commercial banks in NRB. NRB prescribe CRR for the commercial banks each year. In fiscal year 2006/07, CRR is 5.5% which means that the bank has to maintain 5.5% of total deposit in NRB.

From above table and graph, it is clear that HBL has maintained the statutory measure (i.e. 5.5%) in all the fiscal year, but CRR of KBL has been maintained only in the fiscal year 2008/09 and in all the fiscal years the CRR is below the statutory measure and also the CRR is in decreasing trend. The higher the CRR, the more funds in NRB and the stronger will be in liquidity position. This means average CRR of HBL is 7.34 and average of KBL is 3.74. The standard deviation of HBL is 0.35 where as standard deviation of KBL is 2.00. From this, it is clear that the deviation is higher in case of KBL as compared to HBL.

From above, it can be summarized that the HBL 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.

4.2.2 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.

4.2.2.1 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 4.21

Interest Income to Total Income of HBL & KBL

(Rs. in '000)

F.Y	HBL			KBL		
	Interest Income	Total Income	Ratio	Interest Income	Total Income	Ratio
2004/05	168214	1560155	10.78	529641	582563	9.09
2005/06	237290	1664361	14.26	612901	675559	9.07
2006/07	297999	1844242	16.16	791284	868293	9.11
2007/08	451218	2225284	20.28	956854	1080550	8.85
2008/09	638732	2465894	25.90	1370968	1533633	8.94
Average			17.48	Average		9.01
SD			5.82	SD		0.11
C.V.			33.32%	C.V.		1.25%

Source: - Appendix 12

Figure 4.10

Interest Income to Total Income Ratio of HBL & KBL
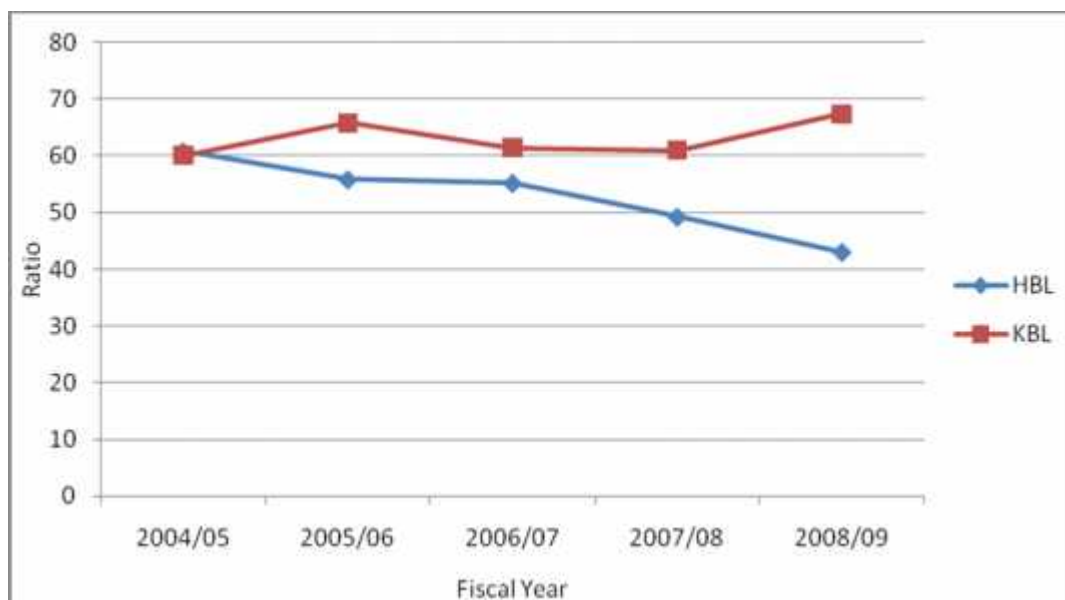
The above table and graph illustrate the interest income to total income of HBL and KBL. The interest income to total income of HBL is in increasing trend but

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KBL has fluctuating trend. The mean ratio of HBL and KBL is 17.48% and 9.01% respectively. This ratio indicates that both banks are not highly dependent on interest based income, which shows the sign of low risk for banks. Both banks need to have concentration on interest income. The standard deviation of ratio of HBL and KBL is 5.82% and 0.11% with coefficient of variation of 33.32% and 1.25% respectively.

This shows that HBL has higher deviation of ratios than KBL.

4.2.2.2 Interest Expenses to Total Expenses

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

Table 4.22

Interest Expenses to Total Expenses Ratio

(Rs. in '000)

	HBL			KBL		
F.Y	**Interest Expenses**	**Total Expenses**	**Ratio**	**Interest Expenses**	**Total Expenses**	**Ratio**
2004/05	758214	1245856	60.85	286395	476398	60.11
2005/06	762538	1364358	55.89	341654	518273	65.92
2006/07	798122	1444282	55.26	404509	657509	61.52
2007/08	823744	1671148	49.29	493513	809005	61.00
2008/09	832463	1931404	43.10	803428	1191574	67.42
Average			52.88	Average		63.19
SD			6.83	SD		3.26
C.V.			12.92%	C.V.		5.15%

Figure 4.11

Interest Expenses to Total Expenses of HBL & KBL
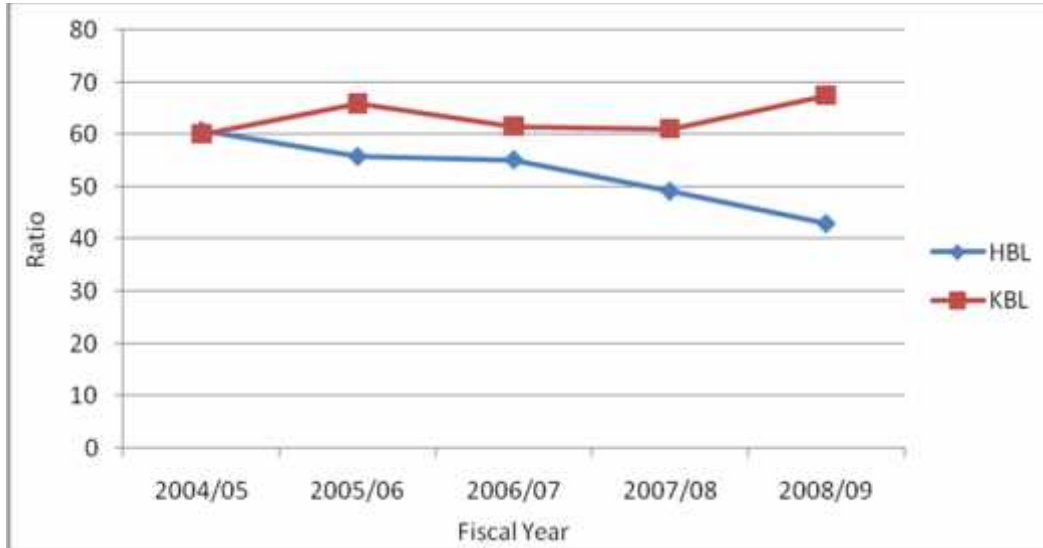
The graph and table above show the interest expenses to total expenses of two commercial banks, HBL and KBL. The ratio of interest expenses to total expenses of HBL is in decreasing trend whereas, the ratio of KBL is in fluctuating trend.. The mean ratio of HBL and KBL is 52.88% and 63.19% respectively. This ratio indicates that the interest expense has higher proportion in KBL than in HBL. The change in interest rate on deposit and borrowing will have higher impact on HBL and KBL which produces the higher interest rate risk to the both banks. The standard deviation of ratio of HBL and KBL is 6.83% and 3.26% with the coefficient of variation of 12.92% and 5.15% respectively.

These ratios indicate that the proportion of interest expenses on total expenses fluctuates more in HBL than that of KBL.

4.2.2.3 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

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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: -

4.2.2.3.1 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 the gap between IRSA and IRSL. The bank has to bear higher losses if the gap is high (either positive or negative). The bank will not bear interest rate risk if the gap between IRSA and IRSL is zero. The gap analysis of IRSA and IRSL of HBL and KBL is presented below:

Table 4.23

Gap Analysis of IRSA and IRSL of HBL and KBL

(Rs. in '000)

F Y	HBL				KBL			
	IRSA	IRSL	Gap	Gap Ratio	IRSA	IRSL	Gap	Gap Ratio
2005/06	0	0	0.00	0	353	102	251.00	3.46
2006/07	10	0	10.00	0	356	154	202.00	2.31
2007/08	0	0	0.00	0	812	132	680.00	6.15
2008/09	0	0	0.00	0	1021	229	792.00	4.46
	Mean		2.50	0	Mean		481.25	4.10

Source: - Annual report of HBL and KBL

Above table exhibits the IRSA and IRSL of two commercial banks for 4 years. The table shows that KBL has higher level of gap in every year than HBL except in the fiscal year 2006/07. HBL has zero Rate Sensitive Liabilities in almost all

year except in the fiscal year 2006/07 it has 10 million rupees Rate Sensitive Assets but none Rate Sensitive Liabilities. The average gap of HBL is 2.50 million and KBL is 481.25 million respectively. This average gap shows that HBL has nicely matched the IRSA and IRSL than KBL which indicates the lower interest rate risk.

4.2.2.3.2 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. Here four years data is used because of non-availability of data of fiscal year 2004/05.

Table 4.24

Gap Analysis of FIRSA and FIRSL of HBL and KBL

(Rs. in '000)

F Y	HBL				KBL			
	FIRSA	**FIRSL**	**Gap**	**Gap Ratio**	**FIRSA**	**FIRSL**	**Gap**	**Gap Ratio**
2005/06	5637	6648	-1011.00	0.85	2612	2683	-71.00	0.97
2006/07	6775	7485	-710.00	0.91	5257	5587	-330.00	0.94
2007/08	7313	8104	-791.00	0.90	7051	7772	-721.00	0.91
2008/09	7150	7384	-234.00	0.97	8271	9206	-935.00	0.90
	Mean		-686.50	0.91	Mean		-514.25	0.93

Source: - Annual report of HBL and KBL

The table above illustrates the FIRSA and FIRSL of HBL and KBL. The table shows that both banks have high level of negative gap in all fiscal year. HBL has the highest negative gap of -1011 million in fiscal year 2005/06 and KBL has the highest negative gap of -935 in fiscal year 2008/09. The higher gap indicates the high level of interest rate risk of both banks. The mean gap ratio of HBL and KBL is 0.91 and 0.93 respectively. This shows that HBL has matched FIRSA and FIRSL better than KBL, which indicates lower risk.

4.2.2.3.3 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 HBL and KBL, assuming that the market interest rate will change by 1 percent. The four years data has been used for the analysis due to non-availability of the data of fiscal year 2004/05.

Table 4.25

Net Interest Margin of HBL and KBL

(Rs. in '000)

F.Y	HBL			KBL		
	RSA	RSL	NIM	RSA	RSL	NIM
2005/06	0	0	0.00	353	102	2.51
2006/07	10	0	0.10	356	154	2.02
2007/08	0	0	0.00	812	132	6.80
2008/09	0	0	0.00	1021	229	7.92
		Average	0.03		Average	4.81

Source: - Annual report of HBL and KBL

Where,

NIM = (RSAs x rA) - (RSLs x rL)

RSA = Rate Sensitive Assets

R_A = Changes in interest rate received on Rate Sensitive Asset

RSL = Rate Sensitive Liabilities

r_L = Changes in interest rate received on Rate Sensitive Liabilities

The table above illustrates the net interest margin of HBL and KBL for 4 fiscal years. When the interest rate changes is assumed to be 1% in both RSA and RSL, KBL shows the higher average net interest margin than HBL which is 3.85% and 0.02% respectively. This means that KBL has higher net interest margin than that of HBL.

4.2.2.4 Interest Rate Spread

The interest rate spread refers to the difference between weighted average interest on loan and advances and the weighted average interest on deposit. This interest rate spread also measures the profitability position of a bank. The higher spread does a bank have, the higher will be the profitability position of the bank because

the bank has to pay less interest on deposits and will receive higher interest on loan and advances. The interest rate spread of two banks is presented as below:

Table 4.26

Interest Rate Spread of HBL and KBL

(Rs. in '000)

F.Y	HBL			KBL		
	Average Interest Loan (%)	Average Interest on Deposit (%)	Interest Spread	Average Interest Loan (%)	Average Interest on Deposit (%)	Interest Spread
2005/06	10.28	5.92	4.36	7.87	4.09	3.78
2006/07	9.62	4.97	4.65	6.90	3.26	3.64
2007/08	8.54	4.80	3.74	6.99	3.60	3.39
2008/09	7.27	4.41	2.86	7.27	4.10	3.17
Average			3.90	Average		3.50

Source: - Annual report of HBL and KBL

Above table illustrates the interest rate spread of two commercial banks. The interest rate on loans and advances and deposit of KBL is fluctuating while the interest rate on loans and advances and deposits of HBL is in decreasing trend.

HBL has highest interest rate of 10.28% on loans and advances and 5.92% on deposit in the fiscal year 2005/06. KBL has highest interest rate of 7.87% on loan and advances in the fiscal year 2005/06 and highest interest rate of 4.1% on deposit in fiscal year 2008/09. Both interest rate of HBL are higher than KBL. The mean spread of HBL is also higher than KBL. This interest rate spread indicates that HBL has higher net interest income than KBL, which means higher profit. However, both banks have interest rate spread less than 5%.

4.3 Operation Risk

Operational risk arises from the potential inadequate information systems, operational problems, breaches in internal controls, fraud, or unforeseen

catastrophes that result in unexpected losses. There are operational risks associated with virtually any banking activity but the greater dependence on technology and centralized operations is one of the reasons for banks in becoming increasingly exposed to operation risk. Though operation risk cannot be quantified, it has a significant impact on the banking operations. The operation risk of the banks is analyzed as below.

4.3.1 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.

4.3.1.1 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 whereas over means the reputation risk (i.e. the customer, who pays more might come later on to claim).

Pathak of HBL 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. Mr. P. Dangol of KBL 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.

4.3.1.2 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.

4.3.1.3 Settlement Risk

Settlement risk refers to potential of loss; bank might suffer due to unsettlement of transaction within branches of a bank or between interbank 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 interbank transaction.

Pandey of HBL 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 keeps its money as deposit. So, when Nepalese banks have to do transaction in foreign countries in foreign trade, they will perform through such Nostro Banks. While making transaction 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 KBL 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.

4.3.2 Money Laundering

Money laundering is the practice of engaging in finance/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, 2008). 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 the past, the term "money laundering" was applied only to financial transactions related to organized crime. Today its definition is often expanded by government regulators such as the United States Office of the Comptroller of the Currency to encompass any financial transaction which generates an asset or a value as the result of an illegal act, which may involve actions such as tax evasion or false accounting. As a result, the illegal activity of money laundering is now recognized as potentially practiced by individuals, small and large businesses, corrupt officials, members of criminal organization organized crime such as drug dealers or the Mafia, and even corrupt states, through a complex business network of shell companies and trusts based in Offshore Financial Centre offshore tax havens.

Surfing crime Surfing and kiting are examples of money laundering technique, (Wikipedia, 2008).

Money Laundering takes place in three phases;

〕 When bulk cash is deposited into the banking system using currency or funds from illegal activities.

〕 Layering where multiple transaction are used to separate the proceeds from their illegal source.

〕 Integration of the illegal funds with apparently legitimate business earning.

Money Laundering was a global issue after the September 11, 2001. In both banks, combating against the money laundering has been given a high priority. According to the managers operation, both the banks have a comprehensive anti- money laundering policy, known as "Know 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. Key person of HBL states that the Credit Control Department is responsible for tracing out all the doubtful

transaction on daily basis. The bank continuously identifies and verifies the following transactions: -

a. Due Diligence are collected, recorded and monitored information on customers.

b. 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.

c. 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.

Sharma (Personal Interview, 2006 May 2) of KBL states that bank looks into following transactions:

a. Customer background, which does not justify the deposited amount

b. Customer who have frequent large transaction without any source

c. Multiple bank accounts of a same customer in same bank

d. 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.

4.3.3 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 HBL is Pumori Plus, the most commonly used software by Nepalese Banks. The Bank offers Any Branch Banking Service (ABBS) in branches operating in Kathmandu and Banepa. Telex and SWIFT are other modes of communication for efficient and effective transmission of information. The main software of MBL is Globus. All the branches have been interconnected with radioactive links so that the customer can get Any Branch Banking Services (ABBS).

This computerized system will be in problematic situation when system fails. A. Joshi (Personal Interview, 2006 May 18) Information Technology (IT) Manager of KBL mentioned that system failure is not usual. The bank itself configures most of the problems related to system; however for the complex problem the bank has been using the help of Indian companies. S. Karna (Personal Interview, 2006 May 14) of HBL states that every day the bank records the transaction in a disk after operating End of Day (EOD) transaction. For the proper back up and diversification of system risk, the data are replicated in more than one server located in various places. Proper back up of data and information is maintained by the bank, which helps to restore the data easily in case of major breakthrough.

For the proper security of data, both the bank has adopted the latest device. Internet banking services, which are new banking product in Nepalese commercial banks, have also been lunched by both banks. For the security of customer transaction from Internet banking, both banks have adopted the latest technology.

Similarly, frequent inspection of the equipment and preventive maintenance is carried out by both banks, which lower the major break through of the technology. Further, both banks are providing training to their staffs for handling new technology frequently.

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

HBL is providing Debit Card facilities under the SCT (Smart Choice Technology) Network jointly in consortium with 19 other member Banks. HBL has 34 ATM Terminals located at different parts of the country and it has POS arrangement as well.

Similarly, KBL is providing ATM card in collaboration of VISA Card, which can be used only in the ATM counter of VISA Electrons.

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 HBL 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).

4.4 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. 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 Major Findings of the Study

From the above analyses of different risks, following major findings have been obtained and categorized under different risks heading.

Credit Risk

From the review of the questionnaire carried out with the key employees of the banks, it was found that proportion of the credit risk on banks is more than 60 % of total risk. The major problem in credit risk is related to the broad areas of concentrations, credit processing, and market- and liquidity-sensitive credit exposures.

From the analysis of primary data, it is found that the majority of the respondents of both banks have favored with the bank's single sector or borrower's limit, which is up to 10 % of total loan. However, the sector wise lending analysis portrays that HBL and KBL have extended 33% and 24 % of loan in a single sector respectively. Similarly, the exposure on the single sector of HBL and KBL exceeds 10 % of total loan in 4 sectors each. The single sector loan to core capital

shows that the ratio crossed 100% 3 and 2 sectors of HBL and KBL respectively. In regard to concentration risk, HBL has more risk in manufacturing, wholesaler and retailer and other sectors where as KBL has more risk on whole seller and retailer and other sectors as the single sector credit to core capital ratio in these sectors is more than 100 %. From the personal interview of the key respondents it was found that both banks have been extending credit after getting approval from the board of director.

This clarifies that concentration risk is the main source of credit risk for HBL and KBL. Similarly, lack of systematic and thorough credit processing is also the major source of credit risk in these banks. The problems in credit processing include lack of thorough credit assessment, absence of testing and validation of new lending techniques, subjective decision-making by senior management, lack of effective credit review process, failure to monitor borrowers or collateral values, and failure of banks to take sufficient account of business cycle effects etc. Likewise the market-sensitive and Liquidity-sensitive exposures also increase the credit risk of these banks.

Similarly, it is found that both banks have their own rating system of the credit client and the sectors. HBL has ranked 1st to the manufacturing sector while KBL has ranked 1st to the wholesaler and retailer where as metal and electric product is ranked last by HBL and consumer loan by KBL.

Likewise, HBL has ranked Character, Collateral and Capacity of borrower first, second and third criterion for granting credit where as KBL ranked Character, Capacity and Capital first, second and third priority respectively. The hypothesis test on the preference of the bank's staff also proves that there is no significant difference between observed and expected frequency of ranking.

From the analysis of lending against various collaterals, it has been found that both the banks have lent highest amount of loan against the movable/immovable property. The average lending over 5 years period of HBL and KBL against movable/ immovable property is Rs. 4172 million and 3840 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. However, KBL has also granted loan without any collateral. The average amount of loan without collateral is Rs. 3.8 million. On the contrary, HBL has not granted any loan without backing any collateral. The key performance indicators of the two banks in regard to credit management are found as follows: -

The average loans and advances to total asset of HBL and KBL during the study period are 53.39 % and 68.83 % respectively. Over this five years period, the proportion of loan on total asset of HBL is in increasing whereas KBL is of fluctuating trend. Lower average loan and advances to total asset of HBL than that of KBL (i.e. 53.39 %< 68.83%) suggests that HBL management is more risk averse than KBL and also indicates that HBL 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 KBL depicts that the ratio of KBL is more fluctuating from average than HBL and carries higher risk.

The core banking function is to mobilize the funds obtained from the depositors and how successfully this function have been discharged by the banks is measured by the ratio of loans and advances to total deposit ratio or simply CD ratio.

The average CD ratio of HBL and KBL is 61.34% and 87.35 % respectively during the study period. This implies that KBL has utilized higher portion of deposit than that of HBL. Similarly, the deviation of the ratio of KBL is lower than HBL, which indicates that CD ratio has lower variation from the average in case of KBL than that of HBL.

Analysis of non- performing loans to total loans revealed that average NPL of HBL and KBL is 4.43 % and 0.87 % respectively. Hence HBL has higher percentage of non-performing loan than KBL, which means that HBL has more credit risk than KBL. With higher amount of non- performing loan of HBL, the impact of it will be on the net profit of the bank. Average ratio of Loan Loss Provision to Non-performing Loan of HBL and KBL was found to be 75.66% and 51.57% respectively. Hence HBL 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 HBL.

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 HBL and KBL is 3.41 % and 0.41 % respectively. The higher percent of LLP of HBL indicates that the bank has higher amount of non-performing loan than KBL. Because of the higher amount of nonperforming loan of HBL in total, the provisioning amount is in higher side.
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 HBL is 2.54%, which indicates that the bank is able to generate net profit from loans and advances more than that of KBL The average ratio of KBL for the period is found to be 0.32 %.

This figure indicates that HBL has been able to earn return from its loans and advances than KBL. Similarly the variation on return of KBL is higher than that of HBL, which means that return on loan and advances of KBL is more fluctuating than HBL.

Correlation coefficient between LLP and loans and advances of HBL and KBL is - 0.8142 and 0.8442 respectively. This figure indicates that the LLP and loan and advances of KBL are highly correlated than HBL. The correlation coefficient of HBL is in negative. Similarly, 6 times Probable Error (P.E) of KBL 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 HBL and KBL. The correlation coefficient of HBL and KBL is 0.9686 and 0.6990 respectively. The 6 times P.E shows that the correlation coefficient of only HBL is significant and reliable because the 6 times P.E. is lower than the correlation coefficient.

Analyzing the organization structure for the credit risk management, it has been found that KBL has more rigorous organization structure for credit risk management than HBL. In HBL, Credit Control Department is mainly concerned with all types of risks management. In KBL, Credit Committee, which includes the member of both board of directors and management, is the main body for managing credit risk.

Liquidity Risk

Liquidity Risk is associated with the funding crisis of a bank which arises due to non-marketability of the asset. The liquidity risk is one of the market risks as the market determines the liquidity of the asset. The current liquidity position of HBL and KBL has been ascertained. Besides, funding of asset through liabilities has

also been analyzed by categorizing the asset and liabilities into different maturity period, from which liquidity crises and risk associated with asset liabilities mismatch is also found.

Gap Analysis, which is the most common and best tool for analyzing the liquidity risk, has been used to find out the mismatch between asset and liabilities of different time intervals of both banks. From the gap analysis of asset and liabilities of different time intervals, it has been found that over four years KBL has higher amount of liabilities than asset in both short term time bucket (i.e. on 1-90 days and 91-181 days) and long term time bucket (i.e. more than 1 year), where as in HBL the amount of liabilities is more than asset in long term time bucket (i.e. on more than 1 year). 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. As the liabilities cannot be paid by liquidating the asset of that time bucket, it is needed to offset by using the asset of other time interval or through inter-bank borrowing or issuing instruments. Similarly, when the market price of asset/liabilities of certain time interval increases, the bank will suffer a loss in such situation as the liabilities at that interval has more market price than asset. On the contrary, when the market price of asset/liabilities at certain time interval decreases, bank will suffer more loss when the bank has higher amount of asset than liabilities. Therefore, the best situation for the bank is the fewer gaps between the asset and 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.

The average Current ratio of HBL and KBL over 5 years is 1.22 and 1.12. This figure indicates that HBL has matched its current asset and liabilities more nicely than KBL. This means that KBL has used higher amount of current liabilities to

finance asset with higher maturity period. Both banks has failed to maintain the standard ratio of 2:1 for current ratio.

Cash and Bank balance to total assets ratio of both HBL and KBL 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 HBL and KBL in 5 years is 5.57 % and 5.54 % respectively. This ratio indicates that HBL has kept more liquid asset in its asset portfolio than KBL, which signifies the lower liquidity risk. On the contrary, the higher portion of cash and bank balance also portrays that bank has kept more idle fund.

Another important indicator of liquidity risk is Cash Reserve Ratio (CRR). The CRR is the amount of deposit commercial banks needs to maintain in Nepal Rastra Bank out of their total deposit. The average CRR of HBL and KBL in 5 years is 7.34 % and 3.74 % respectively. This shows that HBL has maintained higher amount of liquidity in NRB than KBL. Moreover, HBL has maintain the statutory requirement of 5.5% of NRB in all the fiscal year of the study period. But KBL has fail to maintain in all the years except only in 2008/09. The standard deviation of CRR of HBL and KBL is 4.72 % and 53.63 % respectively, which indicates that KBL has more fluctuation in maintaining the CRR than HBL. It is also associated with higher risk.

Interest Rate Risk

From the analysis, the following facts have been found regarding the interest risk. The interest income to total income of HBL and KBL stood very low. The average ratio for HBL and KBL is 17.48 % & 9.01 % respectively.

This means that the main source of income for both the banks is interest income from loans and advances. This indicates that both the banks are highly vulnerable

to interest risk. As the slight changes in market interest on loan would have a huge impact on bank's income.

Similarly, the interest expenses also have a major portion in total expenses. The average interest expenses to total expenses of HBL and KBL are 52.88 % & 63.19% respectively. The higher ratio also indicates the bank is paying high amount of interest to the depositors. The Standard deviation of the ratio for HBL & KBL is 12.92 % and 5.15 % respectively. The higher S.D. of HBL indicates that HBL ratio is more fluctuating than KBL, which is the sign of higher risk.

The gap analysis of interest rate sensitive asset and liabilities of both the banks depicts that KBL has higher gap than that of HBL. The mean gap of HBL and KBL is Rs. 2.50 million and Rs.481.25 million respectively. Over the four years, KBL has higher interest rate sensitive asset than interest rate sensitive liabilities, where as HBL has no amount of IRSA and IRSL except IRSA of Rs. 10 million in 2006/07. The higher gap of KBL 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 KBL has higher vulnerability of interest rate changes than HBL.

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 ratio for 4 years of HBL and KBL is 0.91% and 0.93% respectively. The higher gap ratio of KBL shows that compared to HBL, FIRSA of KBL is higher than FIRSL. The net interest margin (NIM) of HBL and KBL over 4 year is Rs. 0.03 million and 4.81 million respectively. The higher amount of NIM of KBL than HBL shows that the impact of changes in interest rate on KBL is higher than that of HBL. This means that when there is a change in interest rate on Rate Sensitive

Asset and Liabilities, KBL will earn more profit than HBL. From the above gap analysis, it has been found that HBL has managed both types of assets (i.e. Interest Rate Sensitive Asset and Fixed Interest Rate Sensitive Asset) and liabilities (i.e. Interest Rate Sensitive Liabilities and Fixed Interest Rate Sensitive Liabilities) better than KBL. This also indicates that HBL has less vulnerability of interest rate risk than KBL. Interest rate risk analysis, according to NRB directive no. 5, depicts that HBL and KBL has cumulative net gap (i.e. between asset and liabilities) of Rs. 1271 million and Rs. 2411 million respectively. The higher gap means that KBL 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 HBL and KBL will be Rs. 3.18 million and Rs. 6.03 million respectively. The higher amount of cumulative net profit of KBL indicates that KBL has a positive impact with changes in interest rate than HBL.

Average interest rate spread of HBL and KBL is 3.90 % and 3.50 % respectively. The higher amount of spread of HBL indicates that the net interest income (i.e. interest income less interest expenses) of HBL is more than KBL. This means HBL earns more profit than KBL.

Operation Risk

The major findings related with operation risk are as below.

Transaction risk has been identified as one of the major source of operation risk. Transaction risk, which arises mainly due to human error, includes cash shortage and over, document risk & settlement risk. According to the staff of both banks it has been found that cash shortage and over is a regular phenomenon as to err is human.

The average cash short is around 100 thousands. In both banks, there is a provision of teller risk fund to safeguard the loss from cash short.

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 un reconciled 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.

CHAPTER - V
SUMMARY, CONCLUSION & RECOMMENDATIONS

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 28 commercial banks, 2 banks were taken as sample using judgmental sampling method.

HBL and KBL have been taken for comparative study. Both primary and secondary data have been used in this study. Primary data has been collected mainly from personal interview with key position staff, telephonic interview & structured questionnaire. Annual reports and other publication of these banks and NRB are the basis of secondary data. The data collection from various sources are recorded systematically & presented. Appropriate statistical and financial tools have been applied to analyze the date. The data of five consecutive years of the two banks have been analyzed to meet the objective of the study.

The major risk in HBL and KBL is associated with credit decision as the proportion of credit risk on total risk is high. Based on the response of structured questionnaire, it has been found that the proportion of credit risk on total risk is more than 60 %. Similarly, the financial statement analysis of these banks also indicates that the portion of credit risk is more than 60 %. The average loan and advances to total asset ratio of HBL and KBL is 55.39 % and 68.83 % 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 HBL and KBL is 61.34 % and 87.35% respectively.

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 and liquidity-sensitive credit exposures. The main indicators of loan default (i.e. non performing loan (NPL) indicates that average NPL of HBL is more than that of KBL (i.e. 4.43%> 0.87%). In contrary to this, KBL has provisioned more reserve than HBL 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. The credit practice of KBL shows that KBL is also granting loan without collateral, which is the poor sign of credit practice. 100 % of provision is to be made for this sort of loan, which reduces the bank's profit, and also bank doesn't have any asset to claim on in case of default. This sort of practice is not found in case of HBL.

Similarly, credit concentration on single sector of HBL and KBL shows that both banks have very high amount of concentration in single sector. In manufacturing sector, HBL has 33 % of total loan exposure and KBL has 24% in wholesaler and retailer sector, 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 HBL is more than that of KBL that is (2.54 > 0.32). This indicates that HBL is able to earn net profit by utilizing the loans and advances.

There is positive correlation between LLP and Loan and Advances only in KBL. This indicates that there is a change in LLP of KBL 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. The organization structure of HBL is found more stringent & advanced than that of KBL. In HBL, Credit Control Department is concerned with all types of risks management including credit risk. In KBL, 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 HBL portrays that HBL has been giving more importance to the recovery aspects of the loan as well as credit risk rating of borrowers. However, in KBL there is no separate department for assessing the risk and loan recovery.

After the credit risk, market risk such as liquidity risk and interest rate risk have significant impact on organizational prosperity. The liquidity risk of banks is mainly studied by analyzing the asset liabilities mismatch in various time buckets

and other ratio analysis such as current ratio, cash reserve ratio, cash and bank balance to total asset ratio etc. The gap analysis shows that HBL has managed its asset and liabilities in short time bucket more properly than KBL. In long term bucket, both banks have negative gap. From this analysis we found that HBL and KBL are in riskier position in higher time bucket when the market price of the asset decreases.

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

The CRR depicts that on an average HBL has maintained slightly more bank balance in NRB than KBL. However, KBL has shortfall to the statutory requirement of 5.5% in all the fiscal year whereas HBL has maintained in all the fiscal years of the study period.

The gap analysis of both Rate Sensitive Asset and Liabilities of both the banks depicts that KBL has higher gap than that of HBL. The higher gap of KBL 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 KBL has higher vulnerability of interest rate changes than HBL.

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. Both banks

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have negative gap throughout the study period. The average gap ratio of HBL is higher than that of KBL. The higher gap ratio of HBL shows mismatch between FIRSA and FIRSL, which is more than that of KBL.

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.

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

Both the banks have well defined Know Your Customer (KYC) policy for preventing the money laundering. This policy clearly outlines the procedure for checking and verifying the suspicious transaction. Similarly, this policy has made provision to the required documents and information before opening an account by

customers. Compliance and Internal Audit Departments are concerned with tracking all the suspicious and huge level of transaction on daily basis.

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 KBL has higher CAR than statutory requirement whereas HBL is not able to maintain the NRB statutory requirement. However in recent years, the CAR is in decreasing trend. 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.

The risk management procedure in these banks includes four basic procedures. The major outlines for risk management include setting standard for all the transaction such as lending, borrowing etc, and preparing financial reports. A substantial degree of standardization of process and documentation has been set in both the banks to make decision in a consistent manner and for the resultant aggregate reporting of risk exposure to be meaningful. Similarly, the position for managing the risk as well as jurisdiction limit is also set. Investment policy is prepared in consistent with the NRB guidelines and this is the major guideline for making investment decisions. This policy outlines the amount to be invested in various sectors such as loan and advances, government bonds, shares and debentures of corporation, placements etc. Likewise, to ensure the proper functioning of bank, the monitoring and controlling body of the bank frequently 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 the banks, Internal Audit Department reports to the Audit Committee, which include both the top level management and board of directors.

5.2 Conclusion

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 28 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 28 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, operation risk etc). Among these risks, credit risk has the major impact on banking (i.e. more than 60 %). Because of the credit risk, the Non Performing Loan (NPL) of bank will increase. With the increase in NPL, the loan loss provisioning will also increase simultaneously leading to decrease in profit. The decrease in profit results in low dividend to shareholder and bonus to employees. Similarly, poor management of asset and liabilities having different

maturity period is the main problem that results in other market risk such as liquidity risk, interest rate risk etc. The other component of market risk includes the interest rate risk.

Similarly, tactfully dealing with market interest movement by adjusting the interest sensitive asset and liabilities also 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. Organization structure of these banks is frequently restructured for proper risk management.

Gap analysis is the major tool for managing the liquidity risk. The top management analyzes the gap between asset and liabilities and makes decision to make adjustment for it. Further, the top management decides how much liquid asset is needed to be kept in the bank. Treasury and finance depm1ment 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. Similarly, employees' training is also the major tools for minimizing the operation risk in these banks.

For minimizing the loss arising due to occurrence of the above risks, capital and reserve have been maintained by these banks within the standard prescribed by NRB. However, the trend of Capital Adequacy ratio of these banks suggests that both the banks need to increase their capital fund, which is possible mainly by issuing shares, debentures or preference share.

Though both the banks have their own set of procedures for assessing various risks and 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 KBL the major problem is a high amount of lending in wholesaler and retailer sector, lending without collateral, nonperforming loan & organizational structure for handling credit risk. In HBL, the major problem is a high amount of lending in manufacturing sector, 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. Both banks are in riskier position in the asset and liabilities of longer maturity period when the market price of asset liabilities decrease. Similarly, managing CRR to Statutory requirement is also one of the problems in these banks.

5.3 Recommendation

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

5.3.1 General Recommendation

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

a. Old Techniques no Longer Work

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

b. Identify and Deal with New Risks

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

c. Upgrade System

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

d. Training and Development

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

e. System of Check and Balance

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

f. Proper Adherence of NRB Directives

Following the directives of NRB and acting upon it also reduces bank's risk. Therefore, both the banks are recommended to adhere to the directives and come up with a stronger internal audit and compliance to ensure that the directives are properly followed up.

g. Preventive Measures

It is often said, "Prevention is better than cure". Hence it is recommended for both the banks to take preventive measures before the risk occur and will suffer loss.

Both the banks are recommended to develop an information system to gather all the possible information and activities to take timely precaution.

5.3.2 Specific Recommendation

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

Recommendation to HBL and KBL

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

Credit Risk

In regard to credit risk, following recommendations are suggested: -

⟩ It has been found that KBL has extended the credit without backing any collateral. This sort of practice seems risky and non-profitable, as there is least chance of covering default loan when there is no collateral and 100 % provision of loan amount need to be maintained. So KBL needs to stop lending without any collateral.

⟩ HBL and KBL 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 HBL and in wholesaler and retailer sector 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 HBL is increasing with the increase in loan and advances. So, HBL needs to be more careful while taking credit decision.

⟩ KBL should change the organizational structure for proper credit risk management. Recovery Cell is needed in KBL for timely recovery of loan. Similarly, a separate department is needed to be formed for assessing the credit risk.

⟩ HBL and KBL need to follow following principles for the proper credit risk management;

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ANNEXURE

Annex 1

Let X_1 and X_2 denote the ratio of HBL and KBL respectively

Loan and Advances to Total Assets Ratio

Year	X_1	X_2	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$
2004/05	46.59	68.72	46.24	0.01
2005/06	51.54	76.49	3.42	58.67
2006/07	51.85	44.83	2.37	576.00
2007/08	53.90	75.38	0.26	6.55
2008/09	63.05	78.72	93.32	97.81
Total	**266.95**	**344.15**	**145.61**	**739.04**

$$X_1 = \frac{266.95}{5} = 53.39 \qquad\qquad X_2 = \frac{344.15}{5} = 68.83$$

$$SD = \frac{(X_1 - X_1)^2}{N-1} = \frac{145.32}{4} = 6.03 \qquad SD = \frac{739.04}{4} = 13.59$$

$$C.V. = \frac{\exists}{X} \times 100 = \frac{6.03}{53.39} = 11.29 \qquad C.V. = \frac{13.59}{68.83} = 19.75$$

Annex 2

Loan and Advances to Total Deposit Ratio

Year	X_1	X_2	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$
2004/05	54.21	81.92	50.84	29.48
2005/06	59.50	88.71	3.38	1.85
2006/07	59.22	84.57	4.49	7.73
2007/08	61.23	88.69	0.01	1.79
2008/09	72.53	92.88	125.22	30.58
Total	**306.70**	**436.75**	**183.94**	**71.43**

$$X_1 = \frac{306.70}{5} = 61.34 \qquad\qquad X_2 = \frac{436.75}{5} = 87.35$$

$$SD = \frac{(X_1-X_1)^2}{N-1} = \frac{183.94}{4} = 6.78 \qquad SD = \frac{71.43}{4} = 4.22$$

$$C.V. = \frac{\exists}{X} \times 100 = \frac{6.78}{61.34} = 11.05 \qquad C.V. = \frac{4.22}{87.35} = 4.83$$

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Annex 3

Non-Performing Loan to Total Loan and Advance Ratio

Year	X_1	X_2	$(X_1 - \overline{X_1})^2$	$(X_2 - \overline{X_2})^2$
2004/05	7.44	0.95	9.06	0.0064
2005/06	6.60	0.92	4.71	0.0025
2006/07	3.61	0.73	0.67	0.0196
2007/08	2.36	1.32	4.28	0.2025
2008/09	2.16	0.44	5.15	0.1849
Total	**22.15**	**4.35**	**23.87**	**0.42**

$$\overline{X_1} = \frac{22.15}{5} = 4.43 \qquad\qquad \overline{X_2} = \frac{4.35}{5} = 0.87$$

$$SD = \sqrt{\frac{(X_1-\overline{X_1})^2}{N-1}} = \frac{23.87}{4} = 2.44 \qquad SD = \frac{0.42}{4} = 0.32$$

$$C.V. = \frac{\exists}{\overline{X}} \times 100 = \frac{2.44}{4.43} = 55.14 \qquad C.V. = \frac{0.32}{0.87} = 37.06$$

Annex 4

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

Year	X_1	X_2	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$
2004/05	85.80	52.29	102.82	0.52
2005/06	71.67	38.91	15.92	160.27
2006/07	69.37	36.44	39.56	228.92
2007/08	77.43	40.84	3.13	115.13
2008/09	74.04	89.39	2.62	1430.35
Total	**378.30**	**257.85**	**164.05**	**1935.19**

$$X_1 = \frac{378.30}{5} = 75.66 \qquad\qquad X_2 = \frac{257.85}{5} = 51.57$$

$$SD = \frac{(X_1 - X_1)^2}{N-1} = \frac{164.05}{4} = 6.40 \qquad SD = \frac{1935.19}{4} = 21.99$$

$$C.V. = \frac{\exists}{X} \times 100 = \frac{6.40}{75.66} = 8.46 \qquad C.V. = \frac{21.99}{51.57} = 42.65$$

Annex 5

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

Year	X_1	X_2	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$
2004/05	6.38	0.50	8.82	0.0081
2005/06	4.73	0.36	1.75	0.0025
2006/07	2.50	0.27	0.83	0.0196
2007/08	1.83	0.54	2.50	0.0169
2008/09	1.60	0.39	3.28	0.0004
Total	**17.05**	**2.05**	**17.18**	**0.05**

$$X_1 = \frac{17.05}{5} = 3.41 \qquad\qquad X_2 = \frac{2.05}{5} = 0.41$$

$$SD = \frac{(X_1 - X_1)^2}{N-1} = \frac{17.18}{4} = 2.07 \qquad SD = \frac{0.05}{4} = 0.11$$

$$C.V. = \frac{\exists}{X} \times 100 = \frac{2.07}{4.43} = 46.78 \qquad C.V. = \frac{0.11}{0.41} = 26.58$$

Annex 6

Return on Loan and Advances Ratio

Year	X_1	X_2	$(X_1 - \overline{X_1})^2$	$(X_2 - \overline{X_2})^2$
2004/05	2.29	0.44	0.06	0.01
2005/06	2.90	0.29	0.13	0.04
2006/07	2.76	0.39	0.05	0.07
2007/08	3.26	0.36	0.52	0.04
2008/09	1.47	0.14	1.14	0.03
Total	**12.70**	**1.60**	**1.90**	**0.83**

$$X_1 = \frac{12.70}{5} = 2.54 \qquad\qquad X_2 = \frac{1.60}{5} = 0.32$$

$$SD = \frac{(X_1-X_1)^2}{N-1} = \frac{1.90}{4} = 0.69 \qquad SD = \frac{0.19}{4} = 0.22$$

$$C.V. = \frac{\exists}{X} \times 100 = \frac{0.69}{2.54} = 27.13 \qquad C.V. = \frac{0.22}{0.32} = 68.75$$

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Calculation of correlation coefficient and coefficient of determination (r^2) of

Loan Loss Provision to loan and advances of HBL

Loan Loss Provision (X)	Loan and Advance (Y)	X^2	Y^2	XY
8.58	134.51	73.62	18092.94	1154.09
7.45	157.62	55.50	24844.06	1174.26
4.45	177.93	19.80	31659.08	791.78
3.56	194.97	12.67	38013.30	694.09
3.96	247.93	15.68	61469.28	981.80
28.00	**912.96**	**177.27**	**174078.66**	**4796.02**

Here,

r　　=　　　　　　**N** XY - X. Y

　　　　　　　[N X^2 – (X)^2] . 　[N Y^2 – (Y)^2]

　　=　　　　　**5** x 4796.02 – 28.00 x 912.96

　　　　　　[5 x 177.27 – (28.00)^2]　　　[5 x 174078.66 – (912.96)^2]

　　=　　　　　-1582.78

　　　　　102.35　　　36897.34

　　=　　-1582.78　　=　　-0.8142

　　　　1943.92

Coefficient of Determination

r^2　　=　　(r)^2

　　=　　(-0.8142)^2　　=　　0.6629

PE (r) =　　0.6745 x (1-r^2)

　　　　　　　　n

　　=　　0.6745 x 1 - 0.6629

　　　　　　　5

　　=　　0.2273　　=　　0.1017

　　　　2.2361

Calculation of correlation coefficient and coefficient of determination (r^2) of Loan Loss Provision to loan and advances of KBL

Loan Loss Provision (X)	Loan and Advance (Y)	X^2	Y^2	XY
2.54	512.54	6.45	262697.25	1301.85
2.46	689.18	6.05	474969.07	1695.38
2.37	892.90	5.62	797270.41	2116.17
6.11	1133.50	37.33	1278030.25	6907.35
5.74	1459.33	32.95	2129644.04	8376.55
19.22	**4687.45**	**88.40**	**4942611.02**	**20397.30**

Here,

r $=$ $\dfrac{N \sum XY - \sum X . \sum Y}{\sqrt{[N \sum X^2 - (\sum X)^2] . [N \sum Y^2 - (\sum Y)^2]}}$

$=$ $\dfrac{5 \times 20397.30 - 19.22 \times 4687.45}{\sqrt{[5 \times 88.40 - (19.22)^2]} \quad \sqrt{[5 \times 4942611.02 - (4687.45)^2]}}$

$=$ $\dfrac{11893.72}{\sqrt{72.59} \quad \sqrt{274086.76}}$

$=$ $\dfrac{11893.72}{14088.78} = 0.8442$

Coefficient of Determination

r^2 $=$ $(r)^2$

$=$ $(0.8442)^2$ $=$ 0.7127

PE (r) $=$ $\dfrac{0.6745 \times (1 - r^2)}{\sqrt{n}}$

$=$ $\dfrac{0.6745 \times 1 - 0.7127}{\sqrt{5}}$

$=$ $\dfrac{0.1938}{2.2361}$ $=$ 0.0866

Annex- 8

Calculation of correlation coefficient and coefficient of determination (r^2) of Loan Loss Provision to Non performing Loan of HBL

Loan Loss Provision (X)	Non Performing Loan (Y)	X^2	Y^2	XY
8.58	10.00	73.62	100.00	85.80
7.45	10.40	55.50	108.16	77.48
4.45	6.42	19.80	41.22	28.57
3.56	4.60	12.67	21.16	16.38
3.96	5.35	15.68	28.62	21.19
28.00	**36.77**	**177.27**	**299.16**	**229.42**

Here,

r   = $\dfrac{N \sum XY - \sum X . \sum Y}{\sqrt{[N \sum X^2 - (\sum X)^2] . [N \sum Y^2 - (\sum Y)^2]}}$

= $\dfrac{5 \times 229.42 - 28.00 \times 36.77}{\sqrt{[5 \times 177.27 - (28.00)^2] \quad [5 \times 299.16 - (36.77)^2]}}$

= $\dfrac{117.54}{\sqrt{102.35 \quad 143.77}}$

= $\dfrac{117.54}{121.34}$ =   0.9686

Coefficient of Determination

r^2 = $(r)^2$

= $(0.9686)^2$ =   0.9383

PE (r) = $\dfrac{0.6745 \times (1-r^2)}{\sqrt{n}}$

= $\dfrac{0.6745 \times 1 - 0.9383}{\sqrt{5}}$

= $\dfrac{0.0416}{2.2361}$ =   0.0186

Calculation of correlation coefficient and coefficient of determination (r^2) of Loan Loss Provision to Non performing loan of KBL

Loan Loss Provision (X)	Non Performing Loan (Y)	X^2	Y^2	XY
2.54	4.86	6.45	23.62	12.34
2.46	6.34	6.05	40.19	15.59
2.37	6.51	5.62	42.38	15.43
6.11	14.96	37.33	223.80	91.40
5.74	6.42	32.95	41.22	36.85
19.22	**39.09**	**88.40**	**371.21**	**171.61**

Here,

$$r = \frac{N \; XY - X . Y}{[N \; X^2 - (X)^2] . \; [N \; Y^2 - (Y)^2]}$$

$$= \frac{5 \times 171.61 - 19.22 \times 39.09}{[5 \times 88.40 - (19.22)^2] \quad [5 \times 371.21 - (39.09)^2]}$$

$$= \frac{107.74}{72.59 \qquad 328.02}$$

$$= \frac{107.74}{154.13} \qquad = \quad 0.6990$$

Coefficient of Determination

$r^2 = (r)^2$

$\quad = (0.6990)^2 = 0.4886$

$PE (r) = \dfrac{0.6745 \times (1 - r^2)}{n}$

$\quad = \dfrac{0.6745 \times 1 - 0.4886}{5}$

$\quad = \dfrac{0.3449}{2.2361} = 0.1542$

Annex 9

Responses of the Questionnaire

1. What is the proportion of Credit Risk on Total Banking Risk?

The following responses have been made by 20 respondents.

Proportion of Credit Risk	HBL	KBL
0 – 20% (Low)		
20 – 40% (Average)		
40 – 60% (High)	1	2
Above 60% (Highest)	9	8

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

Single Sector Loan	HBL	KBL
0 – 10%	8	6
10 – 20%	2	3
20 – 30%		1
30 - 100%		

3. Does the bank have credit rating system?

Response	HBL	KBL
Yes	10	10
No		

4. How do you rank the following aspects, while granting credit? (Rank 4 for the highest priority and lowest 1 for lowest priority)

Ranking by HBL Employees

Rank	Character	Collateral	Capital	Condition	Capacity	Total
1	1	3	7	6	2	19
2	4	4	4	4	6	22
3	6	5	6	6	7	30
4	9	8	3	4	5	29
(Rank x frequency)	63	58	45	48	55	269

Ranking by KBL Employees

Rank	Character	Collateral	Capital	Condition	Capacity	Total
1	1	6	3	8	2	20
2	4	6	6	6	3	25
3	5	5	5	4	8	27
4	10	3	6	2	7	28
(Rank x frequency)	64	45	54	40	60	263

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

Ranking by HBL Employees

Rank	Agriculture	Mines & Minerals	Real Estate	Manufacturing	Consumer Loans	Service Industry	Total
1	12	7	2	0	1	2	25
2	5	8	5	2	7	3	30
3	3	4	6	6	5	5	29
4	0	1	7	12	6	10	36
(Rank x frequency)	31	39	58	70	55	63	316

Ranking by KBL Employees

Rank	Agriculture	Mines & Minerals	Real Estate	Manufacturing	Consumer Loans	Service Industry	Total
1	11	6	2	1	2	2	24
2	6	8	4	2	7	6	33
3	3	5	8	7	5	7	35
4	0	1	6	10	6	5	28
(Rank x frequency)	32	41	58	66	55	55	307

6. How important do you think is the directives related to loan classification and provisioning for the commercial bank?

Response	HBL	KBL
Very important	10	10
Not important		

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

Response	HBL	KBL
Will increase provision for loan loss	10	10
Will decrease provision for loan loss		
Will have no impact		
Others		

8. How do you think the shareholders of the banks are going to be affected by resent loan classification and provisioning directives?

Response	HBL	KBL
Will increase provision for loan loss	10	10
Will decrease provision for loan loss	10	10
Will have no impact		
Others		

All respondents state that the effect will be for only short period of time.

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

Response	HBL	KBL
Not affected		
Normally affected		
Moderately affected	1	1
Severely affected	9	9

Annex 10

Cash and Bank Balance to Total Assets Ratio

Year	X_1	X_2	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$
2004/05	6.97	4.22	1.96	1.74
2005/06	5.61	4.32	0.01	1.49
2006/07	5.12	3.37	0.20	4.71
2007/08	5.47	6.21	0.01	0.45
2008/09	4.70	9.58	0.76	16.32
Total	**27.87**	**27.70**	**2.94**	**24.71**

$$X_1 = \frac{27.87}{5} = 5.57 \qquad\qquad X_2 = \frac{27.70}{5} = 5.54$$

$$SD = \frac{(X_1-X_1)^2}{N-1} = \frac{2.94}{4} = 0.86 \qquad SD = \frac{24.71}{4} = 2.48$$

$$C.V. = \frac{\exists}{X} \times 100 = \frac{0.86}{5.57} = 15.39 \qquad C.V. = \frac{2.48}{5.54} = 44.86$$

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Annex 11

Cash Reserve Ratio

Year	X_1	X_2	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$
2004/05	7.63	3.31	0.29	0.18
2005/06	7.61	2.71	0.07	1.06
2006/07	7.17	3.64	0.03	0.01
2007/08	7.08	1.91	0.07	3.35
2008/09	7.19	7.13	0.02	11.49
Total	**36.70**	**18.70**	**0.48**	**16.09**

$$X_1 = \frac{36.70}{5} = 7.34 \qquad\qquad X_2 = \frac{18.70}{5} = 3.74$$

$$SD = \frac{(X_1-X_1)^2}{N-1} = \frac{0.48}{4} = 0.35 \qquad SD = \frac{16.09}{4} = 2.00$$

$$C.V. = \frac{\exists}{X} \times 100 = \frac{0.35}{7.34} = 4.72 \qquad C.V. = \frac{2.00}{3.74} = 53.63$$

Annex 12

Interest Income to Total Income Ratio

Year	X_1	X_2	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$
2004/05	10.78	9.09	44.89	0.0064
2005/06	14.26	9.07	10.37	0.0036
2006/07	16.16	9.11	1.74	0.01
2007/08	20.28	8.85	7.84	0.0256
2008/09	25.90	8.94	70.89	0.0049
Total	**87.40**	**45.05**	**135.73**	**0.0505**

$$X_1 = \frac{87.40}{5} = 17.48 \qquad\qquad X_2 = \frac{45.05}{5} = 9.01$$

$$SD = \frac{(X_1-X_1)^2}{N-1} = \frac{135.73}{4} = 5.82 \qquad SD = \frac{0.0505}{4} = 0.11$$

$$C.V. = \frac{\exists}{X} \times 100 = \frac{5.82}{17.48} = 33.32 \qquad C.V. = \frac{0.11}{9.01} = 1.25$$

Annex 13

Interest Expenses to Total Expenses Ratio

Year	X_1	X_2	$(X_1 - X_1)^2$	$(X_2 - X_2)^2$
2004/05	60.85	60.11	63.52	9.48
2005/06	55.89	65.92	9.06	7.45
2006/07	55.26	61.52	5.66	2.79
2007/08	49.29	61.00	12.89	4.79
2008/09	43.10	67.42	95.65	17.89
Total	**264.40**	**315.95**	**186.78**	**42.40**

$$X_1 = \frac{264.40}{5} = 52.88 \qquad\qquad X_2 = \frac{315.95}{5} = 63.19$$

$$SD = \frac{(X_1 - X_1)^2}{N-1} = \frac{186.78}{4} = 6.83 \qquad SD = \frac{42.40}{4} = 3.26$$

$$C.V. = \frac{\exists}{X} \times 100 = \frac{6.83}{52.88} = 12.92 \qquad C.V. = \frac{3.26}{63.19} = 5.15$$