CHAPTER I

INTRODUCTION

1.1 Background

Bank is a financial institution, which deals with money by accepting various types of deposits, disbursing loan and rendering various types of financial services. Raghavan (2003) Banking is nothing but financial inter-mediation between the financial savers on the one hand and the fund seeking business entrepreneurs on the other hand. Banking aids and facilitates growth on trade and can be considered not only as the dealers in money but also as the leader of development. Banks are not just the warehouse of the country's wealth but also the reservoirs of resources necessary for economic development.

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

In Nepal, formal Banking commenced with the establishment of Nepal Bank Limited (NBL) in 1937 AD. The central Bank was established in 1956 AD after nearly two decades of the start of commercial Banking by NBL. Then a decade later, Rastriya Banijya Bank (RBB) was established by the government. Following the financial liberalization in the 1980s, Nepal Arab Bank Ltd. (now Nabil Bank) was established, making it the first foreign joint venture bank in Nepal. Then two foreign JV Banks, Nepal Indosuez Bank (now Nepal Investment Bank) and Nepal Grindlays Bank Ltd. (now Standard Chartered Bank) were established in 1986 and 1987 respectively. After mid-1990s, the number of Banks and financial institutions increased multifold. In 1983 and 1993 there were two and eight commercial Banks respectively; and

by 2006, there were 18. Meanwhile, there were 3 development banks in 1995 which increased to 28 in 2006. Finance companies came into existence in 1992, and then by 2006, they numbered 70 (Shrestha, 2009). Currently, there are over 292 Banks and financial institutions, including 32 commercial banks, 89 development Banks, 70 finance companies and 24 microfinance institutions (www.nrb.org.np- 2069 Shrawan). The growth in number of Banks and financial institutions is unprecedented and not warranted by the economic and banking fundamentals of the past decade (Sapkota 2011). With the growth rate of banking industry, the risk on banking also made a mark simultaneously. Most of the Nepalese banks have suffered from credit risk, which is associated with the non-payment of loan by the borrowers.

Present challenges to the banking sector are: to manage liquidity, to invest the money in productive as well as new sector, to manage the accumulated non-performing loan. Commercial banks collect deposits from individuals and invest them as loan and advance to the borrowers and receive interest as the output of the business. Commercial banks' profit and operating cost are borne by these interest collected from the borrowers. When interests as well as the principal are not collected in due time, the existence of the bank and the deposits of individuals will be in threat. So, necessary action must be taken by the banks and government to overcome this situation.

In addition to the credit, bank faces various other risks. According to the Nepal Rastra Bank Unified Directives 2067, the major source of risk is credit risk, liquidity risk, foreign exchange risk, and interest rate risk, operation risk, etc.

Brief Introduction of Banks under Study

Two commercial banks, Nepal Investment Bank Ltd. (NIBL) and Everest Bank Limited (EBL) have been selected for the study.

Nepal Investment Bank Limited (NIBL) was registered in 1986 AD as the second Joint venture Bank of Nepal. It was established in JV with “Credit Agricole Indosuez”, French Bank. Earlier, It was named Nepal Indosuez Bank. It was renamed to Nepal Investment Bank limited from 30 May, 2002, after the shareholding pattern has been changed and majority shares of Banque Indosuez were acquired by the Nepalese investors*(NRB Journal- Nepalese*

Financial System: Growth and challenges). Today, with a paid up capital of above 2,409 million Rupees, it is one of the largest commercial bank operating in Nepal in terms of Paid up capital. It has 40 branches as on Asar end 2067. It is serving around 350,000 customers of Nepal with its 40 branches from Jumla to Birtamod. It has its Head office in Durbarmarg, Kathmandu. It has installed 8 ATM machines in the premises of its Head office, a first of its kind to serve its customers. NIBL is striving to facilitate its customer needs by delivering the best of services in combination with the state of the art technologies and best international practices. This bank is the pioneer in introducing the latest technology in the banking industry in the country. As per the latest data it is the largest private sector tax payer of Nepal. With the latest deposit of Rs. 50,904 million and Loans and advances of Rs. 40,318 Million, it is one of the largest private sectors Bank. It replaced PUMORI banking software by Finnacle, the world class banking software by Infosys, India to serve it growing portfolio. The bank provides modern banking facilities such as Any Branch Banking, Internet Banking and Mobile Banking to its valued customers. It was the first bank to introduce mobile top up facility in Nepal. Their customers can enjoy NTC mobile recharge from their ATM machines and Internet Banking. It has recently added air ticket booking feature for its valued internet banking users in collaboration with Yeti Airlines. The bank aims to serve the people of both the urban and rural areas. As the Bank already has already established 40 branches around the country it aims to strengthen its Branches nationwide and be the leading bank of the country. It is providing the gateway of international VISA card in Nepal. Recently, it has established National Payment Network in Nepal under its own proprietary. It is also enjoying the limit of 5 million USD under global trade finance program provided by International Finance Corporation. With 877 employees and Net profit above Rs. 1,265 millions, It is the top private sector full-fledged commercial Bank. It has been awarded as the “Banker of the year” three times for its best performance in Nepal.

Risk is directly proportional to the portfolio a bank has. As it has one of the largest portfolios of the country, it certainly has to confront with huge risk exposure. Risk is considered as the main threatening factor in NIBL by which

well risk management is regarded as the key function of the bank in all levels of management. The Credit Committee, Internal Audit & Compliance Department are the key departments that are concerned with the management, compliance and evaluation of the risk management procedures.

Everest Bank Limited (EBL) came into existence as the Tenth commercial Bank in the history of Banking in Nepal from October 1994 AD. EBL joined hands with Punjab National Bank, a subsidiary of Indian Government in 1997 AD with an objective of providing competitive and modern banking services in the Nepalese financial market. The bank has paid up capital of Rs. 1,279 million of which 70% is contributed from promoters and remaining from public. Everest Bank Ltd has been providing wide - range of modern banking services through 37 points of representations located in various urban and semi urban part of the country. The bank is pioneer in providing some of the latest / lucrative banking services like E-Banking and SMS Banking services in Nepal. It was the first bank to introduce ABBS in Nepal. It is the only bank of Nepal to have official representative office in India. 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 *Finnacle* Software, developed by Infosys, India 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. EBL Debit Card, which is accessible in entire SCT linked ATMs, POS terminals and 3,100 ATM's of PNB India in 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.

With the deposit of around Rs. 36,392 million and Loans and advances of around Rs. 28,156 million, it is also one of the top commercial Banks of Nepal. With the NPA of just 0.16% and Net Profit of Rs. 832 million, It is able to provide good returns to its shareholders since inception. It has started Branchless Banking, the first of its type in Nepal in three districts; Baglung in the hilly region, Banke in Terai and Bhaktapur in Valley area.

Risk is considered as the main threatening factor in EBL as well. Risk management is considered as the key function in all levels of the management. The Credit Committee, Internal Audit & Compliance Department are the key departments that are concerned with the management, compliance and evaluation of the risk management procedures.

1.2 Statement of Problem

In general perception, banking is a profitable industry. But unlike the common view, this industry is beleaguered with many challenges to sustain and outwit among those within the industry. Furthermore, there is growing competition with the establishment of new banks in the weak economic situation of the country. With Nepal's membership to the World Trade Organization (WTO), the changes and reforms that the banks and financial institutions have to make are more intricate and challenging. The accession of Nepal to this global organization exemplifies both opportunities and risks in the process of maintaining overall financial stability so as to help accelerate the speed of economic growth. In the long run, it is indispensable for the banking sector to have the financial resources, skills and large-scale commitment to compete with larger competitors that have sophisticated system, capital to handle credit and operational risks (Pant 2009) Besides this, Nepal Rastra Bank (NRB) directives to commercial banks to increase the paid up capital Rs.2 billion may perhaps challenge most of the commercial banks in Nepal. Discussion for increasing paid up capital to Rs. 5 billion is going on, which reveals the challenges of this industry in days to come. 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 concentration of loan and the recovery of loan combining with improper asset liabilities management decrease the profit, (NRB 2007). These could be another problem to be addressed in the research. Interest rate is in fluctuating trend which is challenging the income of commercial banks. Appreciation and depreciation of foreign exchange highly affect the bank. Increased foreign exchange transaction invites the increased risk due to the depreciation of the foreign exchange rate. Change in market rate probably affects the commercial banks profitability. Moreover, 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 2005 AD has also provided 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, implementation of Basel II from 2007AD, which 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 Nepalese commercial banks assets are rated risky up to 150%, (Basel 2007). Complying these prudential of national and international measures could be another problem faced by the Nepalese commercial banks. 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. Nepal Investment Bank Ltd. and Everest Bank Ltd. established as commercial banks could not be isolated with above mentioned challenges and problems faced by the entire banking industry. From the

review of the annual reports and interview with these bank's officials, it is found that both banks have been giving high priority to these problems for the prompt solution to show their continuous competency in the market.

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

a. What are the different types of risks faced by commercial banks?
b. How important is the management of different risk to the commercial banks?
c. How do different risks affect the profitability of commercial banks?
d. What actions can minimize different risks in order to maximize the profit?
e. Are commercial banks implementing NRB directives including Basel II?

1.3 Objectives of the Study

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

a. To analyze different risks faced by commercial banks in Nepal.
b. To analyze the risk management framework and its importance in NIBL and EBL.
c. To analyze the impact of various types of risks on the profitability of NIBL and EBL.
d. To analyze the actions that can minimize the impact of risks in order to maximize the profit.
e. To analyze the risk management system of Nepal Investment Bank and Everest Bank in reference to NRB Guidelines.

1.5 Limitations of the study

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

a. The study is based on both primary & secondary data. A few Primary data are collected from telephonic interview & personal visit.
b. The study is mainly based on secondary data collected from Banks and their websites.
c. The study has covered only five years period from fiscal year 2062/63 to 2066/67.
d. The study is only related with the risk management of commercial banks.
e. β (Beta) which measures the systematic has been ignored in this study.

1.6 Organization of the Study

The study has been organized into five chapters as follows:

Chapter one deals with Introduction which includes Background, Statement of the Problem, Objectives of the Study, Focus of the Study, Limitations of the Study and Organization of the Study.

Chapter two consists with review of literature. This chapter is subdivided into various sections such as Theoretical Review, Review of Journals and dissertations and Research Gap.

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

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

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

CHAPTER II

REVIEW OF LITERATURE

2.1 Theoretical Review

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

Risk is the potentiality that both the expected and unexpected events may have an adverse impact on the bank's capital or earnings (Ravhavan (2003). It is the fundamental element that drives financial behavior. Without risk, financial system would be vastly simplified. However, risk is omnipresent in the real world. Financial Institutions, therefore, should manage the risk efficiently to survive in this highly uncertain world. The future of banking will undoubtedly rest on risk management dynamics. Only those banks that have efficient risk management system will survive in the market in the long run. Banks are in the business of managing risk, not avoiding it and a bank's success lies in its ability to assume and aggregate risk within tolerable and manageable limits.

2.1.1 Meaning of Risk and Risk Management

Generally risk is defined as an adverse affect on achieving goals. But the broad definition of risk says it may not always have an adverse impact or risk is not necessarily something going wrong - it is simply something turning out

differently to what is expected or planned for. Again, risk can be defined as the possibility of deviation of the actual return from the expected return.

Business dictionary (2012) defines risk as the probability that an actual return on investment will be lower than the expected return. Risk is the volatility of corporation's market value. To be a bit more specific risk is: 'A future event (or series of events) with a probability of occurrence and the potential for a) loss or b) impact on objectives that can be either positive or negative.'. In all types of undertaking, there is the potential for events and consequences that constitute opportunities for benefit (upside) or threats to success (downside). This view allows the possibility that risks can be turned into opportunities if managed effectively. Risk Management is increasingly recognized as being concerned with both positive and negative aspects of risk. Therefore this standard considers risk from both perspectives. In the safety field, it is generally recognized that consequences is only negative and therefore the management of safety risk is focused on prevention and mitigation of harm.

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

Risk Management *(NRB: Risk Management Guidelines, July 2010)* is a discipline at the core of every bank and encompasses all activities that affect its risk profile. It involves identification, measurement, monitoring and controlling risks to ensure that:

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

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

- A sound risk management system should have the following elements:
- Active board and senior management oversight
- Adequate policies, procedures and limits
- Adequate risk measurement, monitoring and management information system, and
- Comprehensive internal controls.

The objective of risk management is not to prohibit or prevent risk taking activity, but to ensure that the risks are consciously taken with full knowledge, clear purpose and understanding so that it can be measured and mitigated. It also prevents an institution from suffering unacceptable loss causing an institution to fail or materially damage its competitive position. Functions of risk management should actually be bank specific dictated by the size and quality of balance sheet, complexity of functions, technical/ professional manpower and the status of Management information system in place in that bank. (Raghavan 2003)

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

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

2.1.2 BASEL II Framework *(Capital Adequacy Framework, updated 2008-NRB Unified Directives-2067, Anusuchi 1.1)*

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

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

with the ups and downs of the local and international economies. As a result, the new framework more explicitly associates capital requirements with the particular categories of major risks that banks face. The new capital framework also recognizes that large, usually internationally active banks have already put in place sophisticated approaches to risk measurement and management based on statistical inference rather than judgment alone. Thus, the framework allows banks, under certain conditions, to use their own 'internal' models and techniques to measure the key risks that they face, probability of loss, and the capital required to meet those losses. In developing the new framework, Basel Committee wanted to incorporate many elements that help promote a sound and efficient financial system over and above the setting of minimum capital requirements. With this in mind, Basel II framework incorporates three complementary 'pillars' that draw on the range of approaches to help ensure that banks are adequately capitalized in commensurate with their risk profile.

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

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

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

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

a) Tier 1 (core) capital of not less than 6 % of total risk weighted exposure;

b) Total capital fund of not less than 10 % of its total risk weighted exposure.

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

- Credit risk
- Operational Risk
- Market Risk

2.1.3 Risk Assessments and Measurement.

As per Risk Management Guidelines issued by NRB (July 2010), If the risks are not assessed and measured it will not be possible to manage risks. Further a true assessment of risk gives management a clear view of bank's standing and helps in deciding future action plan. To adequately capture banks risk exposure, risk measurement should represent aggregate exposure of bank both risk type and business line and encompass short run as well as long run impact on bank. To the maximum possible extent banks should establish systems / models that quantify their risk profile, however, in some risk categories such as operational risk, quantification is quite difficult and complex. Wherever it is not possible to quantify risks, qualitative measures should be adopted to capture those risks. The importance of staff having relevant knowledge and expertise cannot be undermined. Any risk measurement framework, especially those which employ quantitative techniques/model, is only as good as its underlying assumptions, the rigor and robustness of its analytical methodologies, the controls surrounding data inputs and its appropriate application.

2.1.4 Risk Management Framework

Support for crucial programs must come from the top in any Bank. Senior management and governing board must set the bank's risk appetite by establishing appropriate policies, limits and standards and ensuring that they are followed and enforced. Risks must be measured, monitored and reported to key decision-makers. Banks should institute a setup that supervises overall risk management at the bank. Such a setup could be in form of a risk manager, committee or department depending on the size and complexity of

the bank. Ideally, overall risk management function should be independent from those who take or accept risk on behalf of the bank.

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

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

An effective risk management framework includes

- Clearly defined risk management policies and procedures covering risk identification, acceptance, measurement, monitoring, reporting and control.
- A well constituted organizational structure defining clearly roles and responsibilities of individuals involved in risk taking as well as managing it.
- Banks, in addition to risk management functions for various risk categories may institute a setup that supervises overall risk management at the bank.
- Such a setup could be in the form of a separate department or bank's Risk Management Committee (RMC) could perform such function.

- There should be an effective management information system that ensures flow of information from operational level to top management and a system to address any exceptions observed. There should be an explicit procedure regarding measures to be taken to address such deviations.
- The framework should have a mechanism to ensure an ongoing review of systems, policies and procedures for risk management and procedure to adopt changes.

Each bank should develop a mechanism for assessing and reviewing its risk management policies, processes and procedures for individual risk elements, at a regular interval, based on the main findings of the monitoring reports and the results of analysis of developments arising from external market changes and other environmental factors. The results of such review should be properly documented and reported to the Board for consideration and approval. Banks should carry out a self -assessment of its risk management framework for each risk element and assign appropriate rating as regards the quality of its systems and procedures. Such scores should be measured against industry, regulatory and international benchmarks. *(NRB-Risk Management Guidelines- July 2010)*

2.1.5 Management of Different Types of Risk Faced by Commercial Banks

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

2.1.5.1 Credit Risk

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

Credit risk is the major risk that banks are exposed to during the normal course of lending and credit underwriting. Credit risk arises from non-performance by a borrower. For most banks, loans are the largest and most obvious source of credit risk; however, credit risk could stem from activities both on and off balance sheet. It may arise from either an inability or an unwillingness to perform in the pre-committed contracted manner. In a bank's portfolio, losses arise from outright default due to inability or unwillingness of a customer or counter party to meet commitments in relation to lending, trading, settlement and other financial transactions. Alternatively losses may result from reduction in portfolio value due to actual or perceived deterioration in credit quality.

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

Within Basel II, there are two approaches for credit risk measurement: the standardized approach (SSA) and the internal ratings based (IRB) approach. Due to various inherent constraints of the Nepalese banking system, the standardized approach in its simplified form, Simplified Standardized Approach (SSA), has been prescribed by NRB in the initial phase *(NRB-Unified directives-2067, Capital Adequacy Framework-2007, updated July 2008, Anusuchi-1.1).*

Under this approach commercial banks are required to assign a risk weight to their on balance sheet and off-balance sheet exposures. These risk weights are based on a fixed weight that is broadly aligned with the likelihood of a counterparty default. Claims on foreign government, their central banks as

well as foreign corporate shall be generally risk-weighed on the basis of the consensus country risk scores of export credit agencies (ECA). Wherever there are claims relating to unrated countries, they shall generally be risk weighed at 100 percent. However, this claim shall be subject to supervisory review and higher risk weight shall be assigned where the review process deems appropriate.

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

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

As per the NRB unified directives, 2067 *(Capital Adequacy Framework-2007, updated July 2008)* risks are measured as per the below procedures.

a) Claims on government & central bank

1. All claims on Government of Nepal and NRB shall be risk weighed at 0 %.
2. Claims on foreign government and their central banks shall be risk-weighted on the basis of the consensus country risk scores provided by ECA.

b) Claims on other official entities

1. Claims on the Bank for International Settlements, the International Monetary Fund, the European Central Bank and the European Community shall be weighed at 0% risk weight.
2. Various Multilateral Development Banks such as World Bank group, Asian Development bank, African Development Bank, European Investment Bank, etc. will be eligible for a 0% risk weight. Standard risk

weight for claims on other Multilateral Development Banks will be 100%.

3. Claims on public sector entities (PSEs) will be risk-weighed as per the ECA country risk scores.

c) Claims on banks

1. All claims on domestic banks/financial institutions that fulfill Capital Adequacy Requirements will be risk weighed at 20% while for the rest, it will be 100%.
2. Claims on a foreign bank shall be risk weighed as per the ECA Country risk score subject to the floor of 20%.

d) Claims on corporate & securities firms

1. Risk weight for claims on domestic corporate, including claims on insurance companies and securities firm will be 100%.
2. The claims on foreign corporate shall be risk weighed as per the ECA Country risk score subject to the floor of 20%.

e) Claims on regulatory retail portfolio

1. Claims that qualify all criteria listed below may be considered as regulatory retail portfolio and risk weighed at 75%, except for past due loans**.** Such claims however, have to be in strict compliance with the Product paper developed by the bank and approved by their respective board of directors

   Criteria:

   a. ***Orientation criteria*****:** - Exposure is to an individual person or persons or to a small business. Bank should obtain written declaration from the borrower to the effect that their indebtedness is within the threshold across all banks and FIs.

   b. ***Product criteria:-*** The exposure takes the form of any of the following:

      - Revolving credits and lines of credit, (including overdraft, hypothecation etc.)
      - Term loans and leases (e.g. hire purchase, auto loans and leases, student and educational loans) and,
      - Small business facilities and commitments,
      - Deprived sector loans upto a threshold of Rs.10 million.

c. ***Granularity criteria*: -** NRB must be satisfied that the regulatory retail portfolio is sufficiently diversified to a degree that reduces the risks in the portfolio, warranting the 75% risk weight.

d. ***Low value individual criteria:*** - The total aggregated exposure to one counterpart cannot exceed an absolute threshold of Rs.10 million.

f) Claims secured by residential properties

1. Lending to individuals meant for acquiring or developing residential property which are fully secured by mortgages on residential property, that is or will be occupied by the borrower or that is rented will be risk-weighed at 60%. However, banks should ensure the existence of adequate margin of security over the amount of loan based on strict valuation rules. Banks have to develop product paper and get it approved from the board of directors to regulate this kind of lending. Where the loan is not fully secured, such claims have to risk weighed at 150%
2. When claims secured by residential properties are or have been past due at any point of time during the last two years, they shall be risk-weighed at 100**%,** net of specific provisions.

g) Claims secured by commercial real estate

1. Claims secured by mortgages on commercial real estate, except past due, shall be risk-weighed at 100%. Commercial real estate hereby refers to mortgage of Office buildings, retail space, multi-purpose commercial premises, multi-family residential buildings, multi-tenanted commercial premises, industrial or warehouse space, hotels, land acquisition, development and construction etc.

h) Past due claims

1. Any loan, except for claim secured by residential property, which is or has been past due at any point of time during the last two years, will be risk-weighed at 150% net of specific provision.

i) High risk claims

1. 150% risk weight shall be applied for venture capital and private equity investments.

2. Exposures on Personal loan in excess of the threshold of regulatory retail portfolio and lending against securities (bonds and shares) shall attract a risk weight of 150%. Similarly, exposures on credit card shall also warrant a risk weight of 150%.
3. Investments in the equity and other capital instruments of institutions, which are not listed in the stock exchange and have not been deducted from Tier 1 capital, shall be risk weighed at 150% net of provisions.
4. Investments in the equity and other capital instruments of institutions, which are listed in the stock exchange and have not been deducted from Tier 1 capital, shall be risk weighed at 100% net of provisions.
5. The claims which are not fully secured or are only backed up by personal guarantee shall attract 150% risk weight.
6. Where loan cannot be segregated/or identified as regulatory retail portfolio or qualifying residential mortgage loan or under other categories, it shall be risk weighed at 150%.

j) Other assets

With regard to other assets, following provisions have been made;

1. Interest receivable/claim on government securities will be risk-weighed at 0%.
2. Investments in equity or regulatory capital instruments issued by securities firms will be risk-weighed at 100%.
3. Cash in transit and other cash items such as cheque, draft, Travellers Cheque which are in the process of collection will be risk-weighed at 20%.
4. Fictitious assets that have not been deducted from Tier 1 capital shall be risk weighed at 100%.
5. All Other assets will be risk-weighed at 100% net of specific provision.

k) Off balance sheet items

Off-balance sheet items under the simplified standardized approach will be converted into equivalent risk weight exposure using risk weight as follows:

1. Any commitments those are unconditionally cancelable at any time by the bank without prior notice shall be risk weighed at 0%.
2. Forward Exchange contracts shall be risk weighed at 10%.

3. Documentary letters of credit, shipping guarantees issued and any other trade-related contingencies with an original maturity upto six months shall be risk weighed at 20%.
4. Unsettled securities and foreign exchange transactions between bank to bank and between bank and customer shall be risk weighed at 20%.
5. Documentary letters of credit, shipping guarantees issued and any other trade-related contingencies with an original maturity of over six months shall be risk weighed at 50%.
6. Performance bonds, bid bonds, warranties, indemnities, underwriting commitments and standby letters of credit in relation to a non-monetary obligation of counterparty under a particular transaction shall be risk weighed at 50%.
7. Repurchase agreements, securities lending, securities borrowing, reverse repurchase agreements and equivalent transactions shall be risk weighed at 100%.

2.1.5.2 Market Risk

Market risk refers to the risk to a bank resulting from adverse movements in market prices, in particular, changes in interest rates, foreign exchange rates, and equity and commodity prices. Market risk is defined as the risk of losses in on and off-balance sheet positions arising from movements in market prices (NRB-Risk Management Guidelines- July 2010). Major constituents of market risks are:

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

Out of the various components of market risk, foreign exchange risk is the predominant risk in our country. The effects of other forms of market risk are minimal. Thus, a net open position approach has been devised to measure the capital requirement for market risk. The designated Net Open Position approach requires banks to allocate a fixed proportion of capital in terms of its net open position. Banks should allocate 5 percentages of their net open positions as capital charge for market risk.

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

2.1.5.2.1 Foreign Exchange Risk

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

2.1.5.2.2 Interest Rate Risk

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

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

2.1.5.2.3 Commodity Risk

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

2.1.5.2.4 Equity Price Risk

It is risk to earnings or capital that results from adverse changes in the value of equity related portfolios of a bank. Each bank should put in place a set of systems and procedures appropriate to its size and complexity of its operations for identifying, measuring monitoring and controlling market risk.

2.1.5.3 Operational Risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and system or from external events. It is associated with human error, system failures and inadequate procedures and controls. Operational risk event types include:

- Internal fraud. For example, intentional misreporting of positions, employee theft.
- External fraud. For example, robbery, forgery, cheque kiting, and damage from computer hacking.
- Employment practices and workplace safety. For example, workers compensation claims, violation of employee health and safety rules, organized labor activities, discrimination claims, and general liability.
- Clients, products and business practices. For example, fiduciary breaches, misuse of confidential customer information, improper trading activities on the banking institution’s account, money laundering, and sale of unauthorized products.
- Damage to physical assets. For example, terrorism, vandalism, earthquakes, fires.
- Business disruption and system failures. For example, hardware and software failures, telecommunication problems, and utility outages.

- Execution, delivery and process management. For example; data entry errors, collateral management failures, incomplete legal documentation, unapproved access given to client accounts, non-client counter party mis-performance, and vendor disputes.

Management should evaluate the adequacy of tools and techniques both in terms of its efficiency and effectiveness. Steps should be taken to design and implement cost- effective solutions to reduce the operational risk to an acceptable level. The extent and nature of the controls adopted by the banks can be different, very often such measures encompass areas such as Code of Conduct, Delegation of authority, Segregation of duties, audit coverage, compliance, succession planning, mandatory leave, staff compensation, recruitment and training, dealing with customers, complaint handling, record keeping, MIS, physical controls, etc

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

2.1.5.4 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. Major types of transaction risk include:

2.1.5.4.1 Cash Shortage & Excess

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 the physical cash is less

than 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.

2.1.5.4.2 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.

2.1.5.4.3 Settlement Risk

Settlement risk refers to potential of loss; bank might suffer due to unsettlement of transaction within branches of a bank or 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. The major settlement problem of the bank is associated with the draft payment, payment of foreign trade & card, etc. This problem is mainly because of the unsettlement of transaction by the Nostro Banks. Nostro Bank refers to the bank in which a commercial bank maintains its fund. 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.

2.1.5.5 Money Laundering

Money laundering is the practice of engaging in financial transactions in order to conceal the identity, source, and/or destination of illegally gained money, and is a main operation of the underground economy, (Wikipedia, 2010). In another word, Money Laundering is defined as disguising the source or ownership of illegally gained funds to make them appear legitimate or hiding money to avoid paying taxes or using legally gained money in pursuit of unlawful activities.

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

Financial institutions are the medium for channeling the illegally or criminally earned money into the financial system. The simplest way to clean the illegally earned money is to bring-in-such money to the financial system through different means such as deposits of cash, traveler's cheques, drafts, electronic transfer and other financial instruments. Money Laundering was a global issue after the September 11, 2001.

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

The main focus of this study is analysis of the directives of Nepal Rastra Bank issued to commercial banks. The directives issued from time to time are one of the tools used by the central bank to control and monitor the commercial banks. The first directives were basically concerned with the acceptance of deposits and disbursement of loans. In present context, the directives are issued by NRB quite regularly. In 2067 Asar, NRB has issued updated unified directives to regulate all three categories of financial sectors in Nepal to ensure that the banking industry functions as per the international standard. NRB (Unified directives, 2008) prescribes following prudential in different aspects of risk.

2.1.6.1 Credit Risk and Directive No. 2 and 3

With an objective to minimize the possible risks associated with credits extended by financial institutions in the form of overdraft loans and advance, bills purchased and discounted, the new unified directive relating to loan classification and provisioning has been issued in 2067 According to new unified directive No. 2, banks should classify outstanding loan and advances on the basis of aging of principal amount into the following 4 categories:

- **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.
- **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.
- **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.
- **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 Pass loan are classified and defined as Performing Loan and 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 securities shall be included under Pass Loan category. However, where collateral of fixed deposit receipt or government securities or NRB Bonds is placed as security against loan for other purposes, such loan has to be classified on the basis of ageing. 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.

Additional Arrangement in Respect of Term Loan

In respect of term loans, the classification shall be made against the entire outstanding loan on the basis of the past due period of the 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 2067, shall be provided as follows:

Classification of Loan	**Loan Loss Provision**
Good	1 Percent
Substandard	25 Percent
Doubtful	50 Percent
Bad	100 Percent

Loan loss provision set aside for performing loan is defined as "General Loan Loss Provision" and Loan Loss Provision set aside for non-performing loan is defined as "Specific Loan Loss Provision." Where the banks provide for loan

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

Additional Provisioning in the case of Personal Guarantee Loans

Where the loan is extended only against personal guarantee, a statement of the assets, equivalent to the personal guarantee amount not claimable by any other has to be obtained. Such loans should be classified as per ageing and 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. However, such additional 20% loan loss provision is not required for loans extended to the institutions like Nepal Oil Corporation Ltd. and Nepal Food Corporation. Classification of such loans and advances shall be prepared separately. 20% additional loan loss provisioning is not required in the case of educational loans and deprived sector provided under personal guarantee by the commercial bank & financial institutions.

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 existence 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%
- Where the installment of principal and interest of restructured or rescheduled loan is serviced regularly for two consecutive years, such loan can be converted into Pass Loan.

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

Single obligor limit refers to the limit of loan disbursement to a person or a firm or a group of borrowers. NRB has provisioned single obligor limit while providing credit facilities by the bank. According to Unified NRB Directives, 2067 No. 03/066, banks may extend to a single borrower or group of related borrowers the amount of Fund Based loans and advances up to 25% of the Core Capital fund and Non Fund Based off-balance sheet facilities like letters of credit, guarantees, acceptances, commitments up to 50% of its Core Capital Fund including Fund Based. Fixation of limit on credit and facilities to single borrower shall be made on the basis of Core Capital Fund as per the latest quarterly balance sheet certified by the Internal Auditor of concerned institution.

The main reason for this provision is to protect bank from suffering losses due to investing in single client. In another word, this directive is intended to diversify the concentration risk. According to NRB Directives, if any firm, person or group of borrowers is provided the credit more than the limit of single obligor; the bank should have to make 100% provision for the loan exceeding the limit.

2.1.6.2 Operation Risk and NRB Directive No. 5

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

- Liquidity Risks

- Interest Rate Risk
- Foreign Exchange Risk

2.1.6.2.1 Liquidity

Liquidity is the capability to fund investments in assets and congregate obligations as they come due. Liquidity risk management seeks to ensure a bank's ability to continue to do this (Pradhan 2010). In order to minimize the liquidity related risks, banks should group the assets and liabilities into their appropriate maturity period of various times to identify the gap between asset and liabilities and to minimize the liquidity related risks. As per Unified directives, 2067, maturity period has to be classified into following period.

- Maturity period up to 90 days
- Maturity period of over 90 days to 180 days
- Maturity period of over 180 days to 270 days
- Maturity period of over 270 days to 1 year
- Maturity period above 1 year

For those liabilities, which do not have certain maturity period (such as current and saving deposit), 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.

2.1.6.2.2 Interest Rate Risk

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.

2.1.6.2.3 Foreign Exchange Risk

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

study the effect on financial position of the banks with the fluctuation in foreign exchange rate, 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. Commercial banks have to send such foreign asset position report on weekly basis.

2.1.6.3 Directive No. 1 – Capital Adequacy Ratio

Capital Adequacy Ratio (CAR) is the proportion of Capital Fund or Shareholders equity on the total Risk Weighted Exposures of a bank. In other words, it is the capital portion, which is used to finance the asset. The total Risk Weighted Exposures, on the other hand, includes both on & off balance sheet items, which has been rated with certain percentage of risk. According to unified directive 2067, commercial banks should calculate the capital adequacy ratio as per Unified Directives "Capital Adequacy Framework 2007 (Updated July, 2008)".

2.1.6.3.1 Primary Capital (Tier 1 Capital)

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

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

j. Dividend Equalization Reserves.
k. Any other type of reserves notified by NRB from time to time for inclusion in Tier 1 capital.

2.1.6.3.2 Supplementary Capital (Tier 2 Capital)

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

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

According to NRB Unified directives 2067, statutory Capital Adequacy Ratio (CAR) for core capital is 6% where as CAR for total capital fund is 10% since fiscal year 2065/66.

2.2 Review of Dissertations

Rana (2001), "*New Directives Issued by Nepal Rastra Bank"* has alerted commercial banks of the new directives issued by Nepal Rastra Bank on 2002. The article gives bird's eye view of major changes made in the new directive and suggests measures to be taken by NRB to commercial banks and finance companies are similar in some aspects, this article is also relevant to finance companies. Mr. Rana has highlighted the following points in his article:

- Capital adequacy ratio for commercial bank prescribed by Nepal Rastra Bank is even higher than the requirement in India.
- Classification of loans and advances into four categories instead of six categories prescribed earlier.

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

- Foresee capital adequacy position for a number of years ahead and initiate measures for increasing the capital if required.
- Review and revise overall credit policies to address new directives governing loan classification and loan loss provisioning.
- Update their record with Credit Information Bureau (CIB). Also banks should timely submit required return to CIB for its effective functioning.

The policy of NRB seems to be vague. The existing policies might be ambiguous as a result of which people try to manipulate as per their personal requirement. However, it can be said that NRB has initiated directives, which have control on the promoters and other senior officials of commercial banks, but it is still to be found whether such directives are consistently followed. The article failed to give a clear picture on what exactly happened after the instruction of NRB. This article highlights the importance of compliance with the directives issued by NRB.

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

- Increase in operational procedures of the banks, which increase the operational cost of the banks.
- A short term decreases in probability, which result to fewer dividends to shareholders and less bonus to the employees.

- Reduction in the loan exposure of the banks, which decreases the interest income but increase the protection of the depositor's money.
- Increase protection to the money of the depositors through increased capital adequacy ratios and more stringent loan related documents.
- Increase demand from shareholder's contribution in the banks by foregoing dividends for loan loss provisions and various other reserves to increase core capital.

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

Shrestha (2003), in his thesis entitled, ***"****Impact & Implementation of NRB's Guidelines on Commercial Banks" A Study of Nabil Bank Ltd. & Nepal SBI Bank Ltd."* has tried to find out the impact of NRB directives on commercial banks. She has also made effort to find out whether the directives are actually implemented and are being monitored by NRB or not. She has stated that both NABIL and Nepal SBI are implementing the NRB directives. She concludes that all the changes in NRB directives made both positive and negative impacts on the commercial banks. Even though thesis study is limited to only two sample (i.e. Nabil Bank and Nepal SBI Bank,) among the entire population, it clears the new directives issued by NRB make good impact to more than bad impact on the various aspects of the banks. It can be seen that the provision has been changed and the increased provisioning amount has decreased the probability of commercial banks. Apart from loan exposure has been cut down to customers due to the borrower limits have been brought down by NRB. Therefore, reduction in loan amount results to the decrement of interest incomes from loans, which will decrease the profits of the banks in coming years. Decreasing profitability pushes towards lesser dividends to the shareholders and lesser bonus to employees.

Not only the new directives have negatives aspects but positive aspects are there too.

Shrestha (2005, in her thesis entitled, *"A Study of Non-Performing Loan & Loan Loss Provision of Commercial Bank: A case Study of Nabil Bank Ltd, SCBL & NBL."* has made study about the credit risk associated with Nabil Bank, SCBL and NBL. The main objectives of her study was

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

The major finding in her study was that the NBL has the highest portion of the loan in total asset followed by Nabil Bank and SCBL. She concludes that the SCBL shows the risk-adverse attitude. Likewise 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.

Koirala, Shrijana (2007), in her thesis entitled *"Diagnosis of Financial Health of NIBL in the framework of CAMEL"*, has made an attempt to analyses the financial health of NIBL and its approach towards the CAMEL framework. She has concluded that:

- Stable capital adequacy ratios as per the NRB directives are not maintained by NIBL.
- Powerful loan recovery procedures are not in hand to manage the credit recovery.

- NIBL has low non-interest revenues during the study period.

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

- Proper risk management is required to achieve competitive edge and objectives formulated. 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 industry.
- Poor management of asset and liabilities having different maturity period is the main problem that brings market risk.
- 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.

2.3 Research Gap

From the review of literatures, it has been found that few thesis have been prepared on the credit risk, related with loan loss provision and non-performing loan. So, further research on concentration risk, collateral risk can be conducted. 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, less 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 less research till date. Moreover, less research has still been conducted on the basis of Basel II framework, which has to be implemented in the commercial banks from July 2008. Hence the research has been conducted to fulfill these gaps.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction:

Research methodology is a systematic way to solve the research problem. In other words, research methodology describes the methods and process applied in the entire aspect of the study. Kothari (1994) defines Research methodology as the various sequential steps (along with a rational of each steps) to be adopted by a researcher in studying a problem the certain objectives in view. Thus the overall approach to the research is presented in this chapter. This chapter consists of research design, sample size and selection process, data collection procedure and data processing techniques and tools.

3.2 Research Design

This study is the combination of descriptive and analytical type of research. Historical data has been used to analyze different risks of a bank and each risk has been analyzed separately. Historical data has been 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 (NIBL and EBL) have been selected for the study, this study is a comparative study between these two banks in different risks and their management system. Both primary and secondary data are used for analysis of various risks. In credit, interest and liquidity risk, secondary data published in annual reports of banks under study and NRB publications are mainly used. The operation risk is all about the descriptive research as the quantification of operation risk variable is not feasible.

3.3 Population and Samples

Wolf and Pant (2005) 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 32 commercial banks. Among the total population only two commercial banks i.e. NIBL and EBL are taken as sample for the study. Judgmental Sampling method has been used to select the samples.

3.4 Sources of Data and Collection Procedure

For this study, both primary as well as secondary data are used. Primary data are collected from telephonic interview and personal visit. Whereas Secondary data are collected mainly form published sources like annual report, prospectus, newspaper, journals, websites and other sources. Secondary data published in the annual reports of concerned organizations are collected through personal visit in respective organization as well as from their web sites.

3.5 Data Processing and Presentation

The data obtained from the different sources were in raw form. The raw data has been processed and converted into required form. For this study, required data has been taken from the secondary source (bank's publication) and presented in this study. For presentation, different tables have been used. Besides, primary data, collected from different sources, were also presented wherever required. Raw data are attached in annexure. Computation has been done with the help of scientific calculator and computer software program.

3.6 Data Analysis Tools

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

Arithmetic Mean:

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

$$Mean(\overline{X}) = \frac{X1 + X2 + X3 + \ldots\ldots\ldots\ldots\ldots\ldots + Xn}{N}$$

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

Where, $\sum X$ = sum of the sizes of the items

N= number of items

Standard Deviation:

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

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\sum (X - \overline{X})2}{N}}$$

N = Number of items in the series.

$\overline{X}$ = mean X= Variable

Coefficient of Variation:

The coefficient of variation (CV) is the ration of the standard deviation to the mean. It shows the extent of variability in relation to mean of the population.

$$Coefficient\_of\_Variation(CV) = \frac{\sigma}{\overline{X}}$$

Where:

$$\partial = Stamdard\_Deviation$$

$$X = Mean$$

Ratio Analysis

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

1. **Loans and advances to Total Asset Ratio**

   The ratio of loans and advances to total assets measures the portion of loans and advances in total assets.

   $$\text{Loans and Advances to Total Assets Ratio} = \frac{\text{Total Loans and Advances}}{\text{Total Assets}}$$

2. **Loans and Advances to Total Deposit Ratio**

   It is the ratio between total Loans and Advances to the Total Deposit.

   $$\text{Loans and Advances to Total Deposit Ratio} = \frac{\text{Total Loans and Advances}}{\text{Total Deposit}}$$

3. **Non-performing Loan to Total Loans and advances Ratio**

   It is the ratio between total Non-performing Loan to the Total Loans and Advances.

   $$\text{NPL to Total Loans \& Advances Ratio} = \frac{\text{Non Performing Loan}}{\text{Total Loans \& Advances}}$$

4. **Loan Loss Provision to Non Performing Loan Ratio**

   It is the ratio between total Loan Loss Provision to Non Performing Loan.

   $$\text{LLP to NPL Ratio} = \frac{\text{Total Loan Loss Provision}}{\text{Total Non Performing Loan}}$$

5. **Return on Loan and Advances**

   It is the ratio between Net Profit after Tax to total loans and advances.

   $$\text{Return on Loans and Advances} = \frac{\text{Net Profit after Tax}}{\text{Total Loans \& Advances}}$$

6. **Sector wise Loan to Core Capital Ratio**

   It is the ratio between sector wise Loan to the Core Capital.

   $$\text{Sector wise Loan to Core-Capital Ratio} = \frac{\text{Loan in a particular sector}}{\text{Total Core Capital}}$$

7. **Credit Concentration on Sector**

   It is the ratio between the sector wise loan to total Loans and Advances.

   $$\text{Credit Concentration} = \frac{\text{Loan in a particular sector}}{\text{Total Loans \& Advances}}$$

8. **Cash and Bank Balance to Total Asset Ratio**

It is the ratio between Cash and Bank Balance to Total Assets.

$$\text{Cash \& Bank Balance to Total Assets} = \frac{\text{Cash and Bank Balance}}{\text{Total Assets}}$$

9. **Interest Income to Total Income**

It is the ratio between Total Interest Income to Total Income.

$$\text{Interest Income to Total Income} = \frac{\text{Interest Income}}{\text{Total Income}}$$

10. **Core Capital to Total Risk Weighted Exposures (RWE)**

It is the ratio between Core Capital and Total Risk Weighted Exposure.

$$\text{Core Capital to Total RWE} = \frac{\text{Total Core Capital}}{\text{Total RWE}}$$

11. **Supplementary Capital to Total Risk Weighted Exposures**

It is the ratio between supplementary capitals to Total risk weighted exposure.

$$\text{Supplementary Capital to Total RWE} = \frac{\text{Total Supplementary Capital}}{\text{Total RWE}}$$

12. **Capital Fund to Total Risk Weighted Exposures (RWE)**

It is the ratio between total capital fund to total risk weighted exposure.

$$\text{Capital Fund to Total RWE} = \frac{\text{Total Capital Fund}}{\text{Total RWE}}$$

13. **On Balance Sheet RWE to Total RWE**

It is the ratio between On Balance Sheet Risk Weighted exposures to total risk weighted exposure.

$$\text{On Balance Sheet RWE to Total RWE} = \frac{\text{On Balance Sheet RWE}}{\text{Total RWE}}$$

14. **Off balance Sheet RWE to Total RWE**

It is the ratio between On Balance Sheet Risk Weighted exposures to total risk weighted exposure.

$$\text{Off Balance Sheet RWE to Total RWE} = \frac{\text{Off Balance Sheet RWE}}{\text{Total RWE}}$$

Gap Analysis

Gap Analysis is the process of analyzing the mismatch between asset and liabilities within various maturity periods. Under this measure, asset and liabilities are categorized into various groups as prescribed by the NRB Unified Directives, 2067 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.

Procedure for Gap Analysis

- The gap is determined by deducting total liabilities from the total assets of various period 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:

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

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

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

- 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.

Capital Fund

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

$$Capital\ Fund = Primary\ Capital + Supplementary\ Capital$$

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

a) Capital Adequacy Ratio for Core Capital

$$CAR = \frac{Core\_Capital}{Total\_Risk\_Weighted\_Exposures}$$

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

$$CAR = \frac{Capital\_Fund}{Total\_Risk\_Weighted\_Exposures}$$

CHAPTER IV

DATA ANALYSIS AND PRESENTATION

4.1 Data Analysis and Presentation

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

4.1.1 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. The key performance indicators of credit performance of NIBL and EBL are as follows:

4.1.1.1 Loans and Advances to Total Asset Ratio

The ratio of loans and advances to total assets measures the portion of loans and advances in total assets. Loan & Advances includes total loans & advances and bill purchased. Similarly total asset includes cash & bank balance, investment, loan & advances, fixed assets, non banking assets & other assets etc. The high degree of ratio indicates the good performance of the banks in mobilizing its fund by way of lending functions. However, in its reverse side, the

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

Table 4.1: Loans and Advances to Total Asset Ratio (%)

Rs. in millions

	NIBL			EBL		
Fiscal Year	**Loans & Advances**	**Total Assets**	**Ratio**	**Loans & Advances**	**Total Assets**	**Ratio**
2062/63	13,178	21,330	61.78	10,136	15,959	63.51
2063/64	17,769	27,591	64.40	14,083	21,433	65.71
2064/65	27,529	38,873	70.82	18,836	27,149	69.38
2065/66	36,827	53,011	69.47	24,470	36,917	66.28
2066/67	40,948	57,305	71.46	28,156	41,383	68.04
Total			**337.93**			**332.92**
Mean			67.59			66.58
S.D			3.82			2.01
C.V%			5.65			3.02

Source: Annual Reports (Annexure I & II)

Figure 4.1: Loans and Advances to Total Asset Ratio (%)

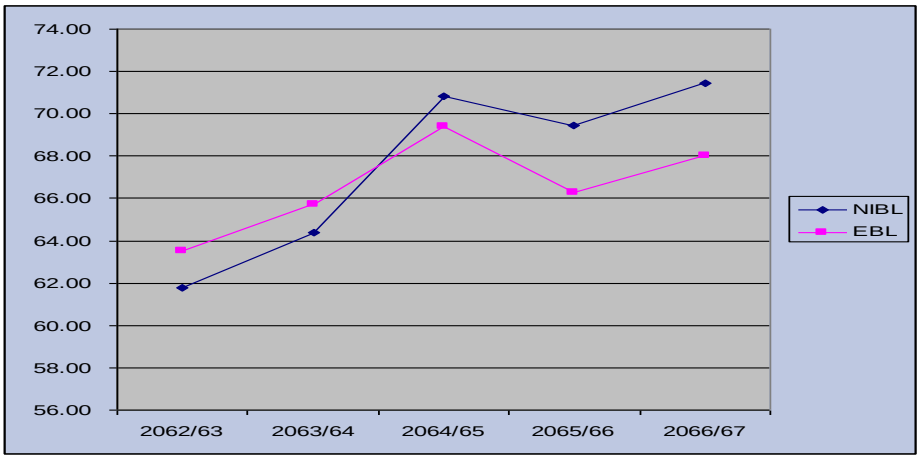


Table 4.1 & figure 4.1 shows the loans and advances to total assets of two commercial banks. This shows that both banks have the fluctuating portion of Loans and advances in their total assets.. The overall average ratio of NIBL is 67.59 % and EBL is 66.58%. From this, it is clear that out of total asset in balance items the proportion of loans and advances is higher in NIBL as compared to EBL. This relates that the credit risk is higher in NIBL as compared to EBL. Likewise, the standard deviation of NIBL and EBL are 3.82 and 2.01. The coefficient of variation (C.V) is 5.65 and 3.02 in NIBL and EBL respectively, which means that per unit variation of the ratio of NIBL, is more than that of EBL.

These indicate that the loan and advances to total asset ratio of NIBL has more variation than that of EBL during the study period, which means higher risk in case of NIBL than EBL.

4.1.1.2 Loans and Advances to Total Deposit Ratio.

The fundamental banking function is to mobilize the funds obtained from the depositors to borrowers and makes profit. 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. This ratio is calculated by dividing total credit by total deposits. Banks have to maintain 80% CD ratio (Unified directives 2067, No 5/067). Banks should achieve the ratio within Paush 2068 if the CD ratio is higher in Asar end 2067 figures.

Table 4.2: Loans and Advances to Total Deposit Ratio (%)

Rs. in millions

	NIBL			EBL		
Fiscal Year	**Loans & Advances**	**Total Deposit**	**Ratio**	**Loans & Advances**	**Total Deposit**	**Ratio**
2062/63	13,178	18,927	69.63	10,136	13,802	73.44
2063/64	17,769	24,489	72.56	14,083	18,186	77.44
2064/65	27,529	34,452	79.91	18,836	23,976	78.56
2065/66	36,827	46,698	78.86	24,470	33,323	73.43
2066/67	40,948	50,095	81.74	28,156	36,932	76.24
Total			**382.70**			**379.11**
Mean			76.54			75.82
S.D			4.64			2.08
C.V%			6.06			2.75

Source: Annual Reports (Annexure I & II)

Figure 4.2: Loans and Advances to Total Deposit Ratio (%)

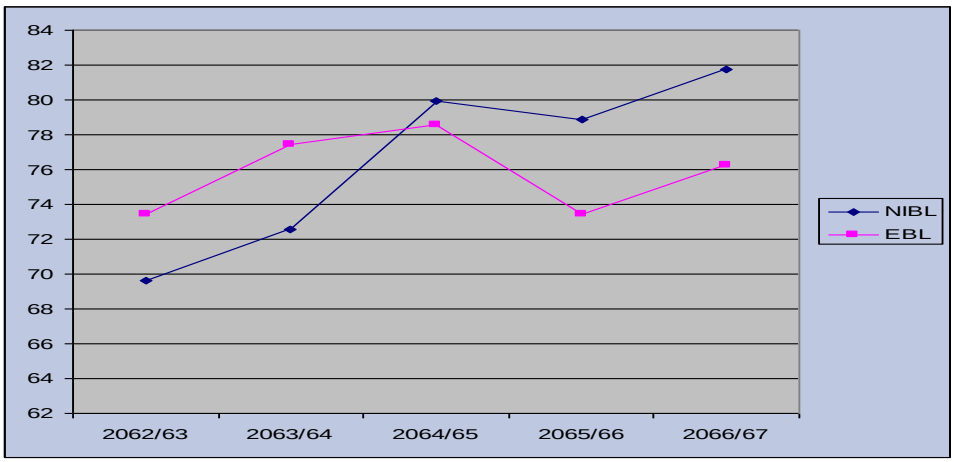


Table 4.2 & figure 4.2 show that the loans and advances to total deposit ratio of two commercial banks for 5 consecutive years. The loans and advances to total deposit ratio of both banks are fluctuating. The NIBL has the highest CD ratio of 81.74% in the fiscal year 2066/67 where as the EBL has the highest CD ratio of 78.56% in the fiscal year 2064/65. The average CD ratio of NIBL and EBL during the study period is 76.54% and 75.82% respectively. The average CD ratio of NIBL is higher than that of EBL which means that NIBL has utilized its deposit higher than EBL. However, it shows that EBL is maintaining adequate liquidity. This again means that NIBL has higher credit risk than that of EBL. Further, Standard Deviation of NIBL is 4.64 which is higher than that EBL which has only 2.08. Moreover, CV is 6.06% and 2.75% in NIBL and EBL respectively, which means that per unit variation of the ratio of NIBL, is more than that of EBL. This means risk is higher in NIBL than in EBL.

4.1.1.3 Non- Performing Loan to Total Loans and Advances Ratio

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

Table 4.3: Non Performing Loan to Total Loans & Advances

Rs. in millions

	NIBL			EBL		
Fiscal Year	**NPL**	**Total Loan**	**Ratio**	**NPL**	**Total Loan**	**Ratio**
2062/63	272	13,178	2.07	129	10,136	1.27
2063/64	422	17,769	2.37	113	14,083	0.80
2064/65	309	27,529	1.12	127	18,836	0.68
2065/66	214	36,827	0.58	118	24,470	0.48
2066/67	254	40,948	0.62	44	28,156	0.16
Total			**6.77**			**3.39**
Mean			1.35			0.68
S.D			0.74			0.37
C.V%			54.69			54.41

Source: Annual Reports (Annexure I & II)

Figure 4.3: Non- Performing Loan to Total Loans and Advances

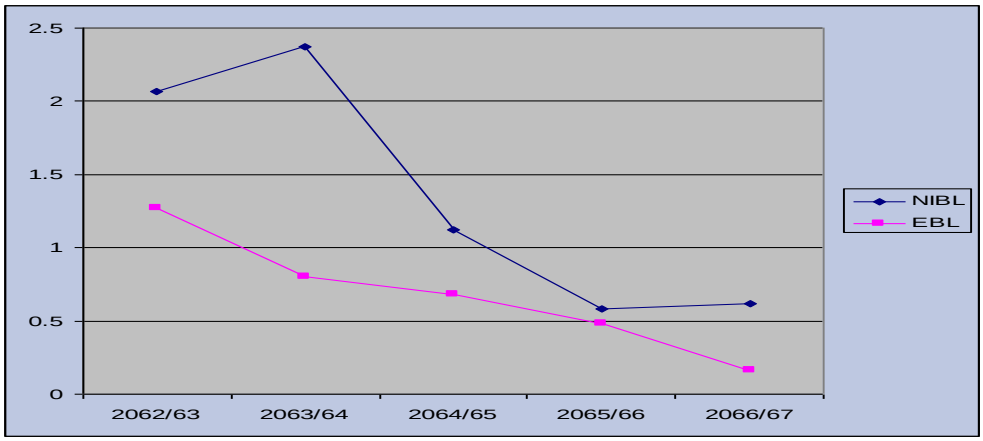


Table 4.3 & figure 4.3 show that the ratio of non-performing loans (NPL) to total loans and advances of NIBL and EBL for five consecutive years. Though the total loan and advances of both banks are in increasing trend, NPL of both banks is fluctuating. The average NPL ratio of NIBL and EBL are 1.35% and 0.68% respectively. It can be related as NIBL is in much higher risk than EBL. The portfolio of EBL has abundance of quality earning assets than that of NIBL. The standard deviation of NIBL and EBL are 0.74 and 0.37 respectively. Further, Coefficient of variation is 54.69% and 54.41% for NIBL and EBL respectively, which means that per unit variation of the ratio of NIBL, is more than that of EBL. This indicates that the NIBL 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 millions

	NIBL			EBL		
Fiscal Year	**LLP**	**NPL**	**Ratio**	**LLP**	**NPL**	**Ratio**
2062/63	402	272	147.51	335	129	259.17
2063/64	483	422	114.39	419	113	369.86
2064/65	533	309	172.12	497	127	390.66
2065/66	586	214	273.93	585	118	495.72
2066/67	630	254	248.05	600	44	1,372.91
Total			**955.99**			**2,888.33**
Mean			191.20			577.67
S.D			60.41			404.65
C.V%			31.60			70.05

Source: Annual Reports (Annexure I & II)

Figure 4.4: Loan Loss Provision (LLP) to Non-Performing Loan Ratio

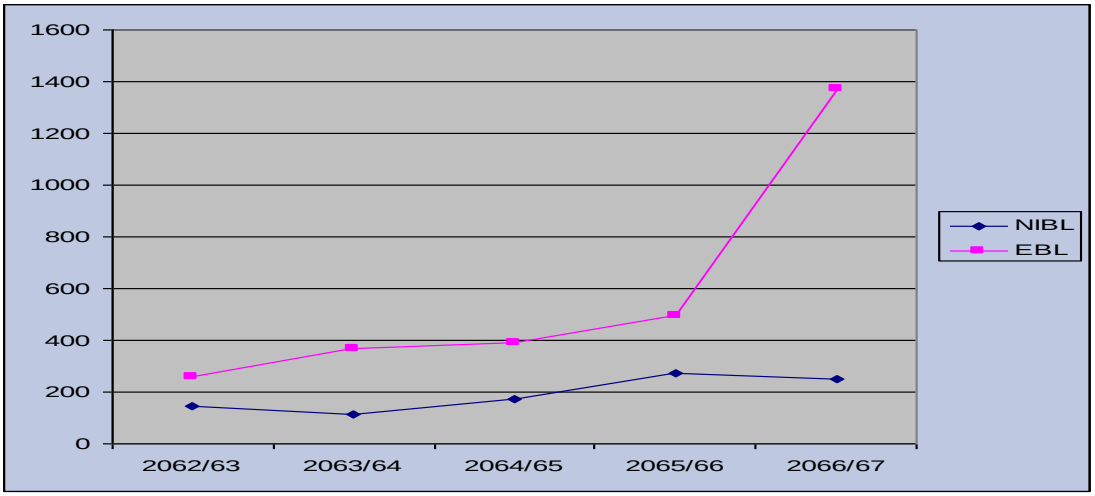


Table 4.4 and Figure 4.4 illustrate the ratio of loan loss provision to non-performing loan of NIBL and EBL for five consecutive years. NIBL has the highest ratio of 273.93% in the fiscal year 2065/66, whereas EBL has the highest ratio of 1,372.91% in the fiscal year 2066/67. The average NPL ratio

of NIBL and EBL is 191.20% and 577.67% respectively. This shows that EBL has provided higher protection of provisioning to non performing loan compared to NIBL. The standard deviation of NIBL and EBL are 60.41% and 404.65% respectively. This means that there exists the higher deviation in this ratio in context of EBL than NIBL. The coefficient of variation of NIBL and EBL is 31.60% and 70.05% respectively, which means that loan loss provision ratio of EBL fluctuate more from the average than that of NIBL. The data shows that due to decreasing trend in NPL of EBL, the ratio deviates more from mean. Both the Banks have good cushion for their Non Performing Loans.

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

This ratio indicates the amount of Loan Loss Provision, a cushion for the possibility of default, to total loans and advances of a bank. Higher provision for non performing loan reflects increasing non-performing loan in volume of total loans and advances. The low ratio signifies the good quality of assets in the volume of loans and advances and makes efforts to cope with provable loan loss. Higher ratio implies that the bank has the higher proposition of NPL in bank loan portfolio.

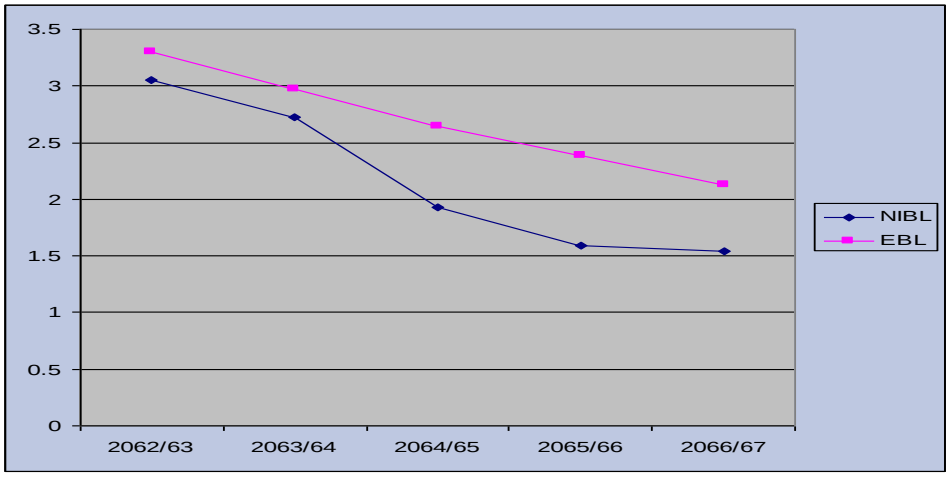
Table 4.5: Loan Loss Provision (LLP) to Total Loans and Advances Ratio

Rs. in millions

	NIBL			EBL		
Fiscal Year	**LLP**	**Total Loan**	**Ratio**	**LLP**	**Total Loan**	**Ratio**
2062/63	402	13,178	3.05	335	10,136	3.30
2063/64	483	17,769	2.72	419	14,083	2.97
2064/65	533	27,529	1.93	497	18,836	2.64
2065/66	586	36,827	1.59	585	24,470	2.39
2066/67	630	40,948	1.54	600	28,156	2.13
Total			**10.83**			**13.44**
Mean			2.17			2.69
S.D			0.61			0.42
C.V%			28.11			15.61

Source: Annual Reports (Annexure I & II)

Figure 4.5: Loan Loss Provision (LLP) to Total Loans and Advances Ratio



It is observed in the table 4.5 & figure 4.5 that NIBL has the least portion of loan loss provision. The average LLP to total loan and advances ratio is 2.17% and 2.69% of NIBL and EBL respectively. The higher ratio of EBL than NIBL reflects that EBL has higher loan loss provision compared to NIBL. Likewise the standard deviation of NIBL is 0.61% is much higher than that of EBL i.e. 0.42%.This indicates that NIBL is in higher risk than EBL. Higher Coefficient of variation of NIBL also signifies the higher risk than that of EBL.

4.1.1.6 Return on Loan & Advances

This ratio indicates how efficiently the bank has employed its resources in the form of loans and advances. This ratio is calculated by dividing net profit of the bank by total loan and advances. Net profit refers to that profit which is obtained after all types of deduction like employee bonus, tax, provision etc. Hence this ratio measures bank's profitability with respect to loans and advances. Higher the ratio better is the performance of the bank.

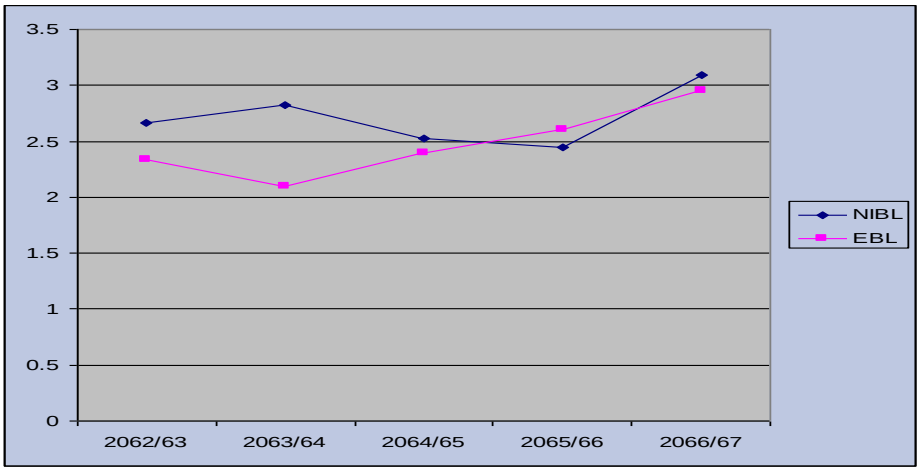
Table 4.6: Return on Loan & Advances

Rs. in millions

	NIBL			EBL		
FY	**Net Profit**	**Total Loan**	**Ratio**	**Net Profit**	**Total Loan**	**Ratio**
2062/63	351	13,178	2.66	237	10,136	2.34
2063/64	501	17,769	2.82	296	14,083	2.10
2064/65	697	27,529	2.53	451	18,836	2.40
2065/66	901	36,827	2.45	639	24,470	2.61
2066/67	1,266	40,948	3.09	832	28,156	2.95
Total			**13.55**			**12.41**
Mean			2.71			2.48
S.D			0.23			0.29
C.V%			8.49			11.69

Source: Annual Reports (Annexure I & II)

Figure 4.6: Return on Loan & Advances



It is illustrated from table 4.6 and figure 4.6 that the ratio of return on loans and advances of both banks are in the fluctuating trend. The data shows that the average return on Loans and advances of NIBL is 2.71% which is higher than that of EBL which is only 2.48%. The standard deviation of return for the study period is 0.23 and 0.29 for NIBL and EBL respectively. This signifies that the ratio fluctuates more in EBL than in NIBL. This shows that in terms of Return on Loans and Advances, NIBL is in better position than EBL. Lower coefficient of variation in NIBL than that of EBL also signifies the better position of NIBL.

4.1.1.7 Security-Wise Lending of NIBL and EBL

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

Table 4.7 Security-Wise Lending of NIBL and EBL (2066/67)

(Rs in Millions)

S. No.	Security against Lending	NIBL		EBL	
		Amount	Rank	Amount	Rank
1	Loan against Collateral of Movable/ Immovable Assets	36,897	1	27,189	1
2	Loan against Guarantee of Local Licensed Institutions	-	-	-	-
3	Loan against Guarantee of GON.	-	-	199	3
4	Loan Against Guarantee of Internationally Rated Banks	-	-	-	-
5	Loan Against export Documents	-	-	-	-
6	Loan Against Own FDR	184	3	738	2
7	Loan Against FDR of Other Licensed Institutions	-	-	-	-
8	Loan Against Government securities	3	5	8	5
9	Loan Against Counter Guarantees	-	-	-	-
10	Loan Against Personal Guarantee	21	4	3	6
11	Loan Against Other Securities	3,844	2	21	4
12	Loan without collateral	-	-	-	-
	Total	**40,949**		**28,158**	

Source: Annual Report (Annexure IV)

It is demonstrated in the table 4.7 that NIBL has extended credit against the 5 securities only in 2066/67 and EBL has extended credit against 6 securities. Both Banks has also granted the highest amount of loan against the movable/non movable Assets. NIBL have extended Rs. 36897 million against this collateral and EBL have extended Rs. 27189 million. Likewise, Loan

against other securities ranked 2 in NIBL and Loan against security of own Fixed Deposit receipt ranked 2 in EBL. EBL has extended loan against guarantee of Government as well but NIBL has no any. Both the banks not extended any credit against guarantee of local licensed institutions, guarantee of internationally rated bank, FDR of other licensed institutions, export documents and counter guarantee. Both the banks have extended loan against personal guarantee which is not a good part of lending. However, the grant against personal guarantee is nominal. Moreover, both banks have not extended any loan without collateral which is very risky.

4.1.1.8 Sector-wise Loan to Core Capital

This is the ratio between loan extended by bank in a sector and core capital. Core capital includes share capital, retained earnings, general reserve, capital adjustment fund, non-redeemable preferred stock etc. The higher the ratio a bank has, the higher will be the risk to the bank and vice versa. According to NRB directive no 3 of Unified Directive 2067, the loan exposure on single sector more than 50% of core capital needs to verify at least quarterly as there exists the concentration risk. Similarly, single sector loan concentration more 100% of core capital needs to be monitored regularly and approved by the board of directors. The core capital of NIBL and EBL is Rs.4,554 million and Rs. 2,537 million respectively in fiscal year 2066/67.

Table 4.8: Sector-wise Loan to Core Capital of NIBL and EBL in F/Y 2066/67

Rs. in Million

S.N.	Sectors	NIBL		EBL	
		Loan Amt.	Ratio	Loan Amt.	Ratio
1	Agriculture	253.60	5.57%	204.40	8.06%
2	Fisheries	-	0.00%	-	0.00%
3	Mines	3.00	0.07%	0.20	0.01%
4	Manufacturing	12,046.30	264.52%	4,033.00	158.97%
5	Construction	1,699.30	37.31%	3,041.70	119.89%
6	Electricity, Gas & water	347.70	7.64%	331.30	13.06%
7	Metal productions, Machinery & Electrical Tools & Fitting	486.70	10.69%	386.50	15.23%
8	Transportation, Storage and Communications	1,200.60	26.36%	2,891.10	113.96%
9	Wholesaler & Retailer	5,272.90	115.79%	10,570.80	416.67%
10	Finance, Insurance & Fixed Assets	6,219.40	136.57%	1,770.90	69.80%
11	Hotel & restaurants	2,522.70	55.40%	369.60	14.57%
12	Other Services	2,220.80	48.77%	684.70	26.99%
13	Consumable Loan	1,327.80	29.16%	1,140.80	44.97%
14	Local Government	-	0.00%	-	0.00%
15	Others	7,347.50	161.34%	2,731.30	107.66%
	Total	**40,948.30**		**28,156.30**	

Source: NRB, Banking & Financial Statistics 2010 (Annexure III & IV)

Table 4.8 illustrates that the percentage of loan on single sector to core capital of NIBL and EBL in fiscal year 2066/67. Above table depicts that the ratio of NIBL has crossed 50% in 5 sectors and EBL in 6 sectors. Out of which, the ratio of NIBL has crossed 100% in 4 sectors and EBL in 5 sectors. The above table indicates both Banks have higher concentration risk. NIBL has higher ratio in manufacturing sector whereas EBL has in Wholesaler and Retailer which is 264.52% and 416.65% respectively.

4.1.1.9 Credit Concentration on Sector

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

Table 4.9: Credit Concentration of NIBL and EBL in F/Y 2066/67

(Rs. in Millions)

S.N.	Sectors	NIBL		EBL	
		Amount	Ratio	Amount	Ratio
1	Agriculture	253.60	0.62	204.40	0.73
2	Fisheries	-	-	-	-
3	Mines	3.00	0.01	0.20	0.00
4	Manufacturing	12,046.30	29.42	4,033.00	14.32
5	Construction	1,699.30	4.15	3,041.70	10.80
6	Electricity, Gas & water	347.70	0.85	331.30	1.18
7	Metal productions, Machinery & Electrical Tools & Fitting	486.70	1.19	386.50	1.37
8	Transportation, Storage and Communications	1,200.60	2.93	2,891.10	10.27
9	Wholesaler & Retailer	5,272.90	12.88	10,570.80	37.54
10	Finance, Insurance & Fixed Assets	6,219.40	15.19	1,770.90	6.29
11	Hotel & restaurants	2,522.70	6.16	369.60	1.31
12	Other Services	2,220.80	5.42	684.70	2.43
13	Consumable Loan	1,327.80	3.24	1,140.80	4.05
14	Local Government	-	-	-	-
15	Others	7,347.50	17.94	2,731.30	9.70
	Total	**40,948.30**	**100.00**	**28,156.30**	**100.00**

Source: NRB, Banking & Financial Statistics 2010 (Annexure III)

From the table 4.9 it is found that NIBL has invested highest 29.42% of its total loan in Manufacturing sector while EBL has invested highest of 37.54% of its total loan in Wholesale and Retail sector. EBL has invested only 14.32% in manufacturing sector. Both banks have not invested any loan in local

government sector & fisheries while both banks have least percentage of loans extended in agriculture, Machinery and mine sector. Both the banks do not have excessive concentration on any single sector. However, the diversification among various sectors is low.

4.1.2 Comparative Analysis of 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:

4.1.2.1 Comparative Analysis of Liquidity Risk

Liquidity refers to the ability to convert an asset to cash quickly, also known as “marketability”. Liquidity risk can best be described as the risk of a funding crisis. While some would include the need to plan for growth and unexpected expansion of credit, the risk here is seen more correctly as the potential for a funding crisis. Such a situation would inevitably be associated with an unexpected event, such as a large charge off, loss of confidence, or a crisis of national proportion such as a currency crisis. The key tools for analyzing the liquidity risk are:

4.1.2.1.1 Gap Analysis (for Liquidity Risk)

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

Table 4.10: Gap Analysis of Asset & Liabilities of NIBL and EBL

Rs. in millions

Fiscal Year	1 to 90 Days		91-180 Days		181-270 Days		271-365 Days		More than 1 year	
	NIBL	EBL	NIBL	EBL	NIBL	EBL	NIBL	EBL	NIBL	EBL
2062/63	4,531	2,640	3,017	784	462	1,064	2,522	2,127	(8,560)	(4,780)
2063/64	4,190	1,777	3,659	1,933	1,679	1,179	2,856	1,973	(10,276)	(3,910)
2064/65	(10,174)	9,921	4,239	377	3,307	1,275	3,068	1,835	2,770	(10,788)
2065/66	(8,502)	6,200	4,598	1,180	5,279	2,290	271	5,467	3,379	(12,506)
2066/67	1,583	10,703	2,204	1,132	934	539	(563)	441	1,062	(9,484)
Mean	**(1,675)**	**6,248**	**3,543**	**1,081**	**2,332**	**1,269**	**1,631**	**2,368**	**(2,325)**	**(8,293)**

The bracketed figures indicate negative figures.

Source: Annual Reports (Annexure V and VII)

The table 4.10 illustrates the net asset/liabilities for different time interval of NIBL and EBL. The positive figure indicates that the asset is more than that of liabilities on the contrary the negative figure indicates that the liabilities are more than that of asset for each interval. From above, it is clear that the NIBL and EBL both have positive average net position in almost short term intervals in five years period. NIBL has negative net position in two fiscal years 2064/65 & 2065/66 in 1-90 days time bucket. NIBL have negative net position in two fiscal years 2062/63 & 2063/64 in more than 1 year time bucket. But, EBL have negative net position in all the years of the study period in more than 1 year time bucket, which indicates that EBL have long-term liabilities such as deposits and other liabilities higher than long term asset such as loan and advances, fixed assets etc. Such situation is also called maturity mismatch. Contrary to this NIBL has positive net position in all the time period except in 271-365 days period in FY 2066/67 which has improved from negative position earlier. This shows that NIBL is managing the net position properly

The average net position of NIBL is -1,675, 3,543, 2,332 , 1,631& - 2,325 million in time buckets 1-90 days, 91 – 181 days, 182 – 270 days, 271 – 365 days and more than 1 year respectively. Likewise the mean net position of EBL is 6,248, 1,081, 1,269, 2,368 and -8,293 million in time bucket 1-90 days, 91 – 181 days, 182 –270 days, 271 – 365 days and more than 1 year respectively. This means, both banks are managing short term as well as long term liquidity properly. The figure shows that in average both banks are in short position in the time bucket more than one year.

4.1.2.1.2 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:

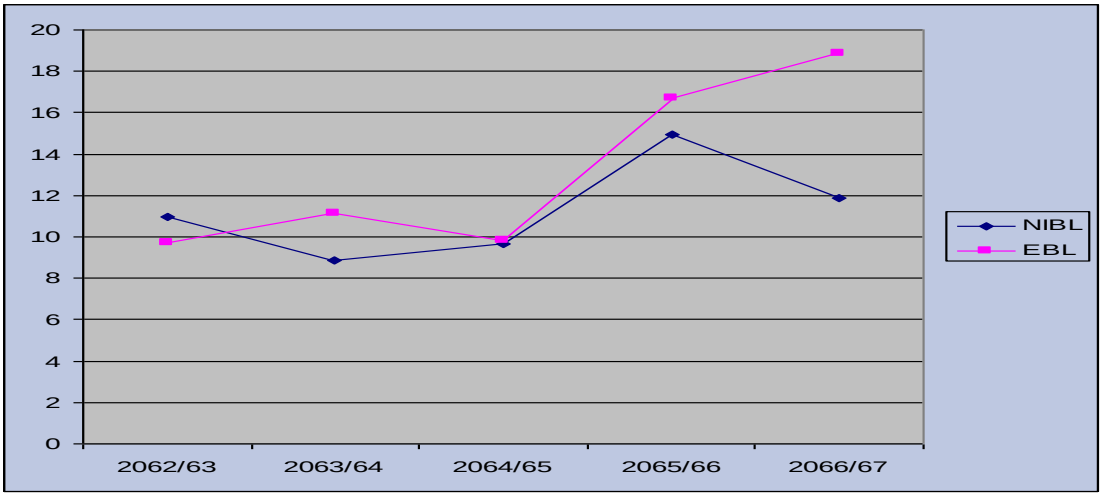
Table 4.11: Cash and Bank Balance to Total Asset Ratio

Rs. in millions

	NIBL			EBL		
Fiscal Year	**Cash & Bank Balance**	**Total Assets**	**Ratio**	**Cash & Bank Balance**	**Total Assets**	**Ratio**
2062/63	2,337	21,330	10.95	1,553	15,959	9.73
2063/64	2,442	27,591	8.85	2,391	21,433	11.16
2064/65	3,755	38,873	9.66	2,668	27,149	9.83
2065/66	7,918	53,011	14.94	6,164	36,917	16.70
2066/67	6,816	57,305	11.89	7,819	41,383	18.89
Total			**56.29**			**66.31**
Mean			11.26			13.26
S.D			2.12			3.80
C.V%			18.83			28.66

Source: Annual Reports (Annexure I & II)

Figure 4.7: Cash and Bank Balance to Total Asset Ratio



The table 4.11 and figure 4.7 show that the cash and bank balance to total asset ratio of NIBL and EBL for 5 years. The ratio of NIBL is the highest in fiscal year 2065/66, i.e. 14.94% and lowest of 8.85% in the fiscal year 2063/64. On the other hand, the ratio of EBL is the highest of 18.89% in the fiscal year 2066/67 and lowest of 9.73% in the fiscal year 2062/63. The ratio of both banks is fluctuating. The average ratio of NIBL is 11.26% and that of EBL is 13.26%. This shows that in average EBL have more liquid funds in its Balance sheet than that of NIBL. This means the EBL is in more liquid position than NIBL, which also indicates the lower level of liquidity risk. The standard deviation of ratio of NIBL and EBL is 2.12 and 3.80 respectively. This means that the fluctuation rate of cash and bank balance is lower in NIBL than in EBL. This indicates that the NIBL has less variation in cash and bank balance out of total asset. This also indicates that NIBL is utilizing more Cash in earning assets than that of EBL.

4.1.2.1.3 Cash Reserve Ratio (CRR)

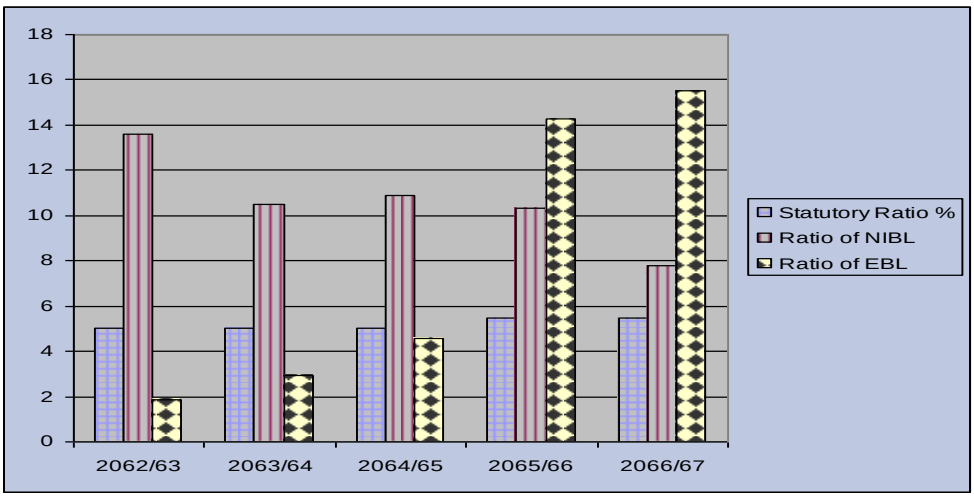
Cash Reserve Ratio refers to the portion of total local currency deposit except margin deposit that the commercial banks should maintain in NRB. The LCY deposit of two week ago is considered for CRR calculation. It is a statutory reserve that the bank should have to maintain in NRB current account. Higher CRR ratio means higher amount of bank fund is tied up in NRB, which means lower investment etc. because it is non interest earning bank balance. After Fiscal year 2065/66, It is made mandatory to maintain CRR of 5.5% which was only 5% earlier.

Table 4.12: Cash Reserve Ratio of NIBL and EBL

Fiscal Year	Statutory Ratio	NIBL		EBL	
		Ratio	Excess/ (Short)	Ratio	Excess/ (Short)
2062/63	5.00	13.61	8.61	1.88	-3.12
2063/64	5.00	10.47	5.47	2.94	-2.06
2064/65	5.00	10.91	5.91	4.56	-0.44
2065/66	5.50	10.32	4.82	14.26	8.76
2066/67	5.50	7.77	2.27	15.53	10.03
Total		**53.08**		**39.17**	
Mean		10.62		7.83	
S.D		2.13		5.84	
C.V%		20.06		74.59	

Source: Annual Reports (Annexure VII)

Figure 4.8: Cash Reserve Ratio of NIBL and EBL



The table 4.12 and figure 4.8 illustrate the cash reserve ratio of NIBL and EBL from fiscal year 2062/63 to 2066/67. 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. From above table and graph, it is clear that NIBL has maintained the statutory requirement in all the fiscal years of the study period. But, EBL has not maintained the same in the first three fiscal years. The average CRR of NIBL is 10.62% and Standard deviation is 2.13 whereas the average of EBL is 7.83% only and its standard deviation is 5.84. This shows that NIBL has meet the CRR required as per the NRB guidelines and EBL was unable to meet the required CRR in FY 2062/63, 2063/64 and 2064/65. Further, this means NIBL has more liquid funds than EBL. 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.

4.1.2.2 Comparative Analysis of Interest rate Risk

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

4.1.2.2.1 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:

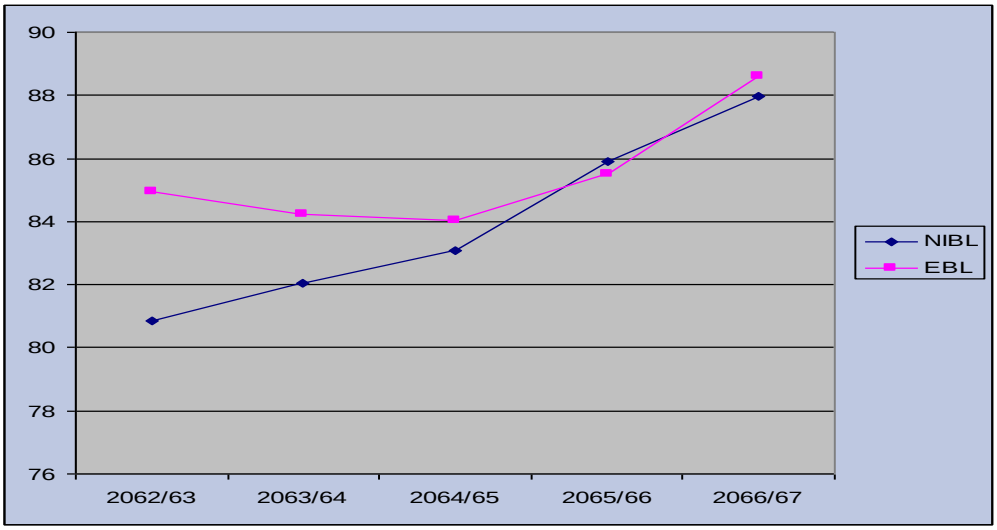
Table: 4.13: Interest Income to Total Income

Amount in millions

	NIBL			EBL		
Fiscal Year	**Interest Income**	**Total Income**	**Ratio**	**Interest Income**	**Total Income**	**Ratio**
2062/63	1,173	1,450	80.86	903	1,064	84.94
2063/64	1,585	1,932	82.06	1,144	1,358	84.24
2064/65	2,194	2,642	83.06	1,549	1,843	84.05
2065/66	3,268	3,804	85.92	2,187	2,558	85.49
2066/67	4,654	5,289	87.99	3,102	3,501	88.62
Total			**419.88**			**427.35**
Mean			83.98			85.47
S.D			2.61			1.66
C.V%			3.11			1.94

Source: Annual Reports (Annexure I & II)

Figure 4.9: Interest Income to Total Income



The table 4.13 and figure 4.9 illustrate the interest income to total income of NIBL and EBL. The interest income to total income ratio of both banks is fluctuating. Comparatively the ratio of EBL seems to be on the higher side. The average ratio of NIBL is only 83.98% whereas EBL has the average ratio of 85.47%. The figure shows that the EBL rely more on Interest income than on fees and commission based income. The figure shows that both bank rely more on interest based income. More than four fifth of the total income is earned from Interest based income. This shows the sign of high interest based risk for both banks. Both banks need to have diversification on investment. The standard deviation of ratio of NIBL and EBL is 2.61% and 1.66% with coefficient of variation of 3.11% and 1.94% respectively. This shows that NIBL has higher deviation of ratios than EBL.

4.1.2.2.2 Interest Risk Analysis According to NRB Directive No. 5

According to NRB directive no. 5, the interest rate risk is measured by calculating net asset/liabilities of the bank within the different time interval. While calculating the net position, cash and bank balance and non-interest bearing liabilities is excluded. The cumulative gap is calculated of each interval and the certain percent changes in interest rate (normally 1) has to multiply the cumulative gap to identify the net profit/loss position of bank due to interest rate changes. The interest rate risk of both banks for fiscal year 2066/67 has been calculated as below:

Table 4.14: Interest Rate Risk Analysis of NIBL for F/Y 2066/67

(In Millions)

Assets	Time Bucket					
	1-90 days	**91-180 days**	**181-270 days**	**271-365 days**	**more than 1 year**	**Total Amount**
Investment in Foreign Bank	2,160	894	238	335	373	4,000
Government of Nepal bonds	-	1,386	626	1,900	-	3,912
NRB Treasury bonds	-	-	-	-	290	290
Investment	-	-	-	-	67	67
Inter Bank Lending	370	-	-	-	-	370
Loans & Advances	15,108	7,626	5,530	3,522	9,462	41,248
Total Assets	**17,638**	**9,906**	**6,395**	**5,757**	**10,191**	**49,887**
Liabilities						
Inter-bank borrowing	37	-	-	-	-	37
Saving deposit	4,297	1,432	2,149	1,432	5,013	14,324
Fixed/ Call deposit	17,095	5,189	2,592	4,407	1,684	30,965
Debentures	-	300	-	-	750	1,050
Total Liabilities	**21,429**	**6,921**	**4,740**	**5,839**	**7,447**	**46,377**
Net Financial assets	(3,791)	2,985	1,654	(82)	2,744	3,511
Cumulative Gap	(3,791)	(806)	848	766	3,511	
Net Profit/ Loss (Cumulative Gap X IRC)	(9.48)	(2.02)	2.12	1.92	8.78	1.32

Source: Annual Reports(Annexure V)

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

The table 4.14 illustrates the net profit/loss position of asset and liabilities of each time interval of bank for the changes in interest rate. It is shown in the above table that the NIBL has negative gap in 1-90 days bucket and 271-365 days bucket. This shows that the bank has higher liabilities than asset in short term period and higher assets in long term period. The cumulative gap for total time interval is Rs.3,511 million and the overall profit of the bank is Rs.1.32 million if the interest rate changes by 1% in year i.e. divided into five periods (i.e. .25% in each period).

Table 4.15: Interest Rate Risk Analysis of EBL for Fiscal Year 2066/67

Assets	Time Bucket					
	1-90 days	91-180 days	181-270 days	271-365 days	more than 1 year	Total Amount
Investment in Foreign Bank	-	187	224	142	-	554
Government of Nepal bonds	297	686	699	1,064	-	2,745
NRB Treasury bonds	-	-	-	-	1,694	1,694
Loans & Advances	16,664	2,945	2,171	2,154	4,222	28,156
Total Assets	**16,961**	**3,818**	**3,095**	**3,360**	**5,916**	**33,149**
Liabilities						
Interbank borrowing	-	405	-	-	-	405
Saving deposit	1,336	-	-	-	12,024	13,360
Fixed/ Call deposit	1,723	2,281	2,556	2,919	1,131	10,610
Debentures	-	-	-	-	300	300
Total Liabilities	**3,059**	**2,686**	**2,556**	**2,919**	**13,455**	**24,675**
Net Financial assets	13,902	1,132	539	441	(7,539)	8,474
Cumulative Gap	13,902	15,034	15,573	16,014	8,474	
Net Profit/ Loss (Cumulative Gap X IRC)	34.75	37.58	38.93	40.03	21.19	172.49

Source: Annual Reports (Annexure VI)

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

Table 4.15 shows the net profit/loss position for each interval asset and liabilities of bank from changes in interest rate. The above table shows that EBL has negative gap in more than 1 year time bucket. This shows that the bank has higher liabilities than asset in long term period. The cumulative gap for total period is Rs. 8,474 million and the bank would earn overall profit of Rs. 172.49 million if the interest rate changes by 1% in year, which consists of five periods. (i.e 0.25% in each period).

4.1.2.2.3 Interest Rate Spread

The interest rate spread refers to the difference between weighted average interest on loan and advances, Investment & Money at call and the weighted average interest on deposit, borrowings, debentures etc. This interest rate spread also measures the profitability position of a bank. The higher spread does a bank have, the higher will be the profitability position of the bank because the bank has to pay less interest on deposits and borrowing and will receive higher interest on loan/advances and investments. The interest rate spread of two banks is presented as below:

Table 4.16: Interest Rate Spread of NIBL and EBL for 5 years

	NIBL			EBL		
Fiscal Year	**Yield**	**Cost**	**Spread**	**Yield**	**Cost**	**Spread**
2062/63	6.42%	2.52%	3.90%	6.84%	2.85%	3.99%
2063/64	6.70%	2.71%	3.99%	6.61%	2.70%	3.91%
2064/65	6.79%	2.79%	4.00%	6.95%	2.61%	4.34%
2065/66	7.47%	3.53%	3.94%	7.38%	2.98%	4.40%
2066/67	9.35%	4.99%	4.36%	8.96%	4.18%	4.78%
Mean			**4.04%**			**4.28%**

Source: Annual Reports (Annexure VII)

Figure 4.10: Interest Rate Spread of NIBL and EBL for 5 years

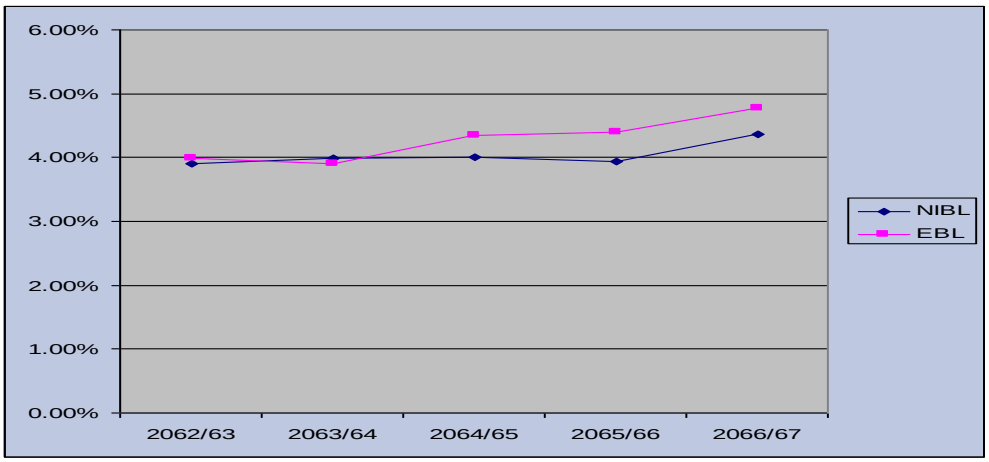


Table 4.16 & figure 4.10 illustrate the interest rate spread of two commercial banks. The interest rate spread of both NIBL & EBL is fluctuating. NIBL has highest yield of 9.35% in FY 2066/67 and cost of 4.99% on deposit in the same fiscal year. EBL has highest yield of 8.96 in the fiscal year 2066/67 and highest interest cost of 4.78% in the same fiscal year. Both highest yield & cost of NIBL are higher than that of EBL. The mean spread of EBL is higher than that of NIBL. This interest rate spread indicates that EBL has higher net interest income than NIBL, which means higher profit. However, both banks have interest rate spread less than 5%.

4.1.3 Banking Risk and Capital Adequacy Measures

Capital Adequacy Ratio (CAR) is one of the major tools of minimizing the overall risk of a bank. In other words, it is the cushion to cover the loss suffered by the bank. The higher the CAR of a bank, the safer the bank will be. It is because in case of losses, the capital will be used to cover those losses. So it is the great safeguard measures for the bank, depositors and investors. For the management of default risk of bank, NRB has prescribed capital adequacy ratio for primary capital and total capital fund. All the commercial banks need to maintain the required ratio i.e. 10%. If the bank fails to maintain the required ratio, bank is not allowed to increase its asset, disburse loans, collect deposits and distribute dividend.

4.1.3.1 Total Risk Weighted Exposures (RWE)

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

- Risk Weighted Exposure for Credit Risk
- Risk Weighted Exposure for Operational Risk
- Risk Weighted Exposure for Market Risk

RWE for credit risk refers to the capital charge (from 0% to 150%) on the different claims and off balance sheet items on the basis of level of risk.

RWE for operational risk refers to capital charge for operational risk equal to the average over the previous three years of a fixed percentage of positive annual gross income.

RWE for market risks refers to a fixed proportion capital charge on the bank's net position. The banks should allocate 5 percentages of their net open positions as capital charge for market risk.

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

The portion of RWE for credit risk, market risk & operational risk in total RWE of NIBL & EBL for FY 2066/67 are as below:

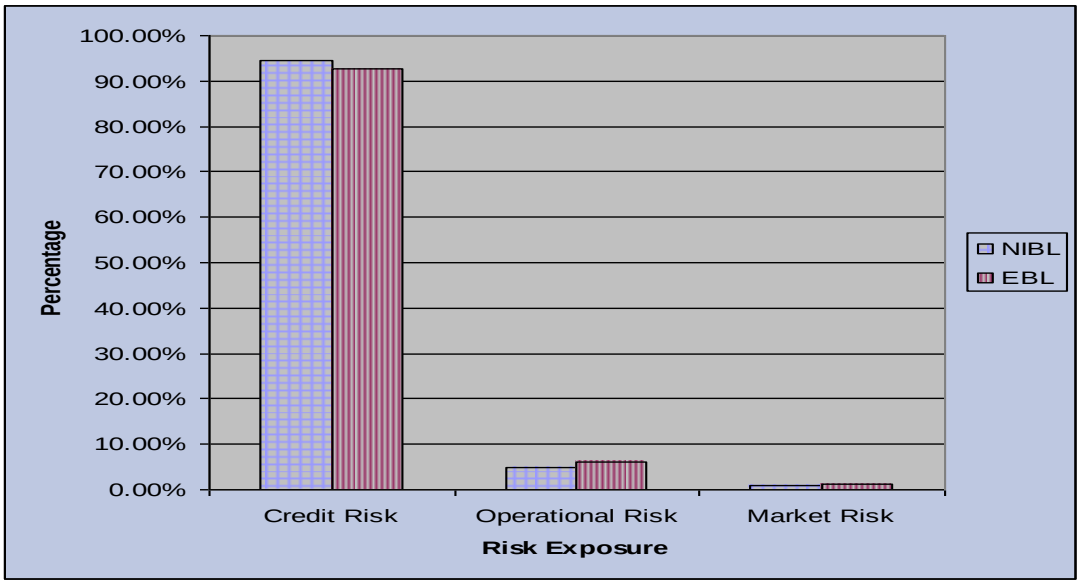
Table 4.17: Types of RWE

Rs. in millions

RWE	NIBL	Ratio of NIBL	EBL	Ratio of EBL
Credit Risk	50,042	94.38	27,500	92.76
Operational Risk	2,517	4.75	1,804	6.09
Market Risk	465	0.88	343	1.16
Total RWE	**53,024**	**100.00**	**29,647**	**100.00**

Source: Annual Reports (Annexure III)

Figure 4.11: Types of RWE



The table 4.17 & figure 4.11 illustrate the segregation of total RWE for credit risk, operational risk & market risk. From the above table & graph, it is clear that both banks have charged capital about 90% for credit risk, which means both banks have excessive credit risk than operational & market risk. So, the banks should have methodologies that enable them to assess the credit risk involved in exposures to individual borrowers or counterparties as well as at the portfolio level. The credit review assessment of capital adequacy, at a minimum, should cover risk rating systems, portfolio analysis/aggregation, large exposures and risk concentrations.

4.1.3.2 Core Capital to Total Risk Weighted Exposures (RWE)

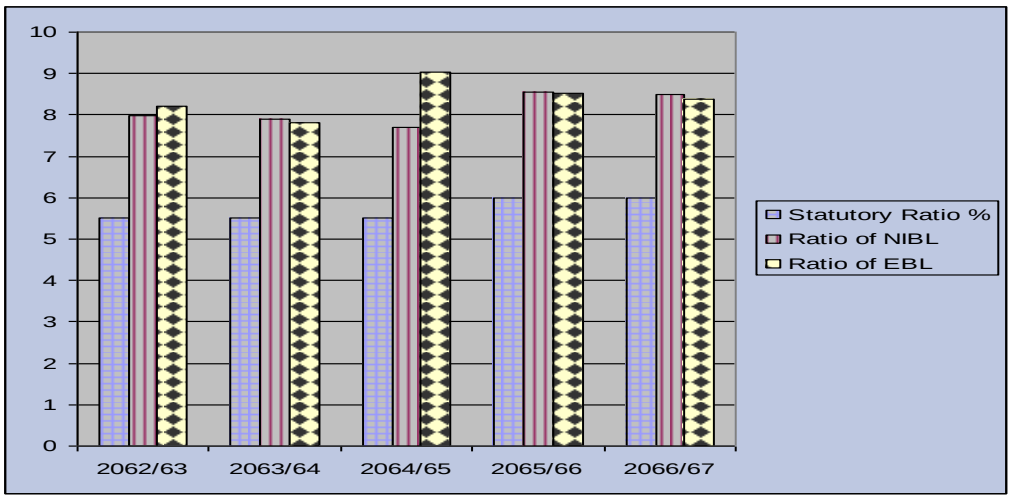
Core Capital to Total Risk Weighted Exposures (RWE) ratio measures the proportion of funding of Total Risk Weighted Exposures from the core capital. Core Capital, on the other hand, refers to the shareholders equity, which includes Share Capital, Retained Earnings, General Reserve, Net profit & Non redeemable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

Table 4.18: Core Capital to Total Risk Weighted Exposures Ratio

Fiscal Year	Statutory Ratio %	Ratio of NIBL	Excess/ Shortfall	Ratio of EBL	Excess/ Shortfall
2062/63	5.50	7.97	2.47	8.21	2.71
2063/64	5.50	7.90	2.40	7.82	2.32
2064/65	5.50	7.71	2.21	9.04	3.54
2065/66	6.00	8.56	2.56	8.52	2.52
2066/67	6.00	8.50	2.50	8.39	2.39
Total		**40.64**		**41.98**	
Mean		8.13		8.40	
S.D		0.34		0.40	
C.V%		23.93		21.04	

Source: Annual Reports (Annexure VII)

Figure 4.12: Graph of Core Capital to Total RWE



The table 4.18 & figure 4.12 illustrate the ratio of core capital to total risk-weighted Exposures of NIBL and EBL for 5 years. Both banks have maintained secure level of ratio. The average core capital to RWE ratio of NIBL is 8.13% and of EBL is 8.40%. This indicates that both banks have employed higher capital to finance the risk-weighted asset. The higher capital ratio does a bank maintain, the higher amount of asset can be increased by the bank and vice versa, which also means higher income and profit.

4.1.3.3 Supplementary Capital to Total Risk Weighted Exposures

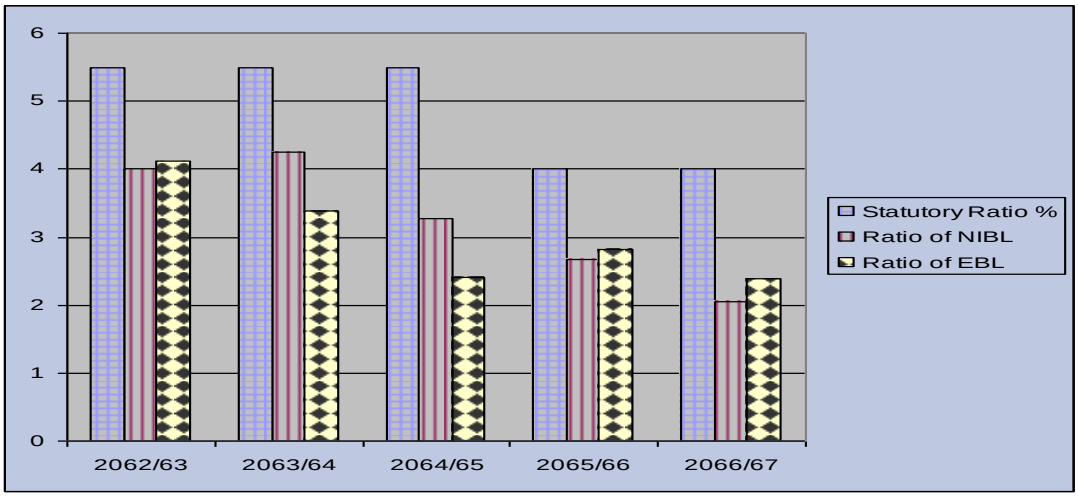
This ratio measures how much supplementary Capital does a bank has to finance the total RWE. Supplementary Capital refers to the reserve maintained by the bank for specific purpose such as loan loss, foreign exchange loss etc. It includes General Loan Loss Provision, Asset Revaluation Reserve, and Foreign Exchange Reserve etc. The higher ratio does a bank maintain, the higher will be the capital cushion for a bank to cover the risk and vice versa. However, Supplementary capital is not mandatory to be maintained. Banks are allowed to maintain mandatory capital adequacy of 11% (as of now) based on summation of both the capitals i.e. core capital and supplementary capital. So, most of the banks maintain sufficient core capital. Supplementary capital is seen on the lower side in most cases.

Table 4.19: Supplementary Capital to Total Risk Weighted Exposures Ratio

Fiscal	Statutory Ratio %	Ratio of NIBL	Excess/ Shortfall	Ratio of EBL	Excess/ Shortfall
2062/63	5.50	4.01	(1.49)	4.11	(1.39)
2063/64	5.50	4.26	(1.24)	3.38	(2.12)
2064/65	5.50	3.27	(2.23)	2.40	(3.10)
2065/66	4.00	2.68	(1.32)	2.82	(1.18)
2066/67	4.00	2.05	(1.95)	2.38	(1.62)
Total		**16.27**		**15.09**	
Mean		3.25		3.02	
S.D		0.82		0.66	
C.V%		3.97		4.60	

Source: Annual Reports (Annexure VII)

Figure: 4.13 Graph Showing Supplementary Capital of EBL and NIBL.



The table 4-19 and figure 4-13 shows the Supplementary Capital to Total Risk Weighted Exposures ratio of NIBL and EBL for 5 years. Both banks have very low percentage of supplementary capital to finance the total RWE. The average ratio of NIBL and EBL for 5 years is 3.25% and 3.02% respectively. This indicates that NIBL has higher amount of Supplementary capital than EBL. The higher amount of supplementary indicates that NIBL has maintained higher amount of reserve to combat the specific risk such as loan loss, asset revaluation loss and foreign exchange loss etc. The Standard deviation of the ratio of NIBL and EBL is 0.82% and 0.66% respectively. Likewise, the coefficient of variation of NIBL and EBL is 3.97% and 4.60% respectively. The S.D and C.V indicate that the ratios of NIBL fluctuate more than that of EBL, which depicts the less consistency in part of NIBL.

4.1.3.4 Capital Fund to Total Risk Weighted Exposures (RWE)

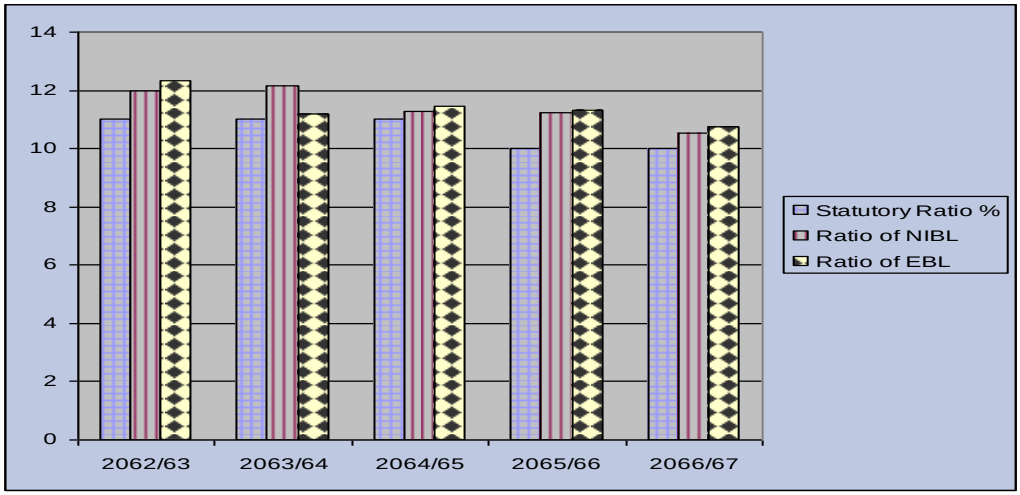
Capital fund to total RWE ratio measures how much RWE is financed from the Capital Fund. Capital Fund includes Core Capital plus Supplementary Capital. The higher the ratio does a bank have, the better is the bank's financial position and the bank will be in less risky position and can increase its asset,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

Table 4.20: Total Capital Fund to Risk Weighted Exposures Ratio

Fiscal	Statutory Ratio %	Ratio of NIBL	Excess/ Shortfall	Ratio of EBL	Excess/ Shortfall
2062/63	11.00	11.97	0.97	12.32	1.32
2063/64	11.00	12.17	1.17	11.20	0.20
2064/65	11.00	11.28	0.28	11.44	0.44
2065/66	10.00	11.24	1.24	11.34	1.34
2066/67	10.00	10.55	0.55	10.77	0.77
Total		**57.21**		**57.07**	
Mean		11.44		11.41	
S.D		0.58		0.51	
C.V%		19.79		22.49	

Source: Annual Reports (Annexure VII)

Figure 4.14: Graph of Capital Fund to Total RWE



The table 4.20 & figure 4.14 demonstrate the total capital fund to Risk Weighted Exposures (RWE) of NIBL and EBL for 5 years. Both banks have maintained the capital adequacy ratio higher than the statutory requirement. The average ratio of NIBL and EBL is 11.44% and 11.41% respectively. This shows that NIBL is in better position than EBL. The ratios of both banks are in fluctuating trend. The standard deviation of both total capital fund to Risk Weighted Exposures of NIBL and EBL is 0.58 and 0.51 respectively. Similarly, the Coefficient of Variation (C.V) of both total capital fund to RWE of NIBL and EBL is 19.79% and 22.49% respectively. This shows that both the banks are maintaining sufficient cushion for the risk they are exposed to in the form of capital.

4.1.3.5 On Balance Sheet RWE to Total RWE

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

Table 4.21: On Balance Sheet RWE to Total RWE Ratio

Rs. in millions

	NIBL			EBL		
Fiscal Year	**On Balance Sheet RWE**	**Total RWE**	**Ratio**	**On Balance Sheet RWE**	**Total RWE**	**Ratio**
2062/63	14,282	17,492	81.65	10,459	11,273	92.78
2063/64	19,361	23,436	82.61	14,099	14,977	94.14
2064/65	29,382	34,485	85.20	19,472	21,040	92.55
2065/66	36,708	45,312	81.01	22,004	25,620	85.89
2066/67	43,476	53,554	81.18	25,088	30,240	82.96
Total			**411.66**			**448.32**
Mean			82.33			89.66
S.D			1.54			4.41
C.V%			1.87			4.92

Source: Annual Reports (Annexure IV)

The table 4.21 demonstrates the ratios of on balance sheet RWE to total RWE of NIBL and EBL for 5 years. Both banks have higher amount of on balance sheet asset in total RWE. However, the ratio of both banks has been fluctuating over the years. The average ratio of NIBL and EBL is 82.33% and 89.66% respectively. This indicates that EBL has more amount of on balance sheet RWE than NIBL, which means that NIBL has diversified its asset more than EBL and also NIBL will suffer less loss than EBL. The standard deviation of ratio of NIBL and EBL is 1.54% and 4.41% respectively. Likewise, the coefficient of variation of the ratio of NIBL and EBL is 1.87% and 4.92% respectively. This indicates that the ratio of EBL deviate more from the average than that of NIBL, which shows higher inconsistency and risk.

4.1.3.6 Off Balance Sheet RWE to Total RWE

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

Table 4.22: Off Balance Sheet RWE to Total RWE Ratio

Rs. in millions

	NIBL			EBL		
Fiscal Year	**Off Balance Sheet RWE**	**Total RWE**	**Ratio**	**Off Balance Sheet RWE**	**Total RWE**	**Ratio**
2062/63	3,210	17,492	18.35	814	11,273	7.22
2063/64	4,074	23,436	17.39	877	14,977	5.86
2064/65	5,102	34,485	14.80	1,568	21,040	7.45
2065/66	6,268	45,312	13.83	3,616	25,620	14.11
2066/67	6,566	53,554	12.26	5,153	30,240	17.04
Total			**76.62**			**51.68**
Mean			15.32			10.34
S.D			2.25			4.41
C.V%			14.68			42.67

Source: Annual Reports (Annexure IV)

The table 4.22 demonstrates the ratios of ff balance sheet RWE to total RWE of NIBL and EBL for 5 years. Both banks have lower amount of off balance sheet asset in total RWE. And the ratio of both banks has been fluctuating over the years. The average ratio of NIBL and EBL is 15.32% and 7.36% respectively. This indicates that NIBL has more amount of off balance sheet RWE than EBL, which means that NIBL has higher amount of Letter of Credit, Guarantee etc. This means than NIBL has diversified more on income generating business than EBL. The standard deviation of ratio of NIBL and EBL is 2.25% and 0.84% respectively. Likewise, the coefficient of variation of the ratio of NIBL and EBL is 14.68% and 11.46% respectively. This indicates that the ratio of NIBL deviate more from the average than that of EBL, which shows higher inconsistency and risk.

4.1.4 Analysis of Risk Management strategies in NIBL and EBL

As per the telephonic interview with the related staffs of NIBL and EBL, following strategies are followed to counter the various risks.

- To counter with the credit risk, both the banks have different credit approving and monitoring department. Credit proposals forwarded by a branch is minutely accessed by the higher authorities before approval. The highest authority for approving the facilities is Board of Directors. In both the banks, monitoring of the credit customers is done by the initiating branch itself. Both the banks have Credit policy and Procedures Guide (CPPG) to guide concerned staffs. NIBL has Credit Quality control (CQC) unit as well to monitor the quality of credit, both at the account level and portfolio level.
- 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. As per the NRB guidelines, Market risk arising due to movement in exchange rates is considered for calculating the risk weighted exposure due to market risk. In both the banks, Treasury department looks after the investment in Foreign Currency.
- To reduce the transaction risk that may arise due to the human error, both the banks have developed a similar strategy. Each entry in the system is revalidated by another staff having the power to do so before final posting. Level wise authority is given for data entry, update, modification, and validation process. Exceptional reports are generated at the end of each day and are examined thoroughly. Moreover, each and every vouchers are physically verified with the ledged posted before the start of the next day so as to minimize the human errors.
- Cash short or over occurs mainly due to human error of the banks staff. Cash excess or short is a regular incident in banking industry. In both the banks Cash short is recovered from the concerned staff and excess cash is booked and is settled if any customer claims with evidence. If the excess amount is not claimed, whole amount is transferred to the income of the Bank at the end of the Fiscal year.

- Document risk, which is associated with human error of banks' staff as well as the intention of the client. When interviewed to employees of both banks, it is found that banks take extra precaution to cope with 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.
- Settlement risk occurs due to unsettlement of transaction within branches of a bank or interbank transaction. As per the information collected from the related staffs of both the banks via interview, There is least problem in inter branch transaction in both the Banks because of the computerized system (i.e. Any Branch Banking Services). Both the banks have a reconciliation department, concerned with the reconciliation of inter branch and inter bank transactions.
- To counter with the money laundering, both the banks have their own anti money laundering policy which is in line with the international practices.
- 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. To safeguard the possible data loss resulting from the system failure of natural disaster both the banks have auto backup of the data after the day end of a particular day to safeguard the normal system failure. Further, they have disaster recovery system located out of country to safeguard the data loss due to natural disasters. 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.

4.2 Major Findings of the Study

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

- The average loans and advances to total asset of NIBL and EBL during the study period are 67.59 % and 66.58 % respectively. During the study period, the proportion of loan on total asset of both banks is fluctuating. From this, it can be said that both banks have been frequently adjusting the proportion of loan. Lower average loan and advances to total asset of EBL than that of NIBL (i.e. 66.58%< 67.59%) suggests that EBL management is more risk averse than NIBL. Further, higher deviation of ratio and variability of NIBL depicts that the ratio of NIBL is more fluctuating from average than EBL and carries higher risk.
- The average CD ratio of NIBL and EBL is 76.54 % and 75.82 % respectively during the study period. This implies that NIBL has utilized higher portion of deposit in the form of Loans and Advances than that of NIBL. Similarly, the deviation of the ratio of EBL is lower than NIBL, which indicates that CD ratio has lower variation from the average in case of EBL than that of NIBL.
- Analysis of non- performing loans to total loans revealed that average NPL of NIBL and EBL is 1.35% and 0.68 % respectively. Hence NIBL has higher percentage of non-performing loan than EBL, which means that NIBL has more credit risk than EBL in terms of the quantity of Non-performing loans its credit portfolio has. With higher amount of non- performing loan of NIBL, the impact of it will be on the net profit of the bank. Further, it also shows that EBL is managing Non-performing loans better than NIBL.
- Average ratio of Loan Loss Provision to Non-performing Loan of NIBL and EBL was found to be 191.20 % and 577.67 % respectively. Hence EBL has higher ratio than NIBL, which depicts that EBL has higher provision against the non- performing loan. This also indicates that in case of default, EBL can cover the loss amount without any problem, as there is sufficient amount of reserve for nonperforming loan. The average ratio deviates more in case of EBL than that of NIBL. The figures suggest that EBL is able to reduce the NPL in the later years. However, the comparative low ratio of NIBL also suggests that out of non-performing loan, the proportion of bad loans is lower than that of EBL. 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 NIBL and EBL is 2.17 % and 2.69 % respectively. The higher percent of LLP of NIBL indicates that the bank has higher amount of non-performing loan than EBL. Because of the higher amount of non-performing loan of NIBL in total, the provisioning amount is in higher side. This figure indicates that EBL is in better position than NIBL.
- The ratio of return on loans and advances shows that the average ratio for 5 years of NIBL & EBL is 2.71% & 2.48% respectively. This figure indicates that both banks have been able to earn good return from its loans and advances. Similarly the variation on return of EBL is higher than that of NIBL, which means that return on loan and advances of EBL is more fluctuating than NIBL.
- NIBL has extended Loan against 5 securities in FY 2066/67 whereas EBL has extended credit against 6 securities. Both Banks has also granted the highest amount of loan against the movable/non movable Assets. NIBL has extended Rs. 36,897 million against the collateral of movable/ Immovable Assets whereas EBL has extended Rs. 27,189 million. EBL has extended loan against guarantee of Government as well but NIBL has no any. Both the banks not extended any credit against guarantee of local licensed institutions, guarantee of internationally rated bank, FDR of other licensed institutions, export documents and counter guarantee. Both the banks have extended loan against personal guarantee which is not a good part of lending. However, the grant against personal guarantee is nominal. Moreover, both banks have not extended any loan without collateral which is very risky.
- The single sector loan to core capital shows that the ratio crossed 100% in 4 sectors of both the Banks. The ratio crossed 100% in Manufacturing, Wholesaler and retailer, Finance, Insurance & fixed assets and other sectors in NIBL and in Manufacturing, construction, Transportation, storage & Communications and Wholesaler and Retailer in EBL. NIBL has invested more in Manufacturing sector whereas EBL has invested more in Wholesale and retail sector. Investment in Fisheries and Local government by both the banks is nil during the study period.

- From the gap analysis of asset and liabilities of different time intervals, it has been found that over five years both banks have higher amount of liabilities than asset in long term time bucket (i.e. more than 1 year) in average. This higher portion of liabilities than asset in certain time bucket means the bank will be in risky position to offset the liabilities when they will be matured.
- Cash and Bank balance to total assets ratio shows the proportion of liquid asset in total assets portfolio. Higher the ratio; better the liquidity position of the bank (i.e. lower the liquidity risk) and vice versa. The average ratio for NIBL and EBL in 5 years is 11.26 % and 13.26 % respectively. This ratio indicates that EBL has kept more liquid asset in its asset portfolio than NIBL, which signifies the lower liquidity risk. On the contrary, the higher portion of cash and bank balance also portrays that EBL has kept more idle fund.
- The average CRR of NIBL and EBL in 5 years is 10.62 % and 7.83 % respectively. This shows that NIBL has maintained higher amount of liquidity in NRB than EBL. EBL has shortfall to statutory requirement by 3.12%, 2.06% & 0.44% in fiscal year 2062/63, 2063/64 & 2064/65 respectively, where as the NIBL has maintained the statutory requirement throughout the study period though it is fluctuating. The standard deviation of CRR of NIBL and EBL is 2.13 % and 5.84 % respectively, which indicates that EBL has more fluctuation in maintaining the CRR than NIBL. It is also associated with higher risk.
- The interest income to total income of NIBL and EBL stood very high. The average ratio for NIBL and EBL during the study period is 83.98% & 85.47% respectively. This means that the main source of income for both the banks is interest based investment. 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.
- Interest rate risk analysis, according to NRB directive no. 5, depicts cumulative net gap is 3,511 million for NIBL and 8,474 million for EBL in FY 2066/67. The higher gap means EBL has higher amount of assets than liabilities. Further, the overall profit of NIBL will have a impact of ±1.32 million if the interest rate change by 1%. The overall profit of EBL will have a impact of ±172.49 million if the rate change by 1%.

- Average interest rate spread of NIBL and EBL during the study period is 4.04 % and 4.28 % respectively. The higher amount of spread of EBL indicates that the net interest income (i.e. interest income less interest expenses) of EBL is more than NIBL.
- The average Core Capital to Total Risk Weighted Exposures of NIBL and EBL is 8.13 % and 8.40 % respectively. Both banks have maintained the higher percentage of core capital than the NRB statutory requirement. The average ratio indicates that EBL has higher proportion of Core Capital to finance the risk-weighted asset than NIBL. However, the standard deviation is higher in EBL than NIBL, which indicates that the ratio of EBL fluctuates more than that of NIBL.
- In both NIBL and EBL, the portion of supplementary capital is very low. The average supplementary capital to total RWE is 3.25% and 3.02% in NIBL and EBL respectively. This ratio indicates that both the banks have been fulfilling the Capital Adequacy Requirement more by core capital than supplementary capital. The average Capital Fund to Total Risk Weighted Exposures of NIBL and EBL is 11.44% and 11.41% respectively. The average ratio indicates that NIBL has higher proportion of Capital Fund to finance the risk-weighted asset than EBL. However, the standard deviation is higher in NIBL than EBL, which indicates that the ratio of NIBL fluctuates more than that of EBL.
- In regard to Risk Weighted Exposures, both NIBL and EBL has higher portion of on balance sheet asset than off balance sheet asset. The average portion of on balance sheet RWE to total RWE in NIBL and EBL is 82.33% and 89.66 % respectively. This shows that EBL has higher percentage of on balance sheet RWE than NIBL. The average portion of off balance sheet RWE to total RWE in NIBL and EBL is 15.32% and 7.36 % respectively. This shows that NIBL has higher percentage of off balance sheet RWE than EBL. In the first three fiscal years of the study period total risk weighted exposure was calculated merely on the basis of on balance sheet and off balance sheet exposures, i.e. credit risk was only taken into account. But, after the implementation of Bassel II from 2065 Shrawan 1, Operation risk, market risk was taken into account including Credit risk.

- 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 short and excess over the counter, document risk & settlement risk. According to the staff of both banks it has been found that cash short and excess is a regular phenomenon. 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.
- Money laundering is also one of the sources of risk for commercial banks. For combating the money laundering, both the banks have their own Know your Customer (KYC) policy. It includes proper identification of customers before making transaction. In both banks, Compliance Department is concerned with tracing all doubtful transactions and evaluating the compliance of KYC policy.
- Both Banks use *Finnacle* made by Infosys, one of the world famous software giant from India. To minimize the risk due to system failure, multiple layers of security have been applied to the bank's online banking system to ensure transaction secure. High precaution has been taken for data security. Both the banks have proper backup system in case of major break down of hardware and software. In both the banks, Internal Audit Department makes regular audit of each department of all branches to ascertain operational procedure of the department. It also verifies and monitors whether the department properly comply with the operational guidelines or not. This helps to reduce the operation risk associated with mistake made by employees or the likely fraud from employees.

- For minimizing the risks, both banks have their code of conduct, which guide all the operational aspect of organization. Both the banks have their own operation guidelines for all departments such as L.C., Credit, Remittance, Cash, and Card etc, which are changed as per the NRB guidelines and the changed scenario.
- To ensure the proper functioning of bank, the monitoring and controlling body of the bank frequently monitors all the jobs performed. The main body for monitoring & controlling the various department and branches is Internal Audit and Compliance Department. These departments continuously audit the functioning of various departments to ensure that organization is functioning professionally and in consistent with bank's internal policy as well as NRB policy. In both banks, internal audit department reports directly to the audit committee, which includes both the top level management and board of directors.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Economic development is not possible without the proper development of banking sector in a country, as banks are the real facilitator for mobilizing the resources. Banks are the institutions, which collect the scattered small savings from the public and invest them into productive sector that ultimately contributes to economic development of a country. Besides providing the services for economic development, they are established to earn profit.

The history of Nepalese banking industry goes back to 1937AD when Nepal Bank Limited was established. After the government initiated financial liberalization number of banks started to rise. After mid 1990s, the number of banks and financial institutions increased multifold. In 1983 and 1993 there were 2 and 8 commercial banks respectively; and by 2006 there were 18. Currently there are over 215 banks and financial institutions including 32 commercial banks and other development banks and financial institutions. With the growth rate of the banking industry, the risk on banking also made a mark simultaneously. Present challenges of the banking industry are to manage liquidity, to invest the money in productive as well as new sector, to manage the accumulated non performing loans.

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 32 commercial banks (Srawan 2069), 2 banks were taken as sample using judgmental sampling method. NIBL and EBL have been taken as sample for comparative study. The data collection from various sources are recorded systematically & presented. Appropriate statistical and financial

tools have been applied to analyze the data. The data of five consecutive years (FY 2062/63 to 2066/67) of the two banks have been analyzed to meet the objective of the study.

The basic objective of the study is to analyze different risks faced by commercial bank and management of risks by NIBL and EBL in reference to NRB guidelines. Under this, Financial statements of five consecutive years (FY 2062/63 to 2066/67) has been sorted, tabulated and interpreted using appropriate ratios. Various financial and statistical tools has been used. Tables and figures has been used as per their necessity. Since the study is based on the historical data, the research design is historical and of explanatory type.

The study has been organized into five chapters consisting of Introduction, Review of Literature, Research Methodology, Data Presentation & Analysis and Summary, Conclusion and Recommendation.

5.2 Conclusion

Risk management in today's deregulated market is a challenge. Nepalese government has started to liberalize the financial sector since 1980s to streamline the financial sector of the country. Prior to liberalization, there were 2 commercial banks, 1 central bank, and 2 development banks. After the adoption of financial sector liberalization policy, the financial sector widened with more banks and financial institutions. Commercial banking sectors have made a significant mark with the establishment of 32 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 32 commercial banks. Proper risk management is required to remain competitive in the market & achieve the goals.

Based on the analysis it is concluded that:

- The major risks faced by Commercial Banks include credit risk, market risk (i.e. liquidity risk, interest risk etc.), operation risk, Transaction risk, Money

Laundering, etc. Among these risks, credit risk has the major impact on banking (i.e. more than 60 %). Higher credit risk results in increase in Non Performing Loan (NPL) of bank. 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 market risk such as liquidity risk, interest rate risk etc. 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. 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.

  Gap analysis is the major tool for managing the liquidity risk. The top management analyzes the gap between asset and liabilities and makes decision to make adjustment for it. Treasury and finance department of these banks continuously manage the CRR in NRB to ensure that statutory requirement is met. EBL have not maintained CRR in the initial three years of the study period, which means EBL failed to comply with the regulatory requirement. Gap analysis 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.
- 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. Major portion of the credit exposure is extended in single sector in both the banks which may create problem in the long run. As the increase in total loan brings increase in NPL, proper adjustment is needed for managing the NPL. Further, huge dependency in interest earning assets may have impact on the earning of these banks in the long run. Similarly, asset liabilities mismatch is also the problem in both the banks, basically in EBL. Both banks are in riskier position in the asset and liabilities of longer maturity period.

- 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. Both the banks are fulfilling the capital adequacy requirement. Core Capital covers most of the capital adequacy requirement in both the banks.
- NRB is the regulator as well as the supervisor of the banking sector. NRB issues various circulars, directives regularly for the regulation of this sector and all such circulars and directives are mandatory for all the Banking institutions.

5.3 Recommendation

From the above analysis of the various risk management procedure of both NIBL and EBL, following recommendations are made to these banks in respect to different risk management:

- NIBL and EBL have higher amount of loan and advances in total asset. Both the banks are making good profit from the loans and advances. Huge portion of Loan and advances shows credit risk is high in both the banks and they are making profit from it as well. Credit risk management should be given top priority considering its portion in the total assets.
- Both the banks need to properly diversify its lending portfolio. The high amount of lending in manufacturing sectors by NIBL and in wholesale and retail by EBL is needed to be diversified into various sectors.
- Both the banks have extended the highest amount of loan against the movable and non-movable property. So both these banks need to diversify its lending against different securities.

- NPL of both banks is fluctuating trend whereas the Loans and Advances are in the increasing trend. NPL seems to be in control and within the cushion of the Loan loss provision made by both the banks. But, still proper management of Non Performing Loans should be in place in both banks. They need to be more careful while taking credit decision.
- Interest income has major portion in total income of both NIBL and EBL. As there is change in interest rate, it will have huge impact on total income. So both the banks need to increase their fees and commission based income.
- Both the banks need to adhere strictly to their anti money laundering policies.
- Both the banks are required to focus on their supplementary capital as the proportion of supplementary capital on total capital fund is very low. Both the banks need to increase their capital fund, which is possible mainly by issuing shares, debentures or preference share to increase the risk absorbing capacity.
- In total Risk Weighted Exposures of these banks, both banks have lesser amount of off balance sheet fee based income generating asset such as Letter of Credit, Guarantee etc. So both the banks need to increase the portion of off-balance sheet asset both to diversify the risk as well as return.
- Proper training should be given to staffs for minimizing operation risks such as training related to identifying fake notes to the Staffs of Cash department, identifying the original documents related to LC to the staffs of LC department etc.

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APPENDIX
Annexure I

Nepal Investment Bank Limited

Particulars	FY 2062/63	FY 2063/64	FY 2064/65	FY 2065/66	FY 2066/67
Loans & Advances (Gross) (In Millions)	13,178	17,769	27,529	36,827	40,948
Deposit (In Millions)	18,927	24,489	34,452	46,698	50,095
Non Performing Loan (In Millions)	272	422	309	214	254
Loan Loss Provision (In Millions)	402	483	533	586	630
Net Profit (In Millions)	351	501	697	901	1,266
Cash and Bank Balance (In Millions)	2,337	2,442	3,755	7,918	6,816
Interest Income (In Millions)	1,173	1,585	2,194	3,268	4,654
Total Income (In Millions)	1,461	2,000	2,750	3,868	5,349
Total Assets/ Liabilities (In Millions)	21,330	27,591	38,873	53,011	57,305
Paid Up Capital (In Millions)	591	801	1,204	2,407	2,409
Reserve & Surplus (In Millions)	825	1,077	1,483	1,501	2,176

Ratios

Loans & Advances to Total Asset	61.78%	64.40%	70.82%	69.47%	71.46%
Loans & Advances to Total Deposit	69.63%	72.56%	79.91%	78.86%	81.74%
NPL to Total Loans and Advances	2.07%	2.37%	1.12%	0.58%	0.62%
Loan Loss Provision to NPL	147.51%	114.39%	172.12%	273.93%	248.05%
Loan Loss Provision to Total Loans and Advances	3.05%	2.72%	1.93%	1.59%	1.54%
Return on Loans and Advances	1.85%	2.05%	2.02%	1.93%	2.53%
Cash & Bank Balance to Total Assets	10.95%	8.85%	9.66%	14.94%	11.89%

Annexure II

Everest Bank Limited

Particulars	FY 2062/63	FY 2063/64	FY 2064/65	FY 2065/66	FY 2066/67
Loans & Advances (Gross) (In Millions)	10,136	14,083	18,836	24,470	28,156
Deposit (In Millions)	13,802	18,186	23,976	33,323	36,932
Non Performing Loan (In Millions)	129	113	127	118	44
Loan Loss Provision (In Millions)	335	419	497	585	600
Net Profit (In Millions)	237	296	451	639	832
Cash and Bank Balance (In Millions)	1,553	2,391	2,668	6,164	7,819
Interest Income (In Millions)	903	1,144	1,549	2,187	3,102
Total Income (In Millions)	1,064	1,358	1,843	2,558	3,501
Total Assets/ Liabilities (In Millions)	15,959	21,433	27,149	36,917	41,383
Paid Up Capital (In Millions)	518	518	831	1,030	1,280
Reserve & Surplus (In Millions)	445	684	1,090	1,173	1,480

Ratios

Loans & Advances to Total Asset	63.51%	65.71%	69.38%	66.28%	68.04%
Loans & Advances to Total Deposit	73.44%	77.44%	78.56%	73.43%	76.24%
NPL to Total Loans and Advances	1.27%	0.80%	0.68%	0.48%	0.16%
Loan Loss Provision to NPL	259.17%	369.86%	390.66%	495.72%	1372.91%
Loan Loss Provision to Total Loans and Advances	3.30%	2.97%	2.64%	2.39%	2.13%
Return on Loans and Advances	1.72%	1.63%	1.88%	1.92%	2.25%
Cash & Bank Balance to Total Assets	9.73%	11.16%	9.83%	16.70%	18.89%
Interest Income to Total Income	84.94%	84.24%	84.05%	85.49%	88.62%

Annexure III

Risk Weighted Exposure of NIBL and EBL

Risk Weighted Exposure	NIBL	EBL
Credit Risk	50,041,481	27,499,899
Operational Risk	2,517,314	1,804,243
Market Risk	464,836	343,337
Total RWE	**53,023,630**	**29,647,479**

Sector Wise Loan in NIBL and EBL in FY 2066/67 (Rs. In Millions)

S.N.	Sectors	NIBL	EBL
		Loan Amount	Loan Amount
1	Agriculture	253.60	204.40
2	Fisheries	-	-
3	Mines	3.00	0.20
4	Manufacturing	12,046.30	4,033.00
5	Construction	1,699.30	3,041.70
6	Electricity, Gas & water	347.70	331.30
7	Metal productions, Machinery & Electrical Tools & Fitting	486.70	386.50
8	Transportation, Storage and Communications	1,200.60	2,891.10
9	Wholesaler & Retailer	5,272.90	10,570.80
10	Finance, Insurance & Fixed Assets	6,219.40	1,770.90
11	Hotel & restaurants	2,522.70	369.60
12	Other Services	2,220.80	684.70
13	Consumable Loan	1,327.80	1,140.80
14	Local Government	-	-
15	Others	7,347.50	2,731.30
	Total	**40,948.30**	**28,156.30**

Annexure IV

Security wise Lending in NIBL and EBL

S. No.	Security against Lending	NIBL-Loan	EBL-Loan
1	Loan against Collateral of Movable/Immovable Assets	36,897	27,189
2	Loan against Guarantee of Local Licensed Institutions	0	0
3	Loan against Guarantee of Government of Nepal	0	199
4	Loan Against Guarantee of Internationally Rated Banks	0	0
5	Loan Against export Documents	0	0
6	Loan Against Own Fixed Deposit Receipts	184	738
7	Loan Against FDR of Other Licensed Institution	0	0
8	Loan Against Government securities	3	8
9	Loan Against Counter Guarantees	0	0
10	Loan Against Personal Guarantee	21	3
11	Loan Against Other Securities	3,844	21
12	Loan without Collateral	0	0
	Total	**40,949**	**28,158**

On Balance Sheet and Off Balance Sheet Exposures of NIBL and EBL

FY	On Balance Sheet Exposure		Off Balance Sheet Exposure	
	NIBL	EBL	NIBL	EBL
2062/63	14,282	10,459	3,210	814
2063/64	19,361	14,099	4,074	877
2064/65	29,382	19,472	5,102	1,568
2065/66	36,708	22,004	6,268	3,616
2066/67	43,476	25,088	6,566	5,153

Core Capital / Supplementary Capital in FY 2067/68 (in thousands)

Details	NIBL	EBL
Core Capital	4,554,094	2,537,092
Supplementary Capital	1,096,951	720,049

Annexure V

Interest Sensitive Assets/ Liabilities of NIBL

Assets	**Time Bucket**					
	1-90 days	**91-180 days**	**181-270 days**	**271-365 days**	**more than 1 year**	**Amount**
Investment in Foreign Bank	2,160	894	238	335	373	4,000
Government of Nepal bonds	-	1,386	626	1,900	-	3,912
NRB Treasury bonds	-	-	-	-	290	290
Investment	-	-	-	-	67	67
Inter Bank Lending	370	-	-	-	-	370
Loans & Advances	15,108	7,626	5,530	3,522	9,462	41,248
Total Assets	**17,638**	**9,906**	**6,395**	**5,757**	**10,191**	**49,887**
Liabilities						
Interbank borrowing	37	-	-	-	-	37
Saving deposit	4,297	1,432	2,149	1,432	5,013	14,324
Fixed/ Call deposit	17,095	5,189	2,592	4,407	1,684	30,965
Debentures	-	300	-	-	750	1,050
Total Liabilities	**21,429**	**6,921**	**4,740**	**5,839**	**7,447**	**46,377**
Net Financial assets	(3,791)	2,985	1,654	(82)	2,744	3,511
Cumulative Financial assets	(3,791)	(806)	848	766	3,511	

Annexure VI

Interest Sensitive Assets/ Liabilities of EBL

Assets	Time Bucket					
	1-90	91-180	181-270	271-365	more than 1	Amount
Investment in Foreign	-	187	224	142	-	554
Government of Nepal	297	686	699	1,064	-	2,745
NRB Treasury bonds	-	-	-	-	1,694	1,694
Investment	-	-	-	-	-	-
Inter Bank Lending	-	-	-	-	-	-
Loans & Advances	16,664	2,945	2,171	2,154	4,222	28,156
Total Assets	**16,961**	**3,818**	**3,095**	**3,360**	**5,916**	**33,149**
Liabilities						
Interbank borrowing	-	405	-	-	-	405
Saving deposit	1,336	-	-	-	12,024	13,360
Fixed/ Call deposit	1,723	2,281	2,556	2,919	1,131	10,610
Debentures	-	-	-	-	300	300
Total Liabilities	**3,059**	**2,686**	**2,556**	**2,919**	**13,455**	**24,675**
Net Financial assets	13,902	1,132	539	441	(7,539)	8,474
Cumulative Financial	13,902	15,034	15,573	16,014	8,474	

Annexure VII

Major Indicators of NIBL

Particulars	Indicator	FY 2062/63	FY 2063/64	FY 2064/65	FY 2065/66	FY 2066/67
Core Capital	%age	7.97	7.90	7.71	8.56	8.50
Supplementary Capital	%age	4.01	4.26	3.57	2.68	2.05
Total Capital Fund	%age	**11.98**	**12.16**	**11.28**	**11.24**	**10.55**
CRR	%age	13.61	10.47	10.91	10.32	7.77
Spread Rate	%age	3.90	3.99	4.00	3.94	4.36
Yield Rate	%age	6.42	6.70	6.79	7.47	9.35
Cost of Fund	%age	2.52	2.71	2.79	3.53	4.99

Major Indicators of EBL

Particulars	Indicator	FY 2062/63	FY 2063/64	FY 2064/65	FY 2065/66	FY 2066/67
Core Capital	%age	8.21	7.82	9.04	8.52	8.39
Supplementary Capital	%age	4.11	3.38	2.40	2.82	2.38
Total Capital Fund	%age	**12.32**	**11.20**	**11.44**	**11.34**	**10.77**
CRR	%age	1.88	2.94	4.56	14.26	15.53
Spread Rate	%age	3.99	3.91	4.34	4.40	4.78
Yield Rate	%age	6.84	6.61	6.95	7.38	8.96
Cost of Fund	%age	2.85	2.70	2.61	2.98	4.18