CREDIT RISK MANAGEMENT OF

NEPALESE JOINT VENTURE BANKS

(With reference to EBL and HBL)

A Thesis

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RECOMMENDATION

This is to Certify that the thesis

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Has been prepared as approved by this department in the prescribed format of the Faculty of Management. This thesis is forwarded for Examination.

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VIVA-VOCE SHEET

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DECLARATION

I hereby declare that the work reported in this thesis entitled, "*Credit Risk Management of Nepalese Joint Venture Banks With reference to EBL and HBL"* submitted to Shanker Dev Campus, Faculty of management, Tribhuvan University, is my original work. It is done in the form of partial fulfillment of the requirement for the Degree of Masters of Business studies (M.B.S) under the supervision and guidance of Asst. Ramesh Kumar Paudel, Shanker Dev Campus, Kathmandu.

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ABBREVIATION

A.D	Anno Domini
ADBN	Agriculture Development Bank of Nepal
AMC	Assets Management Company
B.S.	Bikram Sambat
CD	Credit deposit
CIB	Credit Information Bureau
CV	Coefficient of Variation
DRT	Debt recovery tribunal
EBL	Everest Bank Ltd.
EMI	Equally monthly installment
Fig	Figure
FY	Fiscal Year
HBL	Himalayan Bank Ltd.
JVBs	Joint Venture Banks
LLP	Loan Loss Provision
MBS	Masters of Business Studies.
NBL	Nepal Bank Ltd.
NPL	Non- performing loan
NP	Net Profit

NRB	Nepal Rastra Bank
PE	Probable Error
RWA	Risk Weighted Assets
RBB	Rastrya Banijya Bank
RI	Risk index
ROA	Return on assets
ROE	Return on equity
S.D.	Standard Deviation

CHAPTER-1

INTRODUCTION

1.1 BACK GROUND OF THE STUDY

The source of finance is the most important element for the establishment and operation of any profit and non-profit oriented institutions. Banking sector plays a vital role for the economic development of the countries. The pace of development of any country in this modern era largely depends up on the level of financial development which is essential for economic growth and prosperity.

Financial institutions are resource mobilizing institutions which accept deposit from various sectors and invest them in to the field of trade, industry, tourism etc. The world business scenario has been changing day by day very fast. The volume of international trade has been increasing year by year due to the globalization and economic liberalization. Many international companies have been actively operating their business across the national boundaries. For example dominance of the joint venture banks in Nepal.

A bank is a financial institution, which play a significant role in the upgrading of the economic situation of the developing country like Nepal. Bank play a vital role to encourage thrift and discourage hoarding by mobilizing the resource and removing the habit of hoarding. They peruse economic growth rapidly, developing the banking habit among the people by collecting small scattered resources in one bulk using them in further productive purpose and rendering the valuable service to the country. Commercial bank deals with the offers of collected deposits and provides the loan for commercial purpose.

The banking sector is largely responsible for collecting household saving in term of different types of deposit and regulating them in to the society by lending them in different sector of the economy. The banking sector has been expand in the most remote area of the country and has experienced a good deal in the growth of the

economy by lending its resources in small scale industries under intensive banking program that has enable the bank to share economic growth of the country.

Banking institutions are inevitable for the resources mobilization and all development of the country. They have resources for economic confidence of various segments and extend credit to people. Bank refers to any firms that are basically concerns with the transaction of money.

However today's banks are establishment for specific purpose. Different types of bank focus different types of services to its customers although the basic principle is same.

1.2 CONCEPT OF THE CREDIT RISK

Credit risk is most simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. Credit risk involves inability or unwillingness of a customer or counterparty to meet commitments flows from loans and securities held by FIs (Finain relation to lending, trading, hedging, settlement and other financial transactions. Santomero *(1997)* views credit risk is generally made up of transaction risk or default risk and portfolio risk. Portfolio risk in turn comprises intrinsic and concentration risk. The portfolio risk depends on both external and internal factors. The external factors are state of the economy, wide swings in commodity/equity prices, foreign exchange rates and interest rates, trade restrictions, economic sanction, Government policies etc. The internal factors are deficiencies in loan policies/administration, absence of prudential credit concentration limits, inadequately defined lending limits for loan officers/credit committees, deficiencies in appraisal of borrowers' financial position, excessive dependence on collateral and inadequate risk pricing, absence of loan review mechanism and post sanction surveillance etc.

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

financial risk associated with trading than standard creditor default risk. In addition, counterparty's failure to settle a trade can arise from other factors beyond a credit problem.

So, the goal of credit risk management is to maximize a bank's risk adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual creditors or transactions. Bank should also consider the relationship 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.

1.3 DEVELOPING OF THE BANKING SYSTEM

The evolution of the banking industry had started a long time ago, during ancient times. There was reference to the activities of moneychangers in temple of Jerusalem in the Testament. In ancient Greece, the famous temple of Delphi and Olympia served as the great depositories for the people's surplus funds and these were the centre of money lending transactions. However as public enterprises, Banking made its first beginning around the middle of the twelfth century in Italy. The bank of Venice, founded in 1157 was supposed to be the most ancient bank. Following it were established the bank of Barcelona and Bank of Geneva in 1401 and 1407respectively. Subsequently bank of Amsterdam set up in 1609, which was very popular then. The bank of Venice and the bank of Geneva continued to operate until the end of eighteenth century. With the expansion of commercial banking activities in Northern Europe, there sprang up a number of private banking houses in Europe and slowly it spread throughout the world. However, the development of banking in Nepal is relatively recent. Landlords, moneylenders, merchant, goldsmith etc are the ancient bankers of Nepal. Though establishment of banking industry was very recent, some crude banking operations were in practice even in the ancient time. In the Nepalese chronicle, it was recorded that the new era known as Nepal Sambat was introduced by the sankhadhar, a sundra merchant of kirtipur in 880 A.D, after having paid all the

outstanding debts in the country. This shows the basis of money lending practice in ancient Nepal. The establishment of "Tejarath Adda" during the year 1877 A.D was the first step in institutional development of banking sector in Nepal. Tejarath Adda did not collect deposit from public but grant loans to public against the collateral of bullions. Consequently the major part of the country remains untouched from these limited activities. The development of trade with India and other countries increase the necessity of the institutional Banker, which can act more widely to enhance the trade and commerce and touch the remote non banking sector in the economy.

The history of the developing of the financial institutions in Nepal is not very long. The history of Banking begins from the establishment of the commercial Bank; Nepal Bank Ltd. in 1994 BS for the first times to provide modern and organized banking service. Later, Nepal Rastra Bank was established in 14th Baishak 2013BS as a central Bank of Nepal under NRB act2012 BS. Similarly, RBB was established in 2021 B.S .The Birth of these banks brought a new land mark in history of the banking facilities in Nepal. There after banks were established gradually.

According to banking and financial institution Act 2063 B.S, -A commercial bank is the one which exchanges money, excepts deposits, grants loan and performs commercial banking functions and which is not a bank meant for co-operative, agriculture, industries or for such specific purpose.

Bank is financial institution, which plays a significant role in the development of country. The history of banking transaction is as our civilization. In ancient time goldsmith used to keep people's valuable good for the security rather than earning interest. Mostly at that time goldsmith performed this task, but now various types of banks have been acting in this field.The term "Bank" was originated from the Italian word *'Banco'*. A bank is a business organization that receives and holds deposits from others, lends loans or extends credit and transfer funds by written order of depositors. (Encyclopedia, 1984)

The business in Banking is one of collecting funds from the community and extending credit to people for useful purpose. Banks have played a pivotal role in moving money from lenders to borrowers. -Banking is the profit seeking business not a social charity.

As a profit seeker it is expected to pay dividend and otherwise add to the wealth of its shareholders.- *(Edmister, 1980).*

In current position, three types of banks performing their activities in different sector Such as central bank, commercial bank, and development banks. Also three types of commercial banks are operating in Nepal in the public sector like Nepal Bank Ltd. RBB, etc. The joint venture banks like Himalayan Bank Ltd, Standard chartered Bank Ltd. etc. The private commercial banks like, Mega bank, Kist bank, Century bank, Sanima Bank etc.

Commercial banks are those banks which operate from commercial point of view. They perform all kind of banking function as accepting deposits, advancing credits, credit creation and agency function. The commercial banks are those financial institutions that deal in accepting deposit of persons and institutions and give loans against securities. They meet working capital need of trade and industry even in agriculture sector; moreover commercial banks provide technical and administrative assistance to industry, trade and business.

. The commercial banks play a significant role as follows:

- Necessary for trade and industries.
- Promotion of capital formation.
- Help in business.
- Encouragement to the right type of industries.
- Transfer for surplus funds to needy region.

The commercial bank has its own rules and contribution in the economic development. It is a source of economic development; it maintains economic confidence to various segments and extends credit to people. *(Grvwinshki, 1994)*

According to banking and financial institution Act 2063 B.S - A commercial bank is the one which exchanges money, excepts deposits, grants loan and performs commercial banking functions and which is not a bank meant for co-operative, agriculture, industries or for such specific purpose.

Commercial banks receive deposits from customers under different accounts such as saving account, fixed account, and current account. Commercial banks also provides short term drawing, as necessary for trade and commerce such as hypothecation against stock, guarantee against any deviation in performing tasks, purchasing and selling of securities, treasury bills, foreign currencies, performing such task on the behalf of required persons. Central bank's main task is to monitor, directing and control the lending activities in the country. In Nepal, commercial banks perform their functions under the regulation of the Nepal Rastra Bank as central bank of Nepal.

1.4 PROFILE OF BANKS UNDER STUDY

1.4.1 HIMALAYAN BANK LIMITED (HBL)

Himalayan Bank was established in 1993 in joint venture with Habib Bank Limited of Pakistan. Despite the cut-throat competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities-Loans and Deposits.(according to the its annual report)

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

All branches of HBL are integrated into Globes (developed by Temenos), the single Banking software where the Bank has made substantial investments. This has helped the Bank provide services like ‘Any Branch Banking Service’, Internet Banking and SMS Banking. Living up to the expectations and aspirations of the Customers and

other stakeholders of being innovative, HBL very recently introduced several new products and services. Millionaire Deposit Scheme, Small Business Enterprises Loan, Pre-paid Visa Card, International Travel Quota Credit Card, Consumer Finance through Credit Card and online TOEFL, SAT, IELTS, etc. fee payment facility are some of the products and services.

1.4.2 EVEREST BANK LIMITED (EBL)

Everest Bank Limited (EBL) started its operations in 1994 with a view and objective of extending professionalized and efficient banking services to various segments of the society. The bank is providing customer-friendly services through its Branch Network. All the branches of the bank are connected through Anywhere Branch Banking System (ABBS), which enables customers for operational transactions from any branches with an aim to help Nepalese citizens working abroad. The bank has entered into arrangements with banks and finance companies in different countries, which enable quick remittance of funds by the Nepalese citizens in countries. Bank has set up its representative offices at New Delhi (India) to support Nepalese citizen remitting money and advising banking related services.

Punjab National Bank (PNB) is its joint venture partner which is the largest nationalized bank in India. With its presence virtually in all the important centers at India, Punjab National Bank offers a wide variety of banking services which include corporate and personal banking, industrial finance, agricultural finance, financing of trade and international banking. Among the clients of the Bank are Indian conglomerates, medium and small industrial units, exporters, non-resident Indians and multinational companies. The large presence and vast resource base have helped the Bank to build strong links with trade and industry.

1.5 FOCUS OF THE STUDY

The risk on banking industry has also made a mark simultaneously in our context the present situation of Nepalese economy is not so good for any kind business. Banking business also depends up on the lending business too. So, it is known as a risky

business. At present situation most of Nepalese Bank has suffered from the credit risk which associated with nonpayment and default of loan by the borrowers. Due to the excessive amount of nonperforming assets in commercial bank, there is the wide spread suspicion on the performance of the commercial banks. So, the main focuses of the study are as follows.

- What types of risk exist throughout the banking business?
- What are the techniques of credit risk management?
- What is the frame work of risk management?
- What does the central banks plans to control banks credit risk portion?
- What is the present scenario of commercial bank with regard to credit risk management?

1.6 STATEMENT OF THE PROBLEM

Nepal is Small County which has small economic market. Overall economic sector either manufacturing or commercial have heavy losses. But financial institutions are increasing regularly. Liquidity is at maximum level with the financial institutions because of there have no good opportunity for investment.

Due to the unhealthy competition the recovery of bank credit is going towards negative. Non-performing credit of commercial banks are increase day by day. The success and failure of commercial banks depends up on the total credit risk management of commercial banks. This study relates how the joint venture banks of Nepal manage the credit risk. Many banks have concerned their banking operations only in urban and cities of Nepal. They cannot adopt rural banking policy which is the most important for sustainable growth of our economic. Non- performing assets become a large problem to commercial banks. Bank is a facing problem of liquidity. Recently, NRB issued directives to commercial bank to increase their paid- up capital up to 1 billion. It becomes a most challenging task for a commercial bank. Specially, the study is expected to reveal the following research questions.

- How the commercial banks manage their credit risk?

- What are the main causes of increasing credit risk in commercial banking sector?
- Is the proper investment policies & practices dose assists to increase the credit risk?
- How to make optimal management of credit risk?

1.7 OBJECTIVE OF THE STUDY

This study aims to study credit risk management of the selected joint venture bank has managed credit risk in the competitive banking industries. The specific objectives are as follows:

- To explore the concentration of the bank
- To analysis the lending efficiency and growth of the bank
- To analysis the loan loss provision and non performing assets of commercial banks.

1.8 SIGNIFICANCE OF THE STUDY

Lending is one of the major functions of the JVBs which play the significant impact in banks liquidity and profitability. Growth and development of this sector is required proper risk management side by side considered the overall return from investment. In today's competitive scenario several macroeconomic forces such as PESTLE have increased and created challenges to the banking sector. Therefore, the success of any organization depends up on how properly the institution can manage the different risk. It will provide valuable insight to different stakeholder about the major problem of credit risk and banks actions for its management.

- This research identifies credit risk and related factors of commercial banks, their risk management styles and NRB's guidelines.
- Individuals, who have no interest in Nepalese financial sector and banking sector will be benefited.
- Investor and depositor also can know about the credit risk with these banks to carryout business.

- Students and teachers will also benefit from this research paper.

1.9 LIMITATION OF THE STUDY

The outcome of this study is an individual effort. Therefore management resource mobilization and time constraints limit this study up to certain level the study has been subject of following limitations.

- Lack of confidential information related with the credit risk is the main limitation.
- Due to the small sample size, it may not fully represent Nepal as a whole.
- The study covers recent few years' data regarding to credit risk management.
- The study depends up on the published documents of banks such as balance sheet, profit and loss account, etc.
- Statistical and financial technique is used for credit risk analysis.

1.10 ORGANIZATION OF THE STUDY

The whole study is categorized into five chapters.

First chapter is for introduction. This includes background of study, brief introduction of joint venture banks, Statement of the problems, objective of the study, significance of the study, limitation of the study, and organization of the study.

Second chapter describes about available literature and review. It is include conceptual/Theoretical review, related studies and review of previous studies and preview studies.

Third chapter explain the research methodology used in the study which induces research design, source of data, population and samples, methods of data analysis etc.

Forth chapter includes presentation and analysis data and major findings.

Fifth chapter summarizes the main conclusion that extract from the study, and giving suggestion & recommendations for further improvements of selected joint venture banks.

CHAPTER-2

REVIEW OF LITERATURE

This chapter presents the conceptual review of credit risk management including different types of risk, that exist in bank , credit risk management system and credit risk management frame work and techniques. The central bank's regulations regarding the risk management has been also discussed. This chapter focuses on the review of literature relevant to understand credit and credit management of bank. There are some books, journals, articles, other studies done related with lending and investment aspect of banks. Some of the relevant studies, literature on lending and investment are review below. This chapter is categorized in to four different headings.

- Conceptual Review
- Review of relative articles and journals
- Review of relative thesis

2.1 CONCEPTUAL REVIEW

2.1.1 Concept of Credit

Credit is the amount of money lent by the creditor to borrower either on the basis of security or without security. Credit and advances is an important item on the side of the balance sheet of the commercial bank. Bank earns interest on credits and advances which is one of the major source of income for banks. Bank prepares credit portfolio; otherwise it will not only effect debts but affect profitability adversely. (*Varshney& Swaroop, 1994)*

Credit is financial assets resulting from the delivery of cash or other assets by a lender to a borrower in return of obligation repay on specified date on demand. Bank generally grants credit on four ways (*Chhabra, & Taneja, 1991)*

- Overdraft
- Cash credit
- Direct credit

- Discounting of bills

For bank's overall corporate strategy and strategic plan at least three critical components are needed. They are: (*Joshep, 1992)*

- Business plan
- Framework for risk management
- Strategies for corporate control

These are the basic components provide a solid foundation for managing value and risk planning, it focus in just an operating and competing in the financial service industry. The modern strategic approach also included a framework for risk management and strategic for completing in the component fits for the modern idea of the basic business of banking as measuring, managing, and accepting risk. The banker's objective is to manage value and risk by maximizing those or eliminating those that destroy value,

The main task of commercial bank is to collect funds as deposit through several sources and lend them in to different sectors like; manufacturing, transportation, trade, construction, communication and other public utilities etc. Doing all these activities every bank has to face so many risks. There are several types of risk prevailed in the banking industry, but the major area of the risk are widely recognized, i.e. credit risk, market risk and operating risk etc.

The credit risk is the potential financial loss resulting from the failure of customers to honors fully the terms of loan or contract. On the other hand, the market risk includes balance sheet risk and trading risk such as potential risk to earning and capital resulting from changes in interest rate, liquidity, impact of foreign exchange rate fluctuations etc. Meanwhile operating risk arises from the natural disasters, errors in processing and settlement of transactions safeguarding of assets, system failure, fraud and forgery.

2.1.2 Meaning of Risk

Risk refers to uncertainty on the investment faced by the investors. It is the possibility that actual outcomes may different from those expected. Risk can be defined as the possibility of deviation of the actual return from the expected return. Defines risk as the volatility of corporation market value. Risk management on the other hand, is the process of measuring of assessing risk and then developing strategies to manage the risk. In general, the strategies employed include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some of all of the consequences of a particular risk.

2.1.3 Credit Risk

Credit risk is a risk of financial loss to a party if a customer or counterparty to a financial instrument fails to meet its contractual obligation.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 specified in a credit agreement resulting in economic loss to the bank. Credit risk refers 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 major risk that the banks are exposed during the normal course of lending and credit underwriting. Credit risk is arise 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 the inability or unwillingness of customer or counter party to meet commitments on relation to lending, trading, settlement and other financial transactions. Alternatively, losses may result from reduction in portfolio value due to actual or apparent deterioration in credit quality.

Credit risk come from a bank's dealing with individuals, corporate, bank and financial institutions or an independent. Credit risk does not necessarily occur in isolation. The

same source that endangers credit risk for the bank may also expose it to other risk. For instance a bad portfolio may attract liquidity problem.

A typical Credit risk management framework in a bank may be broadly categorized into following main components;

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

2.1.4 Credit Risk management

Financial environment is dynamic. In this dynamic financial environment fluctuation in interest rates and commodity and real estate price are not something new. These fluctuations in economic and financial variables destabilize the corporate strategies and performance of bank. Thus, it is necessary that bank has a framework of risk management. Effective credit risk management allows a bank to reduce risk and potential non- performing assets. Once bank understand their risk and their cost they will be able to determine their most profitable business. Therefore the bank must have an explicit credit risk strategy by organizational changes, risk measurement technique and fresh credit processes and system. While talking about the credit risk management, five C's of creditworthiness should be considered and they are:

- Character

  The good character and intend of the borrower is very important and thus should be seriously considered. Information about the character of the client can be gathered from his working place, reference, neighbors and other place he is associated with. This job tediously but should be carried out for secure investment.

- Capacity

It can be described a customer ability to pay. It is measured by applicants past performance records. For this an interview with applicants, customers/suppliers will further clarify the situation. The gross income, expenses and net income should be analyzed whether the borrower lives on salary/wages or any other forms of income source. Whether the borrower has extra income source other than usual based which should be used to repay the scheduled installments should be considered.

- Capital

  Capital provides a caution to absorb operating and assets losses that might otherwise impair debt repayment. This in fact, is the insurance against the loan granted to the borrowers.

- Collateral

  Sufficiency of collateral is necessary to insure the recovery of loan. In case of default, by any cause, the collateral kept should have value enough to recover the loan granted and interest borne by it. It is recommended that only 50% of the value of collateral is granted as loan, but considering other factors like character of borrower and his credit worthiness, this percentage can be made flexible.

- Conditions

Borrowers may be subject to unfavorable economic conditions beyond their control. Repayment depends not only upon character, capacity and collateral but those factors over which the borrower exercise little or no control. As for example: natural calamities or drastic economic crises etc.

Risk depends upon the quality found in each 'C' and the combination of these five Cs, assuming the same conditions prevails the following guidelines are suggested.

Applicant character	***Credit risk***
Character + Capacity	Very low
Character + Capacity without capital	Low to moderate
Character + Capital but insufficient capital	Low to moderate
Character + Capacity but impaired character	Moderate

Character + Capital without capital	High
Character + Capital without character	High
Character + No capital + No capacity	Very high
Character + No character + No capacity	Very high
Capacity + No character + No capital	Fraudulent

2.1.5 Credit risk management technique

As the majority of bank assets are in the form of loan, as the lending function in simple and create the value of the bank. The main danger is the chance of the borrower not to pay the loan amount. So the proper prudent management of the credit risk is very important. Merton and Bodies have suggested three technique for the managing the credit risk in their article published in the journal of Banking and Finance. (*Miller & Merton, 1995)*

- Risk based pricing

  It has been established that risk based pricing required lender to chance the rate that compensate for the riskiness of the loan. The pricing procedure needs to be straight forward and not based solely an historical loan loss experience. In practice, loan pricing tend to follow the prime rate plus basis. Because the prime rate is not the lowest rate that a bank charges the credit worthiest customers can negotiate from the prime rate. The discount prime rate is what bank use to attempt to compete with open market instrument such as commercial paper and corporate bonds.

- Assets restriction

  Bank lender and other creditors have a claim on the borrower's assets. As long as the market value of assets exceeds the value of liabilities, creditors are protected because proceeds from sales of assets cover the entire alternatively, as long as positive net worth exists, business firms are not going to turn over the creditors assets that exceeds the value of claim against them. Thus one way for lender to protect them is to try to ensure that the value of assets always

exceed then the value of claim. Restriction amount of debt a borrower takes on and restricting the variability of the value of assets are the basic way of meting these objectives. Restricting covenant is long agreement and the strength of bank customer relationships are practical ways that lender impose assets restrictions or establish borrowers incentives for compliance.

- Monitoring

  If lender have a contractual right to monitor assets value continuously and to seize assets, then loan losses can be minimized either by auditing assets value and seizing assets before short falls exist or by requiring the posted value of collateral assets to equal or the posted value of collateral assets to equal or exceed the promised payment for private loan, which banks have considerable expertise in organization. Monitoring without continuous surveillance is costly.

  Before providing credit to customer, bank makes analysis of project from various aspect and angels. It will help the bank to see whether project is really suitable to invest or not. For that, bank needed to do a project appraisal. The purpose of project appraisal is to archive the guarantee of reasonable return from the project. Project appraisal answers the following questions.

- Is the project technically sound?
- Will the project provide a reasonable return?
- Is the project in line with the overall economic objectives of the country?

Generally, the project appraisal involves the investigation from the following aspects.

- Financial aspect
- Economic aspect
- Management/Organizational aspect
- Legal aspect

2.1.6 General Risk Management Framework

Management of risk begins with identification and its quantification. It is only after risk are identified and measured that may decide to accept the risk or to accept the risk at a reduced level by undertaking steps to mitigate the risk either fully or partially. Hence management of risk may be sub- divided into following five processes.

1. Risk identification
2. Risk measurement
3. Risk pricing
4. Risk monitoring and control
5. Risk mitigation

Further approach to manage risk at transaction level i.e. at branch level where business transaction are undertaken and at aggregate level i.e. the sum of total of all transactions are undertaken at all branches differs.

Risk identification: All transactions would have one or more of the major risks i.e. liquidity risk, interest rate risk, credit risk, operational risk, Exchange rate risk, and other with their manifestation in different dimensions. Although all these risk are connected at the transaction level and certain risk such as liquidity risk and interest rate risk can managed at the aggregate or portion level. Credit risk, operational risk and market risk arising from individual transaction can managed at transaction level on portfolio level.

Risk measurement: The risk measures seek to capture variations in earnings, market value, losses due to default etc. Arising out of uncertainties associated with various risk elements. Quantitative measures of risk can be classified in to three categories.

a. **Sensitivity:** Sensitivity captures deviation of a target unreadable due to unit movement of a single market parameter. Only those parameters which drive the value of target variable are relevant purpose. For e.g. change in market value due to 1% change in interest rate would be a sensitivity based measure.

b. **Volatility:** It is possible to combine sensitivity of target variable with the instability of underlying parameters. The volatility characterizes the stability and instability of any random variable. The computations of historical volatility based on defined time series are given below.

Volatility over the time horizon 'T' = Daily volatility × Square root of 'T'

Downside potential: Down side potential only captures possible losses ignoring profit potential. The downside risk has to components potential losses and probability of occurrence. Potential losses estimated butdifficulty lies in estimating probability hence downside risk measure require prior modeling of the probability distribution of potential losses but low probability of occurrence downside risk the most comprehensive measure of risk as if integrates sensitivity and volatility with the adverse effect of uncertainty. The value at risk measures downside risk.

Risk pricing: Banks have to maintain necessary capital at least as per regulatory requirement. The capital required is not without courts and another factor is a probability of associated with all risks. This also needs to be factored into pricing. Therefore Banks should take into account the following i.e. cost of deployable funds, operating expenses, loss probability and capital charge. Proper risk pricing can reduce the uncertainties regarding time value of money.

Risk monitoring and control: The key driver in managing a business is seeking improvement in risk adjusted return on capital (RAROC). Therefore, approach to risk management cannot be separation or in standalone made. The approach to risk management centers on facilitating implementation of risk business policies simultaneously in a consistent way. Modern best practices consist of setting risk limits based on economic measure of risk while ensuring best risk adjusted return. For risk monitoring and control, requires strong management information system/well laid out procedure/comprehensive risk reporting framework/periodical review and evaluation.

Risk mitigation: Risk reduction is achieved by adopting strategies that eliminate of reduced the uncertainties associated with risk element. This is called "risk mitigation". In banking sector, it comes across a variety of financial instrument and nos. of techniques that can be used to mitigate risk. For mitigating credit risk, banks have

been using traditional technique such as collateralizations by securities or land property, Real estate property and third party guarantees etc.

2.1.7 Factor affecting credit policy

Generally, the following factors are to be considered to make effective credit risk management. It is also called the factors of credit police. It helps to get effective credit worthiness.

Industry environment

It determine the nature of industry structure its attractiveness and the company's position within the industry, structural weakness of company which is disadvantaged, theaters first way out and security value.

- Financial conditions

  It determines the borrower's capacity to repay through cash flow as the first way out. The strength of second way out i.e. through collateral liquidation is also assessed. Further the possibility to fall bank on income of sister concern in case of financial crunch of the company condition threatened repayment capacity.

- Management quality it determines the integrity, competence and nature of alliance of the borrower's management team. Weakness in replacement needs to be evaluated.

- Technical strength

  It determine the strength and quality of the technical support required for suitable for sustainable operation of the company in terms of man power, the viability of the technology uses, availability of after sales services, cost of maintenance and replacement with the bank. Weakness in security threatens the bank's second way out.

2.1.8 Credit Approval process and possible Risk mitigation Measures

In order to access the credit risk, it is necessary to take a close look at credit approval process. Credit approval process may by different according to the nature of borrower, volume of credit, type of credit etc. Such characters which have to be taken into consideration in planning credit approval process and which usually stem from the heterogeneity of the products concerned are simply too divers. First of all, possible sources of error in credit approval process must be designed to avoid. Those errors encountered in practice most often can be put down to two sources.

a)Substantive errors: This comprises the erroneous assessment of a credit exposure deposit comprehensive and transparent presentation.

b)Procedural error: Procedural errors may take of two firms, on the one hand, the procedural structural design in credit approval process. These errors lead to an incomplete or wrong presentation of credit exposure. On the other hand procedural errors can result incorrect performance of credit approval process. These are caused by negligent or intentional misconduct by the persons in the credit approval process. Both substantive errors and procedural errors are usually determined by three same risk drivers i.e. processing precision assessment capacity and overload. For proceeding precision, training standardization in term of reduction of capacity and assessment capacity, clear job instruction, discussion and review, volume based decision making authoring and training/experience of employees may be tools for risk mitigation. Over load can be minimized through reduced effort per application in the processing and standardization.

Accounting for Aspect:

The quality of the credit approval process from a risk perspective is determined by best possible identification and evaluation of credit risk resulting from a possible exposure. The credit risk can distributed among four risk components which have found their way into the new based capital accord (in the following referred to as based II)

a. Probability of default (PD): Reviewing the borrower's probability of default is basically done by evaluating the borrower's current and future ability to fulfill its interest and principle repayment obligations. This evaluation has to take into account various characteristics of borrower (natural or legal person) which should and to a differentiation of credit approval process.

b. Loss given default (LGD): The loss given default is affected by the collateralized portion as well as the cost of selling the collateral. Therefore the calculated value and type of collateral also have to take into account in designing credit approval process.

c. Exposure at default (EAD): The exposure at default corresponds to the amount owed to the bank. In this case exposure at default is determined by type of borrower, source of cash flows, value and type of collateral and amount and type of claim which should be analyzed in depth.

d. Maturity (M): Higher maturity period shows higher risk due to probability of default may occur and lower maturating period shows lower risk. In this way maturity of credit should take consideration in risk minimizing aspect.

Standard and individual process of credit rating**:** Generally speaking the objective of establishing standard process is more efficient process execution. Standard processes are characterized by the fact they are only intended and suitable for handling curtained credit products with limited feature and options. This technique is used for retail customer who used credit in commodities and others. For example procedure of lending home loan by standard chartered bank is fixed for and customer. Limiting the process and maximum the exposure volume allows for simplification and standardization within the process. Individual processes are characterized by on adaptive design which makes it possible to deal with the variety of products collateral and conditions. Typically, this will required especially for high volume corporate customer. The higher risk involved with loan examined in an individual process should be addressed by using different models. In this ready, credit rating model may be different as credit approval process. But here is given standardizations credit rating model which plays significant role in reducing risk. A typical rating process consists

of two components i.e. financial rating and qualitative rating. Financial rating comprises an analysis of annual financial data available from credit applicant the analysis of annual financial rating which requires specific technical knowhow, qualitative rating requires comprehensive knowledge of the borrower to be successful. Such qualitative factor can rating and evaluated in standardized form. As qualitative rating may be interested in characterized that go beyond the borrower in question itself (e.g. product positioning within the competitive), it is possible to provide for the integration of additional environmental within the bank.

Above mentioned financial and qualitative rating are combined it is called as base rating i.e. fundamental rating of credit. These rating processes can reduce credit risk up to certain level.

2.2 REVIEW OF NRB DIRECTIVE RELATED TO RISK MANAGEMENT OF COMMERCIAL BANKS

Nepal Rastra Bank is a leader of money market. It is the chief of all the banks operating in the country. It supervises, regulates and control over the functions of commercial banks and other financial institutions. NRB has issued various directives to supervise and control commercial banks. In this present context, the directives are issued by NRB quite regularly. In 2010 NRB has issued unified directives of regulate all three categories of financial sectors in Nepal to ensure international standard functions. NRB (2010) prescribed following in different aspect of risk.

Directive No.1 Capital Adequacy Ratio

Capital Adequacy ratio is the proportion of capital fund or shareholder equity on the total risk weighted assets of bank. In other words it is the capital portion which is used to finance the assets. The total risk weighted assets on their hand include both on and off balance sheet items, which has been rated with certain percentage of risk. The risk weighted assets ranges from zero for cash and 100% for loan and advances. The

higher risk weighted assets means lower will be the capital adequacy ratio as CAR is the ratio between capital fund and risk weighted assets. According to Unified directive 2010, the capital fund included two types of capital i.e. primary capital and secondary capital. Primary capital refers to core capital which includes paid up capital, share premium, non- refundable preference share, general reserve fund, retained earnings, capital adjustment fund and other reserve. Supplementary capital refers to all reserve bank has made for specific purpose such as General loan loss provision, assets revaluation reserve, unused subordinated term debt, Exchange equalization reserve. Additional loan loss provision and investment adjustment reserve etc.

Credit Risk and Directive No 2

Having exercised the powers conferred by Section 79 of the Nepal Rastra Bank Act, 2010, the following Directives have been issued with regard to classification of credit/advances and provisions to be made for its possible loss by the institutions obtaining licenses from this Bank to carry out financial transactions.

1. Classification of loans/advances:

Entire loans and advances extended by a licensed institution have to be classified as follows based on expiry of the deadline of repayment of the principal and interest of such loans/advances:-

Pass: Loans/advances which have not overdue and which are overdue by a period up to three months.

Sub-standard: Loans/advances which are overdue by a period from three months to a maximum period of six months

- Doubtful: Loans/advances which are overdue by a period from six-months to a maximum period of one year.
- Loss: Loans/advances which are overdue by a period of more than one year.

The loans which are in pass class and which have been rescheduled/restructured are called as "the performing loan, and the sub-standard, doubtful and loss categories are called non-performing loans.

2. Additional provisions relating to pass loans:

(a) The following loans may be included in the pass loan:-

- Loans/advances extended against the collateral of gold and silver;
- Loans/advances of fixed receipts
- Loans/advances of Government of Nepal securities and loans/advances made against the collateral of Nepal Rastra Bank bonds; Provided that the cases of the loans/advances against the fixed receipts or Government of Nepal securities or Nepal Rastra Bank bond as the additional collateral, such loans and advances shall also have to be classified in accordance with the directive referred to into Point No. 1 above.

(b) The working capital loan having the deadline of up to one year for repayment may be included in the pass loan class. In case the interest to be received from the loans of working capital nature is not regular, such loans have to be classified on the basis of the duration of interest to be due.

3. Additional Provisions Relating to Loss Loans:

In case there seem any of the following discrepancies in any of the following loans, whether or not the deadline for repayment of which is expired, such loans and advances has to be categorized as the loss loan:

- The market price of the collateral cannot secure the loans;
- The debtor is bankrupt or has been declared to be bankrupt;
- The debtor disappears or is not identified;
- In case non-fund based facilities such as purchased or discounted bills and L/C and guarantee which have been converted into fund-based loan, are not recovered within ninety days from the date of their conversion into loan;
- Loan is misused;

- Expiry of six months of the date of auction process after the loan could not be recovered or a case is pending at a count under the recovery process;
- Providing loan to a debtor who has been enlisted in the black-list of Credit
- Information Bureau Ltd;
- The Project/business is not in a condition to be operated or project or business is not in operation
- The credit card loan is not written off within 90 days from the date of expiry of the deadline;
- While converting the L/C, guarantee and other possible liabilities into a fund based loan under the regular process, if the said loan is not recovered within 90 days; and
- In case of expiry of the deadline of a trust-receipt loan.

4. Loan loss provisioning:

Additional provisioning in the case of personal guarantee Loan**.**

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

Classification of Loan	***Loan loss provision***
Good	1%
Sub-Standard	25%
Doubtful	50%
Bad	100%

Source: NRB's Unified directives 2012

Loan loss provision set sideways for performing loan is defined as General loan loss provision and provision for non- performing loan is defined as specific loan loss provision. Excess portion of loan loss provision can included is supplementary capital.

5. Provisions Relating to Rescheduling and Restructuring of Loans:

(a) In case a licensed institution is convinced on the following bases stated in the written action plan submitted by the debtor, it may reschedule or draw back the loan:-

- Evidence showing that documents relating to loans and security are sufficient;
- Bases on which the licensed institution is convinced of the possibility that the rescheduled or restructured loans would be recovered;
- In addition to submission of written plan of actions for rescheduling and restructuring loans at least 25 percent of the interest due to be paid until the date of rescheduling or restructuring of such a loan has been paid;

(b) While rescheduling or restructuring the loans to the industries which have been recommended by the Sick Industries Preliminary Inquiry and Recommendation Committee formed under Government of Nepal, a minimum of 12 percent of interest has to be paid, other procedures need to be fulfilled and rescheduling and restructuring shall have to be carried out making a provision for twenty-five percent loan loss. Provided that in the event where the loan has been rescheduled and restructured based on payment of less than 12 percent of interests, provision for loan loss has to be made based on the duration upon expiry of the deadline according to the prevailing provisions.

(c) Description of the loans classified pursuant to classes has to be separately prepared.

2.2.1 REVIEW OF RELEVANT ARTICLES AND JOURNAL

When the government decides to establish banks with Joint ventures, to benefits were expected. First that composition would force domestic banks. Thus, Nepal bank Ltd and Rastriya Banijya Bank have to improve their service and efficiency. Second, the

introduction of new banking procedure methods and technology would take place. There has been substantial growth in the number of joint venture banks in Nepal since 1990s. The basic reason behind this is the government's premeditated policy of allow foreign JVB to operate in Nepal. Government's liberalization policy also encourages the traditionally run domestic commercial banks to enhance their efficiency and computerization and timely customers services by setting them to the exposure of the Joint venture banks.

Shrestha(1998) in his article titled - *Modus operandi of risk appraisal in banking lending* has tried to highlight different aspect of credit risk management. As per his view as the effective risk management central to good banking, the tradeoff between risk and return is one of the rime term. He concludes effective credit risk management allows a bank risks and their costs, they will be able to determine their most profitable business. Thus price products must be charged according to their risks. Therefore, the banks must have an explicit credit risk strategy and supported by organizational charges, risk measurement techniques and fresh credit process and system. Crucial areas that management should focus as on;

Credit sanctioning and monitoring process, approaches to collateral Credit risk arises from new business opportunities, concentration on correlate risk factors, credit exposure relatives to capital or total advances

Apart from these, the bank management should regularly review all assets quality issues including portfolio composition, big borrower exposures and development in credit management policy and process. He is helpful that the bankers adopt good risk management practices and will be able to reap both strategic and operational benefits.

Shrestha (1998) In her article -Lending operations of commercial bank of Nepal *and its impact on GDP* presented the objectives of make an analysis of contribution of commercial bank's lending to the Gross Domestic product (GDP) of Nepal. She has set a hypothesis that there has been a positive impact of lending of commercial banks to the GDP. In research methodology, she has considered GDP as the dependent variable and various sectors of lending Viz. agriculture, industrial, commercial,

service, general and social sectors as independent variables. A multiple regression technique has been applied toi analyze the contribution.

The multiple analysis have shown that all the variable expect service sector lending have positive impact on GDP. Thus in conclusion, she has accepted the hypothesis, i.e. there has been positive impact on GDP by the lending of commercial banks in various sectors of economy, expect service sector investment.

Dhungana (2000) in his article titled -*Why assets management company is consider the best option to resolve the non- performing loan problem* tried to emphasize one approach mainly Assets Management Company (AMC) for resolving the problem of non- performing loan. As per him, AMC is the specialized financial intermediary to manage non- performing loan from financial institution that buy the non- performing loan from financial institution and take necessary steps to recover the maximum value from the acquired assets. If non- performing loan are not resolve in time, those would not be inherent direct of interest costs to the economy. As stated by him, non-performing loan may arise due to the external factors like decease in market value of collateral, deterioration in borrower's repayment capacity, economic slowdown, and borrower's misconduct. Improper credit appraisal system, lack of risk management practices, ineffective credit monitoring and supervision system, lack of risk management practice, ineffective credit monitoring and supervision system. Hence he suggested that NPL should be kept at minimum level and the specialization institution such as AMCs should manage the distress loan.

He says that both traditional approach and AMC are available to pact with non-performing loan problems. Under the traditional approach, Bank handles the NPL in its own way particularly the borrower and give top precedence to loan recovery. As opines by the writer this approach is useful in dealing with small business loans where personal touch is adopted. Big loan does not work. -AMC seems as the only realistic option when the financial sector recovery is the underlying objectives in financial system where the institution fails to resolve the NPL problems through their effort. He states that the main advantages of editions manner removing the distraction of

managing non-performing loan from the banking system and free up resource within the financial institutions allowing them to concentrate on their core activities.

Neupane (2001**)** in his article titled -*Bad loan of banking sector- challenges and effort to resolve it* has thrown some regarding bad loan of banking sector. As mentioned by him there were various type of risk integrated in the credit, one who manages risk, earn profit. He further added that the recent financial crises in banking sector is due to weak accounting procedure, defect in loan classification, lack of clearness, loss control measure etc. Like the other writers he also started that NPA is the indicator of financial crises and the factors lending to NPA is economic slowdown, recession, bad aim of the borrower, lack of credit cost and reduce profit earning capacity of the bank. The international standard of acceptable non- performing loan is 4% but there is around 26% non - performing loan of two nationalized bank. The writer suggested internal and external measure for reducing classification of loan and its advances and providing provision for probable loss and external measure comprises of help from credit information bureau (CIB), Appointment of assets management company (AMC) and debt recovery tribunal (DRT).

Rana (2001) alerts commercial banks of the directives issued by Nepal Rastra Bank on 2002. The article gives bird's eyes view of major changes made in the new directives and suggests measures to be taken by commercial bank to comply with the new directives. Mr. Rana has highlighted the following points in his article:

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

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

Upgrade/change the banking software, which facilities generating numerous reports required by Nepal Rastra Bank. Foresee their capital adequacy position for number of

years ahead and initiate measure for increasing the capital if required. Review and revise overall credit policies to address new directives governing loan classification and loan loss provisioning. Strengthen bank's monitoring and follow up department. Time has come to inculcate financial discipline to the customer. A number of interaction programs should be organized with credit customer so that NRB's new directives could be explained to them. Update their record with Credit Information Bureau (CIB). Also banks should timely submit required to CIB for its effective functioning.

Ghimire (2003**)** in his article titled -*Credit Sector Reform and NRB* has tried to explore the effect of change or modification in NRB directives regarding loan classification and loan loss provisioning. Although the circumstance lending to financial problems or crises in many Nepali Bank differs in much respect what is common across most or likely losses of this nature facing the industry NRB have as the central Bank, amended several old directives and issued many new circulars in the recent years.

As opined by him, since majority of the loan of most of the commercial banks of the country at present falls under substandard, doubtful and even categories. Loan loss provisioning now compared to previous arrangement would be dramatically higher. The new classification and provisioning norms are very lent able as they help to strengthen bank financially. He added that we also must remember the old system from 1991 to 2001, which was probably the most explosive decade of the business operation of the country. He has indicated that loan loss provisioning as a percentage of total credit is 5.2% in fiscal year 2001 but in fiscal year 2003, it jumped to 18.39%. It only private banks are considered, it is 2.12% in fiscal year 2001 where as it is 30% in fiscal year 2003. He has also stated that tightening provisioning requirement on NPA is essential to ensure that banks remain liquid even during economic downturn.

Winner, Trivelli & Tarazona (2007)**,** in their article, - *Managing Credit Risk in Rural financial in Latin Americ* , have stated that credit risk management in Latin America rural financial institutions in improving and developing, but much still needs to be done. Many of the institutions surveyed confirmed success as measured by high overall rates of probability, low delinquency rates in both general and agricultural

portfolios and sustained growth rates in agricultural portfolios ore time. Nonetheless, the paucity of institutions active in rural areas and expressed desire for better risk management system, the relatively small loan sizes, and restricted terms indicate that the situation is less than optimal.

Massive credit expansion in developed countries has been due in large part to the introduction and wide diffusion of risk transfer techniques (insurance, securitization, derivates, etc) and the wide acceptance of different types of collateral(inventories, account receivable, warehouse receipts etc). In Latin America the most common risk transfer instrument are publically financial loan guarantee funds; however, they are used only mostly (25 percent). Historically, guarantee funds have been plagued with problems of high costs, limited additionally, and moral hazard. Recent work has shown that the most successful guarantee funds in Latin America (in terms of additional) are those in Chile and that much of the positive impact is due to adequate regulation. In order to introduce some of the other risk transfer instruments more commonly found in developed financial markets, investments will be needed to reform and strengthen the insurance industry, capital markets, credit bureaus, commercial codes, secured transaction frameworks and information disclosure rules.

2.2.2 REVIEW OF RELATED THESIS

Various studies have been conducted on the credit risk management and other related subject of different institutions and banks. Reviews of some thesis work are presented as below.

Aryal (2001) has submitted a thesis named*, - A evaluation of credit investment and recovery of financial public enterprise in Nepal* abase study of Agriculture development bank limited. In his thesis he stated high interest rate of non- institutional source; people are unable to pay their credit at fixed time. These institutions compel them to transfer their property to the money lender resulting himself or herself as a landless person as a research statement of a problem. ADBL is one of the major

financial institutions supporting for the people for the different purpose like agro, industry, tea, coffee, livestock farming etc. ABDL provides the credit individual and co- operative sector to all region of the country. Credit outstanding amount is increasing day by day but the collection amount is not good. However, ADBL has increased its effort to collect its credit. It is said that those people who really need to do sufficient amount of credit from ADBL. So, Mr. Aryal chose this bank to analyze the credit disbursement and recovery pattern of ADBL.

From his research, he has made some findings which are shown below:

Actual credit disbursement, collection and outstanding are increasing in decreasing rate but yearly increase in credit disbursement is higher than that of collection.

Positive relation between credit disbursement and collection is 0.996%. Target credit collection and disbursement fixed by planning and project department is not significantly different than the actual and most of the customers are unaware of the policy of the bank.

Aryal has concluded in his thesis that, the borrower should be informed about credit, its use and its payment procedures and schedule. Greater attention should be given to increase the credit collection and to collect old outstanding amount of credit and renewal of it. The behavior of the personnel should be strictly supervised in granting credit in proper investment proposal because of most the bad credit disbursement is due to weak decision of the personnel.

Pandey (2002) has carried out in his study -*Credit risk Management of Himalayan bank Limited with reference to other Commercial Banks* 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 spoil 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 profit with full compliance of NRB directives, then the commercial banks would deserve votes of praise because they

would then be instrumental in the economic development of the country. All the changes in NRB directives made impacts on the bank and the results are as follows.

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

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

Pandey has made his research on the impact on changes in directives. In his study, he has studied only the provision related to loan provisioning and capital adequacy. However, besides loan loss provision and capital adequacy, the other factors like concentration risk, sector- wise lending risk can further be discussed. A study on the organizational structure or management technique applied for the proper implementation of NRB directives and for management of credit risk can also be made.

Shrestha (2003) in her thesis -*Impact and implementation of Nepal Rastra Bank (NRB)'s Guidelines (Directives) on commercial banks. A study of Nabil Bank Ltd. And Nepal SBI Bank Ltd.* Has tried to find out the following things.

Impact of NRB's directives on commercial banks. Whether the directives are actually implemented and are being monitoring by NRB or not.

She has started that both NABIL and Nepal SBI are implementing the NRB directives. She concluded that all the changes in NRB Directives made both positive and negative impacts on the commercial banks. Even through this study is limited to only two samples (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 profitability of commercial banks. Apart from, loan exposure has been cut down to customers due to the borrower limits have been through down by NRB. Therefore, reduction in loan amount results to decrease the interest income from loans, which will decrease the profits of the banks in coming years. Decreasing profitability push towards lesser dividends to the shareholders and less bonus to employees. Not only are the negatives sides but also their positive doses of new directives. Recently the problems of banks are increased operating cost and decreasing loan amount resulting decrease in profits of the banks but it shows it is loans, which protect the banks from bankruptcy as well as protection of deposits of depositors. Increase in capital adequacy ratio strengthen the risk reducing provision would protect the bank from liquidation. Above all it can be conclude that newly issued directives are more effective than previous one although it has brought some problems towards banks. To increase the decreasing profit of the banks, they should research the alternatives like more investment in other business; bank should adopt new technology according to the demand to time and must not depend on only interest income for profit.

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

Ojha (2003) has carried out research on-*Lending practices- A study of NABIL, SCBNL and HBL*. The problem conclusion and recommendation figured out by him which are discussed and mentioned below.

The increasing provision on loan loss and high volume of non-performing assets in NABIL, HBL, and High volume of NPA of HBL may have caused due to the failure of industrial and agriculture sector. NABIL'S increased may have caused due to the accumulated bad debts that is kept behind the curtain to share to high efficiency of management. He suggested that following the normal guidelines of NRB and acting upon this also reduce many of credit risk arising from the borrowers. He suggested banks to be more careful and realistic while granting loan and advances. The major solution of reducing the credit risk is to avoid lending in more risky sector. As per his opinion, lack of proper credit appraisal, default by blacklisting borrower and professional defaulter, the over confidence in commercial banks regarding credit approval and appraisal efficiency and negligence in the taking information from credit information department has caused many of bad debts in these management company (AMC) which helps commercial banks in collecting their debts and improving their credit rating effectiveness should initiated.

Subba (2006) in his thesis on -*Risk management of commercial banks in Nepal: A comparative study between KBL and MBL* has outlined major findings as follows.

The major risk in KBL and MBL is associated with credit decision as the proportion of credit risk on total risk is high. Based on the response of structured questionnaire, it has been found that proportion of credit risk on total risk is more than 60%. The same conclusion is shown by financial statement analysis. The average loan and advances to total assets ratio of KBL and MBL is 65.19%and 68.14% respectively. Similarly, the mobilization of deposit in credit (i.e. credit deposit ratio) also suggests then major portion of deposit ratio is invested on loan and advances. The average credit deposit ratio in KBL and MBL is 86.38% and 81.12% of total income in KBL and MBL respectively. The credit practice of MBL shows that MBL is also granting loan without collateral which is poor sign of credit practice. 100% provision is to be made for this sort of loan which reduces the bank's profit. This sort of practice is not found

in case of KBL. Similarly, credit concentration o single sector of KBL and MBL shows that banks have very high mount of concentration in single portfolio. In manufacturing sector KBL and MBL has 25% and 35% of total loan exposure which is sign of putting all eggs in one basket. There is positive correlation between loan loss provision and loan and advances in both banks. This indicates that there is a change in LLP of both banks where there is an in loans and advances. Likewise LLP and non-performing loan of KBL are positively correlated where as correlation coefficient of MBL is found negative due to higher amount of loan against personal guarantee and unsecured lending. The organizational structure of KBL is found more stringent and advanced than that of MBL. In KBL, Assets liabilities management committee (ALMCO) mainly concerned with all type of risk management including credit risk. In MBL, credit committee which includes that member of board of directors and management is the main body for managing credit risk.

Chamling(2011) in his thesis -*credit risk management of joint venture banks- A case study of NBL, HBL, NSBIBL & EBL* has outlined major findings are as follows.

In the case of Nabil Bank Limited it has the higher risk index rate and its probability of book value insolvency is less than one percent. This indicates that a bank has higher current expected ROA, Strong capital position and stable earning and its current position shows that it has a high level of mitigate to absorb accounting loss. Almost 68.74% of its total deposits, bank used it as credit and advances which is not too high. Bank's non-performing loan to net loan for five years is 1.08% (Combined), which is very good situation.

Risk index and the probability of book value insolvency of Himalayan Bank limited indicates that the bank has high risk, in other word it shows the better performance of the bank and its current position shows that it has high level of cushion available to absorb accounting loss. Bank's non-performance loan to net loan for five year is just 3.44% (Combined) which is little high. Correlation coefficient regarding PLL with ROA and ROE indicate that there is positive relationship between them but the result is small and considered it as insignificant. Regression Coefficient of PLL is also positive and its value is not significant at 5% level of significance.

Nepal SBI Bank Ltd. data shows that risk index of the bank is high and the probability of book value solvency is less than one percent. Bank's non- performing loan to net loan for five years is 3.24% (Combined) which is little high but it is in decreasing trend. It is the good sign for the bank. There is insignificant relationship between independent variables PLL and dependent variables ROA and ROE though the regression coefficient of loan loss provision is negative for both ROA and ROE. Bank's t-value is not significant at 5% level of significance.

In the case of Everest Bank Ltd. risk index is little high and probability of book value insolvency is less than one percent. Relatively its risk index is lowest among other joint venture and probability of book value insolvency is lowest among other. Bank's non-performing loan to net loan for five years is just 0.56% which is the tremendous performance by the bank as a view of credit risk management. Correlation Coefficient regarding to PLL with ROA and ROE indicates that there is positive relationship between them but the result is not too sufficient that's why it is considered as insignificant. Regression coefficient of PLL is positive but the value is not significant at 5% level of significance.

Most of the credit customers of the joint venture banks of Nepal are satisfied with their respective bank. Few customers suggested bank should decrease its interest rate. As they complain that bank has decreased the deposits interest rate heavily but the credit interest rate has not lowered so much. Therefore sometimes they go under difficulty to pay the interest amount in time. Some of the credit customer of joint venture bank said that they have not got full co-operation from the bank's officer. This complains is mainly for the bank management who do not extend time period all the required explanation and documents. They said because of political conditions of our country they are suffering from the economic crisis but the bank does not understand their problems.

In the term of activity, all the joint venture banks are able to satisfy the demand of various depositors, creditors and shareholders as well as the government. All the banks have provided modern facilities to its customers and have used modern technology. Therefore they can attract good customers. It can be taken as strength of

joint venture banks. In other hand, overdue creditors of all commercial banks have increased. It has damaged the income of bank. Bank has not opened their branches all over the country especially in mid-western and far-western. Only Nepal Bangladesh bank and Everest bank have one-one branch and their joint venture banks haven't any branch at far and mid -western regions. Because of this**,** banks are unable to grabs the chance from all over the Nepal.

2.3 RESEARCH GAP

Research gap is the difference between previous work done and the present work Earlier works conducted by the previous researchers are very useful and appreciated by personal in various related .The suggestion and recommendation given by the previous researchers help to improve and increase the necessary data for related topic. Although there is a gap between previous studies and this study, the gap between earlier studies and this studies analyses the credit risk management system of commercial banks. In this study requirement of loan loss provisions are studied and its effect on activity and profitability of the commercial banks, which are very essential for the going concern strategy of the commercial banks .

At the time of previous study all banking sector suffering from liquidity problem but now a days the banking sector in the process of reform .So there is a gap between earlier work and this work, for the analysis purpose this study mostly used risk index and profitability of book value insolence as suggested by Joseph F Sinkey ,in his book commercial banks and financial management. The present study based on five years data of selected commercial banks which tries to achiveis objective by analyzing secondary source of data. Thus the earlier studies on these issues need to updated and validated because of many changes taking

place in Nepalese banking sector .The current study is a supplement of overcome the weakness and limitation of previous .

CHAPTER-3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research methodology refers to the many sequential steps to be adopted by research in studying a problem with keeping certain objective. It is the method of process applied to calculate define research problem. The main objectives of this study has been outlined in this chapter that consists of research design, population and sample size, source of data and data collection technique, data analysis tools.

3.2 RESEARCH DESIGN

A research design is the specification of methods and procedure for acquiring the information needed. Research design is a plan for the collection and analysis of data. This study is the combination of descriptive, technically and analytical type of research. Historical data are used to identify and analyzed past status of banks performance based on which future recommendation has been made. Risk management procedure has been presented in descriptive form. So as to identify current status, from the collection of past data and information from concerned source risk management system has been analyzed and recommendations have been made for improving the risk management of bank.

3.3 POPULATION AND SAMPLES

Population refers to the entire group of people, events or things of interest that researcher wishes to investigate. Population must be defined in terms of element, sampling units, extent and time. Defining a population incorrectly may render the result the study meaningless or even misleading. Since the research topic is about credit risk management of joint venture bank, the total commercial banks are 30 in numbers. Here, two joint ventures are population for the study which jointed between two or more bank for the purpose of carrying out a specific operation. Among the total

population joint venture banks, only two joint ventures are taken as sample for comparative study. The sample is chosen with an objective to find out the credit risk management system which has played a vital role in banking industry and covered approximate 50% market share in banking industry. Sampling joint venture banks are Bank, Himalayan Bank and Everest Bank Ltd.

3.4 SOURCE OF DATA

This study is based on secondary data collection from secondary source which are as follows.

a. Financial reports and annual reports of sample banks.
b. Published progress report, bulletin and books of related subjects.
c. Relevant provision studies and publications.
d. Various websites and other unpublished sources.

3.5 DATA ANALYSIS TOOLS

In order to get result from this study, data are analyzed by using different types of tools. As per topic requirement, bank's annual report's schedule no 11, classification of loan and advances and bills purchased schedule no 24, table of risk Weighted Assets assessment and schedule no 25, Principal indicators are used side by side financial tools and statistical tools employed which are as follows.

3.5.1 Ratio analysis:

Under this analysis, two type ratios are calculated and analyzed i.e.

I)LENDING EFFICIENCY RATIO

This ratio is concerned with the measuring efficiency on lending and utilizing of available fund. For this purpose, the following ratios are studied.

a) Loan and advances to total deposit ratio.

i.e., . $\frac{Total L \& A}{Total deposit}$

b) Performing loan to total loan and advances ratio.

i.e., PL to L & A = $\frac{Total performigloan}{Totalloan \& A}$

c) Non-performing loan to total loan and advances ratio.

i.e. . $\frac{TotalNonperformgloan}{Total \& advance}$

d)Loan loss provision to total loan and advance ratio.

i.e., $\frac{Totalloanlossprovision}{Total \& advance}$

e)Net profit to total loan and advance ratio.

i.e., $\frac{Netprofit}{TotalL \& A}$

II) GROWTH RATIO

Growth ratio represents how well the joint venture banks maintain the economic and financial position. Not only it but also. It covers the aspects of credit distribution, its risk management. Under this topic, following type of ratio is studied:

a) Growth ratio of total loan advances.

b) Growth ratio of total deposit.

c) Growth ratio of non-performing loan (NPL).

III) RISK INDEX

There are basically to approaches to review the credit risk management process of commercial banks. The first approach is Micro approach in which conducted by Bank's top management, Credit policy committee, Internal audit committee. All these used different model such as credit rating model, quantifying the risk through estimated loan loss, rating migration model etc. But the researcher cannot access up to this level because credit and its procedure are the most confidential and sensitive.

Another is macro approach to analyze credit risk because it is faster, easy, and accessible to data and information. But less accurate in estimated risk and losses. This index is widely used and practiced in bank for review and appraisal which was developed and used by *Hannen &Hawnek* (*1988*.) It has been applied by Liang and Savage in 1990, Sinkey and Nash in 1993. Risk index can be computed by using following formula.

$$\text{Risk Index} = \frac{E\,(ROA)+CAP}{S.D.ROA}$$

Where E (ROA) = Expected return on Assets

CAP = the inverse of equity multiplier

$$\text{Or,} \quad \frac{1}{Equyity\ Multiplier} \times 100$$

S.D (ROA) = Standard deviation of ROA

Lower Risk Index implies riskier bank whereas higher RI implies safe bank, the resultant figure as per group. The average shows the strength and weakness of bank's credit management. For this purpose E (ROA) and CAP is equal to most recent ROA and CAP as suggested by Joshep F. Sinkey Jr. in his book "commercial bank financial management".

$$\text{Here, Return on Assets (ROA)} = \frac{Net\ profit\ after\ tax}{Total\ assets}$$

Return on assets ratio is primary indicator of marginal efficiency. It indicates how capable manage the institution assets to net earnings.

Again, Return on equity Capital = Net profit after tax/ Total equity capital

ROE ratio is measure of the rate of return flowing to the bank's shareholders. It approximates the net benefit that the stockholders have received from investing their capital in the bank or equity multiplier. It is derived from following equations:

$$EM = \frac{ROE}{ROA}$$, Where, EM = Equity multiplier

ROA = Return on Assets.

ROE = Return on equity

IV) STATISTICAL ANALYSIS

ARITHMETIC MEAN

Arithmetic mean has widely used in this study. It has been as to calculate the average for five year data or in some cases 3 or 5 years data, Due to unavailability of complete data. This tool has been used to calculate the single figure that can represent the whole data for the period. It is computed by using following formula.

Mean ($\overline{X}$) = $\frac{X}{n}$, Where ∑X = Sum of the variable 'X'

n = Total no of observation.

STANDARD DEVIATION

The standard deviation measures the absolute dispersion or variability of distribution. The greater amount of dispersion or variability, the greater standard deviation which have greater magnitude of the deviation of the values from their mean, a lower standard deviation means high degree of uniformity of the observation as well as homogeneity of series. In short higher S.D implies higher risk and vice versa. Standard deviation is defined as the positive square of deviation taken from the arithmetic mean of square of deviation taken from the arithmetic mean. It is denoted by sigma 'σ' and computed by using this formula:

S.D (σ) = $\sqrt{\frac{1}{n} | \quad (X \text{ Z } \overline{X})^2}$, Where $\overline{X}$ X Arithmetic mean

n = Total nos. of observation

COEFFIICIENT OF VARIATION (C.V)

Coefficient of variation is the ratio of standard deviation to mean of the observation. When two frequency of distribution have same arithmetic mean, their variability of these two distributions may be compared by calculating their respective standard deviations. It is the tools of relative dispersion which measure the risk per unit. This is called the coefficient of variation which calculated as:

$$\text{Coefficient of Variation} = \frac{S\tan darddeviation}{Arithmeticmean} \mid 100$$

Lower the coefficient of variation will more preferable and vice versa.

V) COEFFICIENT OF CORRELATION

For making inference about the relationship between two variables whether they are dependent of independent, correlation coefficient calculated. In other words, this tool is used to describe the degree to which one variable is linearly related to other variable. Two or more variable are said to be correlated if change in the value of one variable are said to be correlated if change in the value of one variable appears to be linked with the change in other variable. It is not influenced by the size of the extreme items. Correlation may be positive or negative with range of +1 to -1.

I. Where r = +1 perfectly positive correlation and -1 perfectly negative correlated correlation and r = 0 denotes no correlations.

II. When 'r' lies between 0.7 to 0.999 (or -0.7 to -0.999) denotes high degree of positive (negative) correlation.

III. When 'r' lies between 0.5 and 0.699 there us moderate degree of correlation.

IV. The simple correlation coefficient 'r' is calculated by using the formula:

$$\text{Correlation Coefficient (r)} = \frac{XY}{\sqrt{X^2 \quad Y^2}}$$

Where, X = X- $\overline{X}$ (Mean deviation from X)

Y= Y- $\overline{Y}$ (Mean deviation from Y)

$\overline{X}$ = Mean (Arithmetic) of X variable.

$\overline{Y}$ = Arithmetic mean of Y variable.

For analysis purpose, the correlation between LLP and Loan advances, LLP and non-performing loan, LLP and net profit are studied in the chapter four.

PROBABLE ERROR

Probable error of correlation coefficient denoted by P.E is measure of testing the reliability of the calculated value of correlation coefficient. It is defined as;

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

With the help of P.E it is possible to determine the reliability of the value of coefficient. Decision rule for the significance test are;

a) If r < P.E the value of 'r' is not significant no matter have high the value of 'r' i.e. there is no evidence of correlation between the variables.

b) If r > P.E it is significant. There is evidence of correlation between two variables

CHAPTER -4

DATA ANALYSIS AND PRESENTATION

This chapter deals with the presentation and analysis of relevant data of the banks of Nepal in order to fulfilled the objectives of the study. To obtain best result, the data have been analyzed according to the research methodology as mentioned in third chapter.

This purpose of this chapter is to introduce to the mechanics of data analysis and interpretation. In this chapter, data collected from secondary source are presented and analyzed by using financial and statistical tools and its finding have been discussed in this chapter. To make this study effective, specific and simply explicable, this chapter is categorizes mainly in three parts; presentation, analysis and interpretation. The main objective of this section is to find out answer of the research questions and satisfy the described four objectives included in 1st chapter. For this purpose banks annual reports are used for this study.

The goal of credit risk management is to maximized bank's risk adjusted rate of return by maintain credit risk exposure within acceptable parameters. Banks need to manage credit inherent in the entire portfolio as well as the risk in individual credit trisections. The credit effective management of credit risk management and essential to the long term success of any banking organizations.

4.1 LOAN PRODUCT PROFILE PROVIDED BY SELECTED

JOINT VENTURE BANKS

Product associated with credit are given below which provided by selected joint venture banks.

Table 4.1

Loan product profile.

Description	**EBL**	**HBL**
1.Personal lending (Retail/ Consumer Loan)	6-Category: Education Loan, Home equity, Home Loan, Vehicle Loan, Loan against mortgage, Loan against Share.	8-Category: Hire Purchase, Housing Loan, Subhida loan, Credit card loan, FDR loan, Loan against Govt. Bond and Bond of bank, Loan against guarantee (International), Loan on Share.
2.Business lending (Corporate Loan)	3-Category: Mortgage Loan, Professional Loan, Property Loan, Loan Scheme.	7-Category: Project/Consumption loan. W/C financing, trust receipt loan, Export loan, Import Loan, Pledge loan, Small Business, Enterprise Loan.

Source: Sample Banks Website and annual reports

From the above table HBL lunched 15 categories of retail/consumer loan and wholesale/corporate loan which is the highest product among the two JVBs. Well diversified portfolio reduced the overall risk and increased in the volume of loan and advances. In the fiscal year 2069/70 HBL and EBL are Rs.410573.97 and Rs.441977.62 lakh respectively. The figure shows the product line defined the volume of loan and advances. Increase in product line may arise high probability of non-performing loan but it can manage properly. Here the comparative study of Retail/ consumer loan are described and analysis as possible. The comparative study of

corporate loan is not possible due to unavailability of lending practices according to nature and demand of client.

Table 4.2

Comparative Study of loan.

Particular	EBL	HBL
A. purpose	Construction, Acquisition, purchase, repair, Renovation/Addition.	Land and building, Extension/ Addition.
B. Loan amount	5 Lakhs-10 Lakhs (purpose basis)	Information Not available
C. Loan Tenor	Max up to 20 Years	Information not available
D. Partial Payment	EMI(Equally monthly installment)	Information not available
E. Features/Eligibility	Mortgage of property, personal guarantee acceptable, property is fully insured against fire riots and other hazards.	Information not available.

Source: Sample Banks Website and annual reports

From above table exhibits the lending procedure of housing loan of EBL and HBL are connected over collateral. These mentioned criteria support to rapid loan amount in time and this to reduce probability of default. EBL also more considered about marketing and risk. HBL profile cannot present due to unavailability of data and information. Another table is as follows:

Table 4.3

Comparative table of Auto Loan (key features)

Particular	EBL	HBL
A. Loan amount.	Max Rs. 20 Lakhs/ needed based for business concern	Not available
B. Loan tenure	60 equally monthly Installment (EMI)	Information not available
C. Features/ Eligibility	-Margin Money 25% -registration of vehicle in bank's name	Information not available

Source: sample Banks Website and annual report

From above table shows that EBL concentrate on margin of money. Margin of money and registration of vehicle in Bank's name reduces total risk in lending.

Table 4.4

Comparative table of Mortgage loan

Particulars	EBL	HBL
A. Collateral	Immovable property	Information not available
B. Loan amount	Min Rs. 5 Lakhs-Max Rs. 2 cores	Not available
C. Eligibility	Property located on urban areas.	Not available
D. Loan tenure	5-10 years of term loan, renewed incase of overdraft	Not available
E. Insurance	Should be insured	Not available

Source: Sample Banks Website and annual report.

From above table EBL is much more considered about the risk/ hazard about property like land and building and others. It is more secured than other scheme due to immovable property. But other things steady regular income source and marketability of property is also cons

Table 4.5

Comparative table of loan against deposit and government (govt.)Securities.

Particular	EBL	HBL
A. pledging instrument	The list of approved share by EBL	Govt. Securities
B. Margin	50% on the lows market value	90% on the value of bond.

Source: Sample Banks Website and annual reports

Generally, EBL, and HBL extended loan on share on the basis of current market value and preferred to float Govt. Securities.

4.2 SECURITY WISE CREDIT COMPOSITION AND RISK WEIGHTED ASSETS

Security wise lending refers to the lending of banks to the clients against the various collaterals. As the collateral is also key aspect while lending, the analysis of security helps to identify the credit portion of the bank. The collateral can be anything ranging from the more liquid and secured collateral such as government bonds, bills, fixed deposit receipts to illiquid fixed assets and immovable property. Bank can lend without any collateral for trust worthy customer. This analysis will help to identify the various types of securities on the basis of which loan has been provided by all two joint venture bank including 10 types of securities including without collateral lending on the base of three year data.

Table 4.6

Ranking of HBL collateral on the basis of Loan amount Extend.

(Figure in lakh)

S.N	Security against lending	FY2067/68	FY 2068/69	FY 2069/70	Average	Rank
A.	Secured:	329682.70	359684.72	410573.97	366647.13	
I.	Movable/ Non-movable assets.	268596.94	319904.41	370772.39	319757.90	1
II.	Local bank and financial institution guarantee.	-	-	-	-	-
III.	Government guarantee	-	--	-	-	-
IV.	A rated international bank guarantee.	217.77	198.00	280.66	232.16	5
V.	Export document.	13116.21	16858.51	14087.04	14687.25	2
VI.	Fixed deposit receipt. a) Own bank FDR b) Other bank FDR	-	-	-	-	-
VII.	Government Securities	68.23	24.00	24.00	38.47	7
VIII.	Counter guarantee	8888.29	11381.51	14269.19	11512.99	3
IX.	Personal guarantee	34.54	101.82	323.24	153.2	6
X.	Other Securities	35367.64	7900.27	5640.51	16302.8	4
B	Unsecured:	-	-	-	-	-

Source: Annual reports of the bank.

Above table shows the lending of HBL against different securities. It is clear that HBL has extended the credit mostly against movable and non movable property. The average lending which is the highest among the lending against all securities amount Rs. 366647.13 lakh. The bank has not grant any loan without collateral and has covered all types of diversified collateral. The bank has extended credit against securities. In second priority Export document counter guarantee other securities in second, third and fourth priority along with the Rs14687.25 ,11512.99 and 16302.8 lakh respectively. The bank has extended loan against government securities which is ranked in 7th position. In this way, the bank does not extend their loan against more liquid assets such as government. securities, FDR, Government bills and other. Existing volume of this collateral must be increased in the future. Otherwise these exists high risk in credit management and chances of default. The bank management

considers and reviews about credit policy and collateral. Good nature of collateral reduces overall risk, easy marketable, high effort and inconvenience cost.

Table- 4.7

Ranking of EBL collateral on

the basis of Loan amount Extend.

(Figure in lakh)

S.N	Security against lending	FY 2067/68	FY2068/ 69	FY2069/70	Average	Rank
A.	Secured:	316618.43	366168.31	441977.62	374921.45	
I.	Movable/ Non-movable assets.	307375.59	357984.17	431193.59	365517.78	1
II.	Local bank and financial institution guarantee.	-	-	-	-	-
III.	Government guarantee	1987.36	1987.36	1987.36	1987.36	3
IV.	A rated international bank guarantee.	-	-	-	-	-
V.	Export document.	-	-	-	-	-
VI.	Fixed deposit receipt. a) Own bank FDR b) Other bank FDR	6413.91 6413.91 -	5784.57 5784.57	8208.97 8208.97	6802.48 6802.48	2
VII.	Government Securities	39.95	35.91	128.18	68.01	5
VIII.	Counter guarantee	-	-	-	-	-
IX.	Personal guarantee	25	24.99	24.96	24.98	6
X.	Other Securities	776.6	351.29	434.53	520.81	4
B	Unsecured:	-	-	-	-	-

Source: Annual reports of the bank.

Above table shows the lending of Everest Bank against different securities. It is clear that Everest bank has extended against the eight different securities. EBL has granted the highest amount of loan against movable/ non- movable property with the average loan for the extended the loan for the past three years is 374921.45 lakh. Inversely, the bank has extended credit against without any collateral which is the bad sign of the

lending practices. The volume of unsecured exist high level of risk. So, the EBL has higher credit risk comparing next Joint Venture Banks. In this way, the bank has extended credit against other securities own fixed deposit receipt and government guarantee in the 2nd and 3rd priority respectively along with Rs. 6802.48 and Rs. 1987.36 lakh.

4.2.1 RISK WEIGHTED LENDING ANALYSIS

Risk weighted lending refers to weighted provided to the bank loan according to the level of risk while risk to the loan is categorized on the basis of collateral.

S.N	Security	Weight
1	Fully secured loan against FDR(fixed deposit ratio)	0%
2	Fully secured loan against NRB/government(Govt)	0%
3	Fully secured loan against other bank's fixed deposit ratio	20%
4	Loan against Guarantee of internationally rated banks and Govt. guarantee	20%
5	Loan and advances and bills purchased/ discounted	100%

Source: NRB'sUnified Directives

The loan has been categorized on the basis of NRB risk weighted assets basis

4.2.2 SECTOR WISE LOAN AND ADVANCES (CREDIT CONCENTRATION)

This analysis helps to find out the credit concentration of two joint venture banks in different sectors. The higher concentration of bank's credit in one sector, higher will be the risk for bank and vice versa. It is because when there is a problem or crises in that particular sector, it will result in significant losses to bank. Likewise, credit extending sector affected the overall credit portfolio risk, the volume of risk affected

by the nature of credit loan amount and other, the proportion and volume of sector wise lending has been presented below.

Table 4.8

Credit Concentration on different sector of sample bank

(Figure in millions)

Sector	HBL		EBL	
	Loan amt.	%	Loan amt.	%
1. Agriculture	594.1	1.84	842.9	2.84
2.Fishery	0	-	0	-
3. Mines	0	-	0	-
4. Manufacturing	12380.5	38.36	517.9	17.49
5. Construction	1267.8	3.92	3528.5	11.92
6. Electricity, gas and water	644.3	2	402.2	1.35
7.Metal products, Machinery, electricity tools and fittings.	40	0.12	434.9	1.46
8. Transportation, storage and communication	1568.2	4.86	3189.1	10.77
9. Wholesaler & retailer	4760.2	14.75	9575.1	32.34
10. Finance, Insurance and fixed assets	4290.7	13.29	2216.5	7.48
11. Hotel and restaurant.	752.3	2.33	644.5	2.17
12. Other service	2100.6	6.51	879.9	2.97
13. Consumable loan	1317.7	4.08	1923.3	9.80
14. Local Govt.	255.2	0.79	0	-
15. Others	2294.7	7.1	791.8	2.67
Total	32266.2	100%	29608.6	100%

Source: NRB Banking and financial statisti2069)

In above table HBL and EBL have extended more than 10% of their total loan in 3 sectors and 4 sectors respectively. HBL and EBL have interested the highest 38.36% and 32.34% of total loan in manufacturing and wholesaler & retailer sector with Rs.12380.5 million and 9575.1 million respectively. In fishery sector all joint venture banks does not invest and in mines sector. In conclusion, the high portion of loan is extended in production sector with first priority by HBL. But EBL extended the high portion of total loan in other sector and wholesale and retail sector respectively. But, fishery and mining sector gives lower priority by almost banks. Balanced portfolio among 15 sectors can reduce the overall risk of total loan portfolio.

4.3 RATIO ANALYSIS

4.3.1 LOAN AND ADVANCES TO TOTAL DEPOSITE RATIO (CD RATIO)

The core banking function is to mobilize the fund obtained from the depositors to the borrowers and earn often called credit deposit ratio (CD ratio) is the fundamental parameter to ascertain fund deployment efficiency of commercial banks. Greater CD ratio implies the better utilization of total deposits and better earnings. However, liquidity management also needs due consideration. Hence 70%-80% of CD ratio is considered as appropriate or optimal. This CD ratio is calculated by dividing total credit by total deposit.

Table 4.9

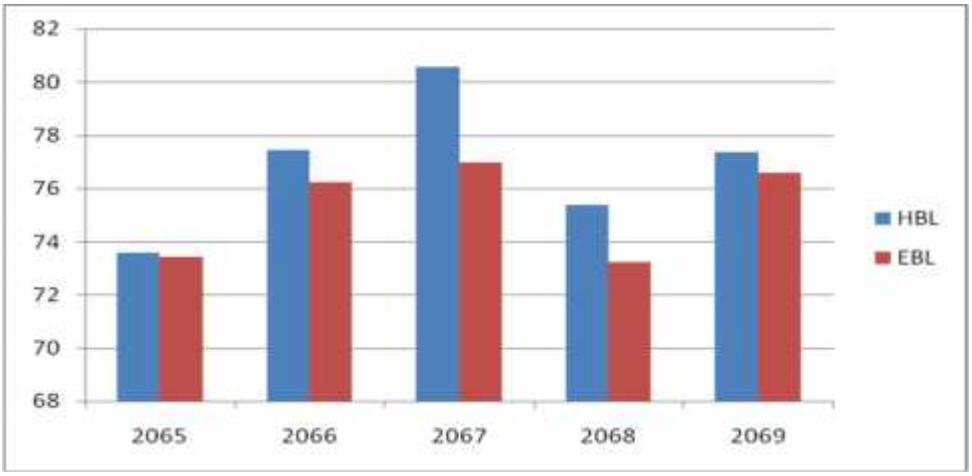
LOAN AND ADVANCS TO TOTAL DEPOSIT RATIO (CD RATIO)

Fiscal year	**HBL**	**EBL**
2065/66	73.58	73.43
2066/67	77.43	76.24
2067/68	80.57	76.98
2068/69	75.36	73.22
2069/70	77.36	76.57
Mean ($\overline{X}$)	76.86	75.29
S.D (¢)	2.58	1.81
C.V	0.03357	0.024

(*Source: Principal indicators of annual report.)*

Figure No 4.1

LOAN AND ADVANCS TO TOTAL DEPOSIT RATIO (CD RATIO)



From the above table and figure shoes that CD ratio of Joint Venture Banks of five consecutive years. The loan and advances to total deposit ratio of HBL is higher than the other banks. It means that management of Himalayan Bank is not able to maintain steady utilization of total deposit.

The standard deviations of the HBL is 2.58 Everest Bank has lower standard deviation with 1.81which shows the efficient management of deposit. Analyzing above table the trend of CD ratio is satisfactory rather than Himalayan Bank Limited. EBL has higher deposit utilization rate but the management may be faced to problems of under liquidity. Inversely, HBL facing the over liquidity which

not contribute to the profit.

4.3.2 NON PERFORMING LOAN TO TOTAL LOAN AND ADVANCES

This ratio determines the proportion of non-performing loans in the total loan portfolio. As per Nepal Rastra Bank directives the loan falling under category of sub-standard doubtful and bad loan are regarded as non-performing loan. Higher the ratio

implies the bad quality of assets of bank in the form of loan and advances. Hence comparatively lower NPL to total loan and advances ratio is favorable. Due to the higher non-performing loan may leads to higher possibility of non banking assets which required to be disposed off within 7 years. Valuation of such assets shall be equivalent to the outstanding amount of principal and interest such as the outstanding amount become Nil. Hence, it may create serious problems. Here the ratios are given below.

Table 4.10

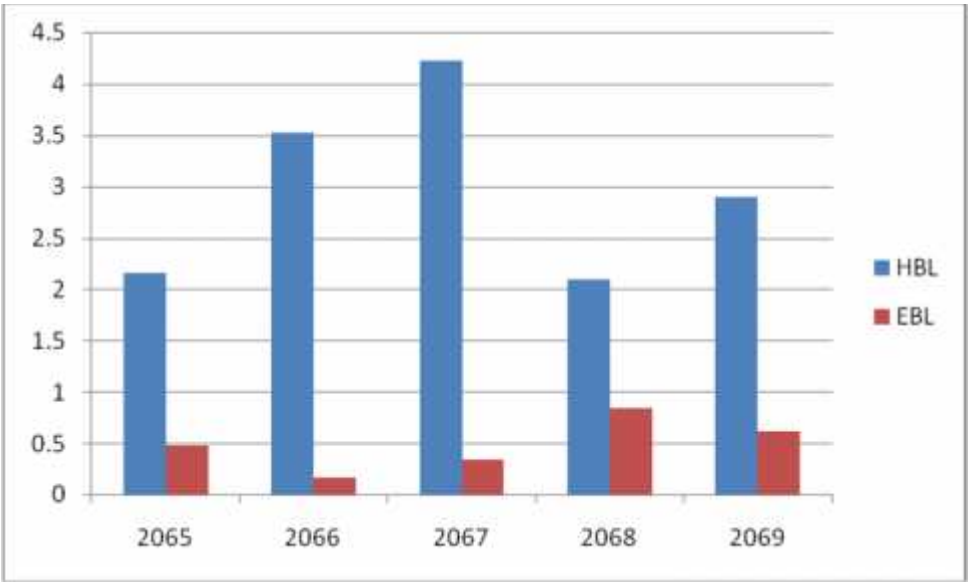
NPL TO TOTAL LOAN AND ADVANCES RATIO

Fiscal year	**HBL**	**EBL**
2065/66	2.16	0.48
2066/67	3.52	0.16
2067/68	4.22	0.34
2068/69	2.09	0.84
2069/70	2.89	0.62
Mean ($\overline{X}$)	2.976	0.49
S.D (¢)	0.79	0.26
C.V	0.265	0.53

(*Source: Principal indicator of annual report.)*

Figure No 4.2

NPL TO TOTAL LOAN AND ADVANCES RATIO



From the above table and figure shows that ratio of non-performing Loan and advances of two JVBs for five consecutive years. It is found that two JVBs non performing loan is decreasing trend in the most recent years and they trying to perform better lending practices. From comparatively HBL cannot able to reduce their Non –performing loan. Significantly, from 2.16% in fiscal year 2065/66 2.89% in fiscal year 2069/70. It is bad sign of better performance. Next bank EBL have reduced NPL

4.3.3 PERFORMING LOAN TO TOTAL LOAN AND ADVANCES RATIO.

The ratio determines the proportion of performing Loan volumes in the total Loan portfolio. Only performing loan volume defines the sound and effective credit management policy and practices. As per NRB directives the Loan falling under category of pass and restructured are regarding as performing loan. Higher ratio implies the good lending practices. There is a gap between policy and practices. Hence comparatively higher performing loan to total loan and advance ratio is favorable. This ratio can be obtained through using this formula.

$$\text{PL to L \& A} = \frac{performing\ loan}{Total\ loan\ and\ advances}$$

Alternatively,

1 – NPL to total loan and advances.

Table 4.11

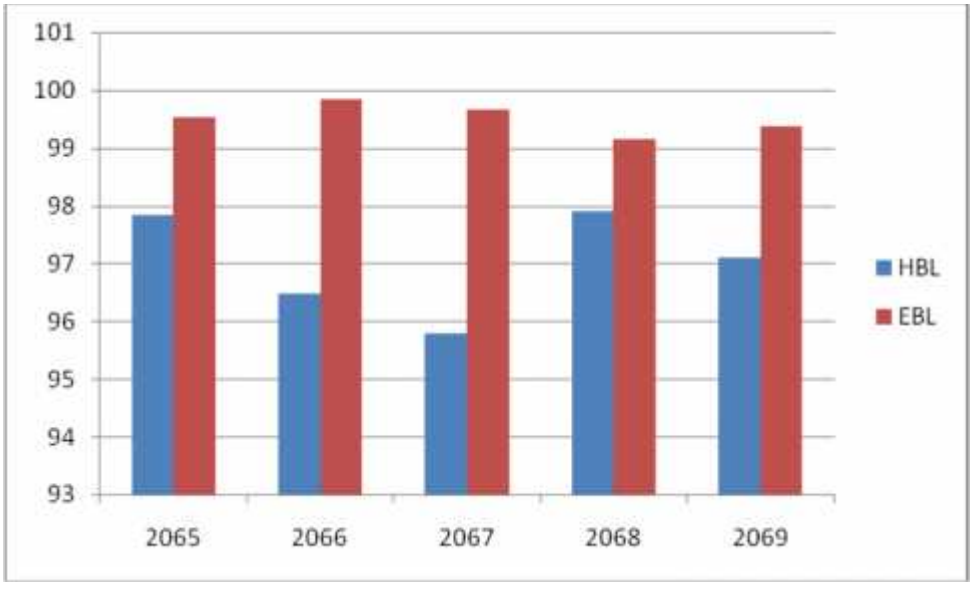
Performing loan to total loan and advances.

Fiscal year	HBL	EBL
2065/66	97.84	99.52
2066/67	96.48	99.84
2067/68	95.78	99.66
2068/69	97.91	99.16
2069/70	97.11	99.38
Mena ∫x̄ ∧	97.02	99.51
S.D ∫¢ ∧	0.909	0.262
C.V	0.0094	0.00263

Source: Annual reports of sample Banks

Figure No. 4.3

Performing loan to total loan and advances



From above table and figure shows that the ratio of performing loan to total loan and advances of two JVBs for five years. It is found that all banks maintain their performing loan in the most recent/past year. It means the banks management is able

to achieve the target up to some extent. The average performing loan ratios are 97.02,99.51, HBL and EBL banks. The standard deviations are 0.909,0.262 HBL and EBL respectively but HBL has higher variability in the ratio of performing loan. Due to the higher coefficient variation there is no consistency in loan and floating process and high risk. It will better to reduce the degree of variability and coefficient variation. Similarly, lower standard deviation and coefficient variation of EBL denotes the better performance in lending and the bank management is very seriousness towards floating. So that it can say that performing loan ratio and volume is a mirror of sound banking operation.

4.3.4 LOAN LOSS PROVISION TO TOTAL LOAN AND ADVANCES RATIO.

This ratio indicates the amount of loan loss provision, a cushion for the possibility of default of bank. Since, higher provision has to be made for non- performing loan but higher provision for loan loss always nit and best for better performance. It create high passive fund which can not contribute the profit. Similarly, high loan loss provision reflects the increasing non–performing loan out of the total value. So, the bank management should maintain adequate and proper loan loss provision fund. If not so, the banks may be face loan loss which directly affects to volume of net profit and management. Comparatively lower loan loss provision is not also always good.

The volume of NPL depends upon the credit composition, top management policy chief executive officer approach and net profit for the year etc.

Table -4.12

Loan Loss Provision to total loan and advances

(Figures in lakhs)

Fiscal year	**HBL**			**EBL**		
	LLP	Loan amount	Ratio	LLP	Loan amount	Ratio
2065/66	7263.64	255195.19	2.85	618.2	24469.6	2.53
2066/67	11431.26	291237.5	2.85	610	181564	0.336

		5				
2067/68	14012.94	329682.7	4.25	604.2	316618	1.9
2068/69	3672.8	359684.72	1.02	208.8	366168.31	0.057
2069/70	3103.3	410573.97	0.76	502.49	441977.62	0.114
Mean			2.346			0.987
S.D			1.42			1.14
C.V			0.605			1.16

Source: Annual Reports of related Banks

From above table, it is shows that HBL loan loss provision is in increasing trend. There is also positive relationship between loan loss provision and loan and advances amounting Rs. 14012.94 and Rs. 329682.70. and decreasing trend in 2068/69,2069/70. EBL is also increasing trend and reach Rs 618.2 in the fiscal year 2065/66 but after that in started to decrease and reached Rs. 208.8 in fiscal year 2068/69 but its loan and advances is increased to Rs. 441977.62 in fiscal year 2069/70 from Rs. 24469.6 in fiscal year 2065/66. The average loan loss provision to total loan and advances ratios are 2.346 and 0.987 respective. Comparatively HBL has higher variability in the maintaining loan loss provision with S.D 1.42 In conclusion the volume of loan loss provision affected not only by total loan and advances but other factors such as credit combination, top management approach, net profit volume affected.

4.3.5 NET PROFIT TO LOAN AND ADVANCES

This ratio indicates how effectively the bank has employed its resources in the form of loan and advances. Net profit refers to that profit which is obtained after all types of deduction like employee bonus, tax provision etc. Higher the ratio is preferable and vice-versa. Hence, this ratio is measures bank's profitability with respect to loan and advances. Generally higher volume of total loan and advances contribute high to net profit. But sometimes, it may not be so due to some reasons like increased volume of non- performing loan, low rated investment and high risk in credit. In this way, net

profit also affected by various risk such as credit risk significantly. Return on loan and advances help to study the risk pattern.

Table -4.13

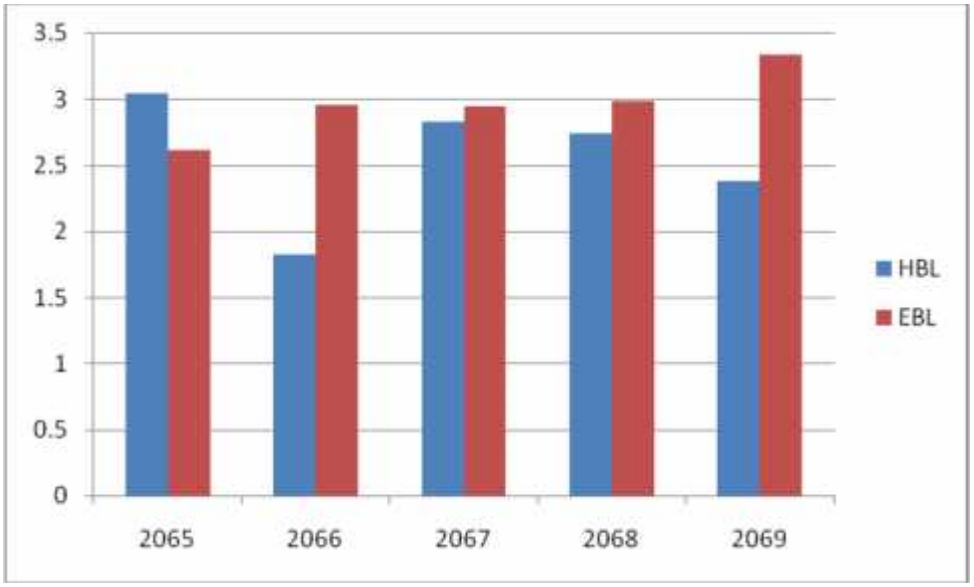
Return on Loan and advances

Fiscal Year	HBL	EBL
2065/66	3.04	2.61
2066/67	1.82	2.95
2065/66	2.83	2.94
2066/67	2.74	2.98
2067/68	2.38	3.33
Mean	2.56	2.96
S.D	0.48	0.25
C.V	0.19	0.084

Source: Annual Reports of related Banks

Figure No. 4.4

Return on Loan and advances



The above table exhibits the ratios on total loan and advances of, HBL and EBL bank for the past consecutive five year. Two Joint Venture Banks return is in average. Comparatively. The higher return on, HBL and EBL are 3.04 in the fiscal year

2065/66, 3.33 in the fiscal year 2069/69 respectively. Similarly Everest Bank Ltd has higher Consistency in maintaining proper and stabilized return on loan and advances. The highest variation in return on loan and advances is HBL among two joint venture banks with higher C.V 0.19. On the basis of variation and consistency and Everest bank Ltd perform moderately. In this way, first position according to return HBL stands comparing two JVBs. It is concluded from the trend of ratio.

4.3.6 GROWTH RATIO:

Simply growth ratio indicates the performance level comparing precedent year performance; it is totally based on qualitative data. Here is calculated the growth ratio of total loan and advances, total deposit, performing Loan and non-performing Loan volume. Which are the core components of banking, not only it but also, it largely affects the credit risk pattern. For example, the volume of loan and advances may arise the high possibility of default or high performing loan. So, the bank management should consider the growth pattern very seriously.

Table -4.14

GROWTH RATE OF TOTAL LOAN AND ADVANCES

(In lakhs)

Fiscal year	**HBL**		**EBL**	
	L & A	Growth	L & A	Growth
2065/66	255195.19	-	244696	-
2066/67	291237.55	12.38	181564	(34.77)
2067/68	239682.70	(21.5)	316618	42.66
2068/69	359684.72	33.36	366168.31	13.53
2069/70	410573.97	12.39	441977.62	17.15
Mean		9.158		9.643
S.D		19.64		27.99
C.V		2.14		2.9

Source: Annual report

From the above table exhibits shows the growth rate of total loan and advances of all sample two joint venture banks. Among two joint venture banks EBL has the highest average growth rate of loan and advances and HBL has the lowest average growth rate of loan and advances comparing with bank. This is because of lending extended in 5 category of personal loan and 8 category of Business lending. Due to this total volume

of loan and advances increase growth rate.. Not only it but also liquidity position also gives shape of loan and advances. The standard deviations of two sample banks ie,HBL and EBL are 19.64% and 27.99% respectively. This indicates that Himalayan Bank Ltd. Has less variability or more consistency in the loan floating process. As well as Everest bank Ltd has more variability or less consistency in loan floating process.. The growth rate of total loan and advances shows the lending capabilities but is not at all other many factor should be cons

Table -4.15

GROWTH RATE OF TOTAL DEPOSIT(in lakh)

Fiscal year	**HBL**		**EBL**	
	T.D	G%	T.D	G%
2065/66	346813.45	-	333229	-
2066/67	376112.02	7.79	369323	9.77
2067/68	409206.27	8.09	411279	10.20
2068/69	477309.93	14.27	500061	17.75
2069/70	530723.19	10.06	577204.64	13.36
Mean		10.05		12.77
S.D		2.56		3.19
C.V		0.25		0.25

Source: Annual reports

From above table shows the growth rate of total deposit of all sample banks. Among two JVBs Everest bank's deposit increased significantly to Rs 577204.64 lakh in the fiscal year 2069/70 from Rs 333229 lakh in the fiscal year 2065/66. On the basis of total deposit volume, Himalayan bank Ltd falls in 1st category. But its growth is moderately high. Two Joint Venture banks growth rate is in increasing trend but there is variation in growth rate of deposit volume. The standard deviation and C.V are 3.19 and 0.25% of EBL which is higher than next banks. Again S.D & C.V of HBL are 2.56% and 0.25% which is lower than EBL. Only the growth rate of total deposit cannot analyze a forecasting future performance but also should considered loan and advances, performing loan, non-performing loan, banking assets and others, lack of investing opportunity, over deposit collection, and growth rate creates over liquidity is not good for smooth operation of bank

Table -4.16

GROWTH RATE OF NON PERFORMING LOAN

Fiscal year	HBL		EBL	
	NPL	Growth	NPL	Growth
2065/66	5513.09	-	1179.85	-
2066/67	10248.31	46.20	1255.6	6
2067/68	12032.84	14.83	1048	(19.81)
2068/69	7511.64	(60.19)	3074.92	65.92
2069/70	11861.89	36.67	2761.98	(11.33)
Mean		37.51		10.19
S.D		50.18		33.49
C.V		1.34		3.29

Source: Annual repot

Non-performing loan may lead in to loss and high volume non banking assets (NBA). It directly affected to net profit and efficiency of banks. So the bank's management always tries to reduce the volume of non banking assets (NBA). By above table EBL reduces NPL significantly to Rs. 1179.85 from Rs. 1048 in the fiscal year 2065/66 from 20 67/68.

Himalayan Bank Ltd are increasing trend in the most recent year. HBL has positive growth rate by 37.58 which refers to high probability of default. It is not good symptom on the basis of HBL has highest NPL Rs. 12032.84 lakh among other banks in the fiscal year 2067/68. The Standard deviation (S.D) and Coefficient of Variation (C.V), HBL and EBL are 50.18 and 33.49 respectively. The Everest Bank Ltd maintains the high consistency in reducing NPL and inversely Himalayan Bank Ltd maintains low consistency in reducing non performing loan..

4.4 RISK INDEX AND PROBABILITY OF BOOK VALUE INSOLVANCY.

This financial model is widely used and practices in the review and appraisal for banks. It is totally based on Return on assets (ROA) and Return on equity (ROE). Simply, both indicator ROA and ROE higher will be the preferable and desirable and vice versa. Furthermore, higher consistency in ROA and ROE is the sign of good performance. The resultant figures are depends upon standard deviation on ROA and

expected ROA. It has been applied by Liary and Sawaza 1990. Expected ROA and CAP as suggested by Joshep F. Sinky Jr. in his book -Commercial bank financial management. Thus it measures overall total risk. Another aspect of this model is the probability of book value insolvency. It is calculated based on risk index (RI). In the terms of RI, probability of book value insolvency can be expressed as $\frac{1}{2}$ fRIÅ. The resultant figure shows the thickness of book value cushion bank has available to absorb accounting losses. It also indicates the probability of bankruptcy. All calculation is based in accounting data of the Joint venture banks taking consecutive five years data. It is presented comparative table of risk index which is

Table- 4.17

Comparative table of Risk Index

S.N	Bank's Name	Risk Index	± ROA	± ROE	Rank
1.	HBL	11.48	0.28	31.09	II
2.	EBL	33.81	0.42	1.61	I

Source: Annex 9and 10

From the above table Himalayan bank falls in to the 2nd category and Everest bank falls in to the 1st category according to the risk index factor .According to the table, Himalayan bank has lower risk index with higher Standard deviation of ROA and Standard deviation of ROE. This means that Himalayan Bank has higher risk due to unable to stabilize return on assets and equity. Therefore the variation in ROA and ROE exists highly than next banks. Similarly, Everest Bank has higher standard deviation on ROA and have higher standard deviation on ROE which is the highest figure of two JVBs. Thus, it affected to lower risk index (RI). stable earning and vice versa. It is concluded that expected return on assets E (ROA) and standard deviation of ROA are major two factors which determine risk index factor. Not only it but also, it is found two conditions which are as follows.

If expected return on assets E (ROA) is higher and lower standard deviation ROA, than risk index will be higher. RI has negative relationship with standard deviation of ROA but positive relationship with expected ROA.

If expected return on assets E (ROA) is lower and higher standard deviation ROA, then risk will be lower and lower risk index indicates the higher overall risk and non-stable performance.

The probability of book value insolvency's table is presented below.

Table- 4.18

Comparative Study of Book Value Insolvency.

S.N	Bank's Name	Risk Index	Probability of insolvency	Rank
1.	HBL	11.48	0.006	II
2.	EBL	33.81	0.057	I

Source: Annex 1 and 2

From the above table shows the risk index and probability of book value insolvency of two joint venture banks. The probability of book value insolvency shows the level of cushion available to absorb accounting losses. HBL have lower probability of book value to absorb such losses occurred at present. There is least chance to become insolvent comparing with next bank. EBL have lower insolvency factor 0.057%. So, EBL have higher capacity to absorb such losses than HBL. In this way, banks are categorized into four categories according to probability of book value insolvency factor. Which have lower insolvency factor that is less risky and better for investment comparatively? But, it is not final rating of risk for banks. Other tools or models should analyze for risk ratio rating.

4.5 RELATIONSHIP BETWEEN LLP AND LOAN AND ADVANCES

The correlation between loan loss provision and loan and advances shows the degree of relationship between these two items, how a unit increment in loan and advances affects the loan loss provision is measured by this correlation. Here loan and advances are independent variable and loan loss provision is dependent variable.

Table 4.19

Relationship between LLP and loan and advances

Bank's Name	Correlation coefficient (r)	Relationship	P.E	6P.E	Significant/ Insignificant
HBL	0.86	High degree of +(ve)correlation	0.079	0.47	Significant
EBL	0.65	Moderate degree of +(ve)correlation	0.17	1.02	Insignificant

Source: Annex 3and 4.

Above table shows the relationship between Loan and advances and LLP. Correlation coefficient of HBL bank is 0.86 which shows the high degree of positive correlation. It means that the volume of loan loss provision is increased with increasing the volume of loan and advances. It has 0.079 probable error of correlation. Here r < 6P.E so the correlation coefficient is not significant. Likewise Everest Bank Ltd. has Moderate degree of + (ve) correlation with 0.65. Here r <6(PE), so the correlation coefficient is not significant. It means that the volume of LLP is increased with the increasing the volume of loan and advances.

4.6 RELATIONSHIP BETWEEN LLP AND NON PERFORMING LOAN.

This correlation indicates the relationship between loan loss provision and non performing loan. How a unit increasing in NPL effects the LLP is exhibited by this correlation. NPL has treated as an independent variable whereas the LLP a dependent variable.

Table 4.20

Relationship between LLP and NPL

Bank's Name	Correlation coefficient (r)	Relationship	P.E	6P.E	Significant/ Insignificant
HBL	0.99	High degree of +(ve)correlation	0.006	0.036	Significant
EBL	0.085	Moderate degree of +(ve)correlation	0.29	1.79	Insignificant

Source:Annex 5and6.

Above table explain the relationship between LLP and NPL. HBL has high degree of positive correlation coefficient with 0.99. Which indicate that LLP change with the change in NPL in the same direction. The probable error multiplied by 6 which used to test the significance of correlation coefficient is also less than correlation coefficient. It means that the volume of correlation coefficient is significant. Likewise, EBL has moderate degree of positive correlation with 0.085. Here r < PE so, correlation coefficient is insignificant.

4.7 RELATIONSHIP BETWEEN NET PROFIT AND LLP

This correlation indicates the relationship between loan loss provision and net profit. Here net profit refers that profit which remaining after deducting taxes and provision. Certainly, provision for loan loss affects to the volume of net profit. So how a increase if LLP effects to net profit is exhibited by this correlation. Here LLP treated as an independent and net profit treated as a dependent variable.

Table -4.21

Relationship between LLP and NP

Bank's Name	Correlation coefficient (r)	Relationship	P.E	6P.E	Significant/ Insignificant
HBL	0.42	Moderate degree of +(ve)correlation	0.25	1.49	Insignificant
EBL	0.78	High degree of +(ve)correlation	0.07	0.43	Significant

Source: Annex 7 and 8

From above table Himalayan Bank have moderate level degree of + (ve) correlation with 0.42 which indicate that there exists positive relationship between net profit and loan loss provision. If the volume of LLP increased then, net profit also will increased. The EBL have high degree of + (ve) correlation which indicate that the net profit will change in the same direction with the LLP. Generally, correlation coefficient of HBL are insignificant but correlation coefficient of and EBL are significant. It shows, the LLP will impact positive and negative both to net profit.

4.8 MAJOR FINDINGS OF THE STUDY.

This chapter is the consequences of the whole study and analysis and a result and achievement of entire study too. So, this chapter concentrates on drawing the conclusion of all analysis and based on the analysis some of major findings are as follows.

On the basis of loan product, Himalayan Bank Ltd has covered the least range of lending among two Joint Venture Banks including 3 categories in retail or consumer loan and 4 categories in corporate and wholesale loan,. Covered wide range of lending among two Joint Venture Banks including 8 categories in consumer loan and 7 categories in corporate loan. Similarly, EBL has extended their loan and advances in 6 categories of consumer lending and 3 categories of corporate lending. The common categories of lending are Home loan, Auto loan, personal finance, property loan, loan against deposit and Govt. securities but education loan and loan against international guarantee are new invention of a banking industry which introduced by Everest Bank Ltd. And Himalayan Bank Ltd.

The range or depth of loan product line defines the volume of loan and lending composition. These two factors, the volume of loan and lending composition directly affected to the risk volume. For the evidence of this fact, in the fiscal year 2069/70 the loan and advances of, Himalayan Bank Ltd and Everest Bank Ltd. has been Rs.. 410573.97 and Rs. 441977.97 lakh respectively. Himalayan Bank and Everest bank have adopted the different policies on the basis of loan product. But basically, two Joint Venture banks has focused mainly on collateral, borrower's future cash flows and cash generating capacity, legal documentation, loan amount, period and procedures. All these factors play a vital role for maintaining credit risk condition. On the basis of study collateral must be "MAST" characteristics which means M = Marketability A = Accessibility S = Security and T = Transferability. This concept has been applied which is found by rearch and according to their journal and report.

The volume of credit risk also affected by securities wise lending composition. From the analysis of lending against collateral two banks has extended their loan and advances in 10 categories of collateral. The average lending against movable/non-

movable assets over past three years of HBL and EBL each has Rs. 319757.9 and Rs. 365517.78 respectively. Similarly, lending against government guarantee falls 3rd position for EBL

Analysis of non-performing loan to total loan discovered that the average NPL of HBL and EBL are 2.967and 0.49 respectively. It means that average performing loan, HBL and EBL have higher percentage of performing loan. The percentage of performing loan of HBL and EBL are 97.02 99.51respectively. Hence HBL have higher percentage of non-performing loan than others and EBL have lower percentage of non-performing loan. This means that HBL has more credit risk than EBL. Everest bank have been managed to decrease the volume of non-performing loan below 2% expect Himalayan Bank Ltd.

The average loan loss provision to total loan ratio of, HBL and EBL are and 2.346 0.987respectively. The higher percent of LLP of Himalayan Bank Ltd indicate that the bank has higher amount of non-performing loan than next. The main objective of maintaining loan loss provision for recovery bad sector from loan loss which is not performed. So, EBL is in better position than HBL which showed by above figures.

On the basis of growth ratio, the volume of total deposit of HBL and EBL are increasing trend from the fiscal year 2068/69. The average growth rate of Everest Bank Ltd is the highest comparing next joint venture bank. The average growth rate of total deposit of, HBL and EBL are 10.05% and 12.77% respectively which is satisfactory. In this way, the growth rate of total deposit directly affect to the volume of total loan and advances. It is found that the growth rate of total loan and advances of HBL and EBL are, 9.1 % and 9.643% respectively which is calculated average of five years. The credit risk is increasing in all four averages of five years. The credit risk is in increasing in joint venture banks with the increment trend of loan and advances volume. Another aspect of credit is the volume and growth rate of non-performing loan. The growth rate of non-performing loan of, HBL and EBL are 37.51 and 10.19 % respectively. The growth rate of non-performing HBL are increasing trend. But there is somehow little fluctuation in the last three years and it's around. Thus, it is concluded that HBL have higher credit risk comparatively than other. At

last, EBL has lower credit risk because its lower volume of NPL and negative growth rate.

In case of Himalayan bank Ltd. has 11.48 risk index and its probability of book value insolvency is 0.006 which is less than 1%. This indicates that bank has quite higher S.D (ROA) and S.D (ROE) than EBL. HBL have 0.28% ROA and 31.09% ROE in the fiscal year 2069/70 Due to this reason, it has lower level of cushion available to absorb accounting losses which occurred in future. Similarly, EBL has 33.81 risk index and its probability of book value insolvency is 0.057 which is lowest figure than other three banks. It indicates that bank have stable performance and maintaining stable return. It is more fruitful for potential investor.

The coefficient of correlation between loan loss provision and loan and advances of EBL has moderate degree of positive correlation with insignificant relationship. This means the loan and advances increase than loan loss provision. So, LLP is decreases. Similarly, the coefficient of correlation between loan and advances and loan loss provision of HBL is high degree of positive correlation with significant relationship. This means the volume of loan loss provision directly affected by loan and advances significantly.

The analysis of correlation between loan loss provision and non performing loan of EBL has moderate degree (ie,0.42) of positive correlation with insignificant relationship. But HBL has high degree of positive correlation with significant relationship. The coefficient of correlation between net profit and loan loss provision of HBL has moderate degree (i.e., 0.78) of positive correlation with insignificant relationship. This means the net profit increase than loan loss provision. But EBL has high degree of positive correlation with significant relationship respectively. This means the volume of net profit directly affected by loan loss provision significantly.

2012. Two joint venture banks has been maintaining proper adequacy ratio for total fund. This means, they implement NRB's new direction.

Chapter- 5

SUMMARY CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

Economic development is not possible without proper development of banking sector in a country, as the banks are the real facilitation for mobilizing the resources. Banks are institutions which collect the scattered small saving from the public and invest them into productive sector that ultimately contributes to economic development of a country. Besides providing the services for the economic development, they major a challenge for Nepalese commercial banks is to properly manage the risk. Considering the importance of risk management in commercial banks, this research aimed at studying credit risk management system of selected joint venture banks. Out of total population of 30 commercial banks, 6 banks are joint venture banks. Almost them joint venture banks, HBL and EBL were selected for this study. Two joint venture banks are leading and big banks in Nepalese banking industries in terms of business size, capital size, no. of branches etc.

Its presents the conceptual review of credit risk management including different types of risk, that exist in bank , credit risk management system and credit risk management frame work and techniques. The central bank's regulations regarding the risk management has been also discussed. This chapter focuses on the review of literature relevant to understand credit and credit management of bank. There are some books, journals, articles, other studies done related with lending and investment aspect of banks

Two joint venture banks have been extended their credit against collateral of movable or Non-movable property in high volume. EBL has extended the credit without any security that is not good sign. Similarly, credit concentration on single sector of HBL,and EBL shows that joint venture banks have very high amount of concentration on single sector i.e. manufacturing sector or (production sector). In manufacturing sector HBL and EBL has 38.36%, and 17.49% of total loan exposures in the fiscal

year 2013 which is the sign of putting all eggs in a basket. Improper portfolio management also remains and of the significant problems in credit management of these banks. The main indicators of loan default indicate that average Non-Performing loan of Himalayan Bank Ltd. is more than other three banks. However, in the recent year all joint venture banks has been managed to decrease the volume of non-performing loan below 2% expect Himalayan Bank Ltd. this very, Himalayan bank have lower risk index. It is due to higher stand and deviation of ROA and ROE comparatively than others. But This indicates the strong capital position, stable earning and higher ROA and ROE. The coefficient of correlation between loan loss provision and loan and advances of EBL has moderate degree of positive correlation with insignificant relationship. This means the loan and advances increase than loan loss provision. So, LLP is decreases. Similarly, the coefficient of correlation between loan and advances and loan loss provision of HBL is high degree of positive correlation with significant relationship. This means the volume of loan loss provision directly affected by loan and advances significantly. The credit risk management procedure in these banks includes mainly the two bank procedure. The major outlines of risk management include setting Standard for all the transaction such as lending, borrowing etc. and preparing financial reports. A substantial degree of standardization process and documentation has been set to criteria are also fulfilled by all joint venture banks. This is the major guidelines for making investment decision.

5.2 CONCLUSION

As per the study, the credit risk of banks mainly arise due to non-payment of loan by borrowers, poor appraisal of borrowers and improper diversification of lending across industries also result in higher credit risk in banks. The major problems in credit risk can be categorized into three areas of concentration, credit processing and market and liquidity sensitive. In credit, processing, improper credit appraisal system, ineffective credit monitoring and supervision, borrower's misconduct, overvaluation of collateral, political pressure to lend to un credit worthy parties etc are the major factors lending to non-performing loan. Setting up recovery hiring assets Management Company are some to the measure to resolve the problem of Non-performing loan classification and

loan loss provision also helps to confront the problems. Adequate provisioning strengthens the financial health of the banks and makes them able to face any kind of future contingencies. It has found that all four joint venture banks give the proper consideration and provision for lending process. Two sample banks extended credit without collateral which is the good sign of credit practices. They have kept close eyes towards securities and especially focus on collateral with the feature of "MAST". This means M = Marketability, A = Accessibility, S = Security and T = Transferability.

5.3 RECOMMENDATION

From the above analysis of credit risk management of Himalayan Bank and Everest Bank following recommendation is made to these banks, NRB and Nepal government in respect of credit risk management.

Old technique(no Scientific technique)no longer work: In the current context, both joint venture bank have been applying old technique for managing the risk ie,no use scientific technique. These techniques should be changed with changes in environmental forces. For the management of credit risk associated with assets and liabilities management banks need to adopt new methods such as simulation method, Value at risk (VAR) method, Credit risk derivatives and credit enhancement mechanisms etc.

Identify and deal with new risks, both joint venture banks seem conservative in term of dealing of risk. Credit risk has been given high priority in four banks. To remain components in the market all banks need to identify and deal with new risks arise with the change in environmental forces.

System of check and balance,both banks should give focus to the system of check and balance which helps to reduce the risk. Proper adherence of NRB directives: Preventive measure: It is recommended for two joint venture banks to take preventive measures before credit risk arising due to wrong decision, inadequate information. So two banks are recommended to develop sophisticated information system and taking

adequate information about borrowers from credit information bureau (CIB). It will help to protect for lending to bank listed borrower .

It has been found that Everest bank has extended the credit without banking and any collateral. This sort of practice seems very risky and non profitable, as there is no collateral and make 100% provision of loan amount. So, EBL needs to stop lending without any collator HBL, and EBL's contribution to manufacturing sector is relatively high. This means credit concentration is in only manufacturing sector. Portfolio model says that is very risk for investment and reducing risk. Not only it but also maximizing return may be affected. So, it is recommended to make will diversify portfolio by two joint venture banks.

Both HBL and EBL have been extended of total credit to moderate level risk lending in very low the credit out so, to minimize the credit risk this proportion of credit should be increased.Similarly, two joint venture banks have extended the highest amount of loan against the movable and non-movable property which is 100% risk weight. So both two banks need to diversify it's against different securities.

Both HBL and EBL are also increasing with the increase in loan and advances. So, HBL and EBL need to be more careful with taking credit decision.For the proper credit risk management, all banks needs to following loan and following principles i.e. establishing an appropriate credit risk environment, operating under a sound credit granting process, maintaining an appropriate credit administration, measurement and monitoring, process and at last ensure adequate controls over credit risk.

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ANNEX - 1

Risk index and probability of book value insolvency

A. Himalayan Bank Ltd.

Fiscal year	ROA	ROE	EM= ROE/ROA
2065/66	1.47	22.91	7.91
2066/67	1.76	25.30	14.74
2067/68	1.91	24.13	44.72
2068/69	1.19	14.02	23.33
2069/70	1.91	22.35	63.51
	$\pm ROA$ = 0.28	$\pm ROE$ = 31.09	

Source: Annual Report

Risk index = $\frac{E\,fROAA\Gamma CAP}{\pm ROA} = \frac{E\,fROAA\Gamma \frac{1}{EM} \mid 100}{\pm ROA} = \frac{1.64\,\Gamma \frac{1}{63.51} \mid 100}{0.28}$ = 11.48%

Probability of Book Value insolvency = $\frac{1}{2} fRIA^{\circ}$ = $\frac{1}{2} f0.1148A^{\circ}$ = 0.006

ANNEX -2

Risk index and probability of book value insolvency

A. Everest Bank Ltd.

Fiscal year	ROA	ROE	EM= ROE/ROA
2065/66	2.10	27.75	13.21
2066/67	2.40	28.54	11.89
2067/68	2.61	28.96	11.10
2068/69	2.95	30.17	10.23
2069/70	2.94	25.33	8.62
	$\pm ROA$ = 0.42	$\pm ROE$ = 1.61	

Source: Annual Report

Risk index = $\frac{E\,fROAA\Gamma CAP}{\pm ROA} = \frac{E\,fROAA\Gamma \frac{1}{EM} \mid 100}{\pm ROA} = \frac{2.60\,\Gamma \frac{1}{8.62} \mid 100}{0.42}$ = 33.81%

Probability of Book Value insolvency = $\frac{1}{2} fRIA^{\circ}$ = $\frac{1}{2} f0.3381A^{\circ}$ = 0.057

Annex - 3

Correlation Coefficient and probable error

(C) Correlation coefficient between LLP and Loan and Advances of Himalayan Bank Ltd.

(In Rs. lakh)

Fiscal Year	LLP (X)	L&A (Y)	X = X- $\overline{X}$	Y = Y - $\overline{Y}$	X^2	Y^2	XY
2065/66	7,957.27	177,937.24	(1,539.94)	(73,232.52)	2,371,409.04	5,363,002,278.48	112,773,543.46
2066/67	6,820.93	201,796.13	(2,676.28)	(49,373.63)	7,162,463.93	2,437,755,536.87	132,137,565.10
2067/68	7,263.64	255,195.19	(2,233.57)	4,025.43	4,988,826.01	16,204,070.58	(8,991,067.17)
2068/69	11,431.26	291,237.55	1,934.05	40,067.79	3,740,557.14	1,605,427,635.21	77,493,185.52
2069/70	14,012.94	329,682.70	4,515.73	78,512.94	20,391,835.50	6,164,281,433.39	354,543,386.54
	X X	Y X			X^2 X	Y^2 X	XY X
TOTAL	**47,486.04**	**1,255,848.81**			**38,655,091.62**	**15,586,670,954.54**	**667,956,613.46**

Source: Annual Report

$\overline{X}$ X $\frac{X}{N}$ *or* $\frac{47486.04}{5}$ *or* 9497.21

$\overline{Y}$ X $\frac{Y}{N}$ *or* $\frac{1255848.81}{5}$ *or* 251169.76 Now, r = $\frac{XY}{\sqrt{X^2 \quad Y^2}}$ *or* $\frac{667956613.46}{\sqrt{38655091.62 \mid 15586670954.54}}$ *or* $\frac{667956613.46}{776211436.2}$ *or* 0.86

Computation of Probable error P.E (r)

P.E (r) = $0.6745 \mid \frac{1 Z r^2}{\sqrt{5}} or 0.6745 \mid \frac{1 Z 0.86^2}{\sqrt{5}} or 0.079$

Again 6P.E(r) = $6 \mid 0.079 \text{ X} 0.47$

Annex - 4

Correlation Coefficient and probable error

(D) Correlation coefficient between LLP and Loan and Advances of Everest Bank Ltd.

(In Rs. lakh)

Fiscal Year	LLP (X)	L&A (Y)	X = X- $\overline{X}$	Y = Y - $\overline{Y}$	X^2	Y^2	XY
2065/66	4,532.00	140,827.00	(1,102.20)	(73,586.80)	1,214,844.84	5,415,017,134.24	81,107,370.96
2066/67	5,315.00	188,364.00	(319.20)	(26,049.80)	101,888.64	678,592,080.04	8,315,096.16
2067/68	6,182.00	244,696.00	547.80	214,413.80	300,084.84	45,973,277,630.44	117,455,879.64
2068/69	6,100.00	181,564.00	465.80	(32,849.80)	216,969.64	1,079,109,360.04	(15,301,436.84)
2069/70	6,042.00	316,618.00	407.80	102,204.20	166,300.84	10,445,698,497.64	41,678,872.76
	X X	Y X			X^2 X	Y^2 X	XY X
TOTAL	**28,171.00**	**1,072,069.00**			**2,000,088.80**	**63,591,694,702.40**	**233,255,782.68**

$\overline{X}$ X $\frac{X}{N} or \frac{28171}{5} or 5634.20$

$\overline{Y}$ X $\frac{Y}{N} or \frac{1072069}{5} or 214413.80$ *(Source: Annual Report)*

Now, r = $\frac{XY}{\sqrt{X^2 \quad Y^2}} or \frac{233255782.68}{\sqrt{2000088.80 \mid 6359169470\,2.40}} or \frac{233255782.68}{356635719.4} or 0.65$

Computation of Probable error P.E (r)

P.E (r) = $0.6745 \mid \frac{1 Z r^2}{\sqrt{5}} or 0.6745 \mid \frac{1 Z 0.65^2}{\sqrt{5}} or 0.17$

Again 6P.E(r) = $6 \mid 0.17 \text{ X} 1.02$

Annex- 5

Correlation Coefficient and probable error

(C) Correlation coefficient between LLP and NPL of Himalayan Bank Ltd.

(In Rs. Lakh)

Fiscal Year	LLP (X)	L&A (Y)	X = X- $\overline{X}$	Y = Y - $\overline{Y}$	X^2	Y^2	XY
2065/66	7,957.27	6,416.15	(1,539.94)	(1,380.39)	2,371,409.04	1,905,465.51	2,125,708.86
2066/67	6,820.93	4,772.29	(2,676.28)	(3,024.25)	7,162,463.93	9,146,063.87	8,093,723.04
2067/68	7,263.64	5,513.09	(2,233.57)	(2,283.45)	4,988,826.01	5,214,125.63	5,100,231.92
2068/69	11,431.26	10,248.31	1,934.05	2,451.77	3,740,557.14	6,011,195.75	4,741,858.41
2069/70	14,012.94	12,032.84	4,515.73	4,236.30	20,391,835.50	17,946,271.58	19,130,013.53
	X X	Y X			X^2 X	Y^2 X	XY X
TOTAL	**47,486.04**	**38,982.68**			**38,655,091.62**	**40,223,122.34**	**39,191,535.75**

$\overline{X}$ X $\frac{X}{N} or \frac{47486.04}{5} or 9497.21$ $\overline{Y}$ X $\frac{Y}{N} or \frac{38982.68}{5} or 7796.54$ *(Source: Annual Report)*

Now, r = $\frac{XY}{\sqrt{X^2 \quad Y^2}} or \frac{39191535.75}{\sqrt{38655091.62 \mid 40223122.34}} or \frac{39191535.75}{39431313.44} or 0.99$

Computation of Probable error P.E (r)

P.E (r) = $0.6745 \mid \frac{1 Z r^2}{\sqrt{5}} or 0.6745 \mid \frac{1 Z 0.99^2}{\sqrt{5}} or 0.006$

Again 6P.E(r) = $6 \mid 0.006 \text{ X} 0.0036$

Annex- 6

Correlation Coefficient and probable error

(D) Correlation coefficient between LLP and NPL of Everest Bank Ltd.

(In Rs. Lakh)

Fiscal Year	LLP (X)	L&A (Y)	X = X- $\overline{X}$	Y = Y - $\overline{Y}$	X^2	Y^2	XY
2065/66	4,532.00	1,131.79	(1,102.20)	(53.08)	1,214,844.84	2,817.27	58,502.57
2066/67	5,315.00	1,273.10	(319.20)	88.23	101,888.64	7,784.89	(28,163.65)
2067/68	6,182.00	1,179.85	547.80	(5.02)	300,084.84	25.18	(2,748.86)
2068/69	6,100.00	1,255.60	465.80	70.73	216,969.64	5,003.02	32,946.97
2069/70	6,042.00	1,084.00	407.80	(100.87)	166,300.84	10,174.35	(41,133.97)
	X X	Y X			X^2 X	Y^2 X	XY X
TOTAL	**28,171.00**	**5,924.34**			**2,000,088.80**	**25,804.71**	**19,403.05**

$\overline{X}$ X $\frac{X}{N} or \frac{28171}{5} or 5634.20$ $\overline{Y}$ X $\frac{Y}{N} or \frac{5924.34}{5} or 1184.87$ *(Source: Annual Report)*

Now, r = $\frac{XY}{\sqrt{X^2 \quad Y^2}} or \frac{19403.05}{\sqrt{2000088.80 \mid 25804.71}} or \frac{19403.05}{227182.11} or 0.085$

Computation of Probable error P.E (r)

P.E (r) = $0.6745 \mid \frac{1 - r^2}{\sqrt{5}} or 0.6745 \mid \frac{1 - 0.085^2}{\sqrt{5}} or 0.299$

Again 6P.E(r) = $6 \mid 0.299 \times 1.796$

Annex - 7

Correlation Coefficient and probable error

(C) Correlation coefficient between LLP and Net Profit of Himalayan Bank Ltd.

(**In Rs. lakh**)

Fiscal Year	LLP (X)	L&A (Y)	X = X- $\bar{X}$	Y = Y - $\bar{Y}$	X^2	Y^2	XY
2065/66	7,957.27	4,918.23	(1,539.94)	(1,646.65)	2,371,409.04	2,711,456.22	2,535,738.91
2066/67	6,820.93	6,358.69	(2,676.28)	(206.19)	7,162,463.93	42,514.32	551,821.76
2067/68	7,263.64	7,528.35	(2,233.57)	963.47	4,988,826.01	928,274.44	(2,151,975.76)
2068/69	11,431.26	5,087.98	1,934.05	(1,476.90)	3,740,557.14	2,181,233.61	(2,856,401.40)
2069/70	14,012.94	8,931.15	4,515.73	2,366.27	20,391,835.50	5,599,233.71	10,685,441.16
	$X \times$	$Y \times$			$X^2 \times$	$Y^2 \times$	$XY \times$
TOTAL	**47,486.04**	**32,824.40**			**38,655,091.62**	**11,462,712.30**	**8,764,624.67**

$\bar{X} \times \frac{X}{N} or \frac{47486.04}{5} or 9497.21$

$\bar{Y} \times \frac{Y}{N} or \frac{32824.40}{5} or 6564.88$

Now, r = $\frac{XY}{\sqrt{X^2 \quad Y^2}} or \frac{8764624.67}{\sqrt{38655091.62 \mid 11462712.30}} or \frac{8764624.67}{21049755.20} or 0.42$

Computation of Probable error P.E (r)

P.E (r) = $0.6745 \mid \frac{1 Z r^2}{\sqrt{5}} or 0.6745 \mid \frac{1 Z 0.42^2}{\sqrt{5}} or 0.25$

Again 6P.E(r) = $6 \mid 0.25 \text{ X} 1.496$

Annex - 8

Correlation Coefficient and probable error

(D) Correlation coefficient between LLP and Net Profit of Everest Bank Ltd.

(In Rs. Lakh)

Fiscal Year	LLP (X)	L&A (Y)	X = X- $\overline{X}$	Y = Y - $\overline{Y}$	X^2	Y^2	XY
2065/66	4,532.00	2,946.00	(1,102.20)	(3,349.20)	1,214,844.84	11,217,140.64	3,691,488.24
2066/67	5,315.00	4,512.00	(319.20)	(1,783.20)	101,888.64	3,179,802.24	569,197.44
2067/68	6,182.00	6,387.00	547.80	91.80	300,084.84	8,427.24	50,288.04
2068/69	6,100.00	8,318.00	465.80	2,022.80	216,969.64	4,091,719.84	942,220.24
2069/70	6,042.00	9,313.00	407.80	3,017.80	166,300.84	9,107,116.84	1,230,658.84
	X X	Y X			X^2 X	Y^2 X	XY X
TOTAL	**28,171.00**	**31,476.00**			**2,000,088.80**	**27,604,206.80**	**6,483,852.80**

$\bar{X} \text{ X} \frac{X}{N} or \frac{28171}{5} or 5634.20$ $\bar{Y} \text{ X} \frac{Y}{N} or \frac{31476}{5} or 6295.20$

Now, r = $\frac{XY}{\sqrt{X^2 \quad Y^2}} or \frac{6483852.80}{\sqrt{2000088.80 \mid 27604206.80}} or \frac{6483852.80}{7430401.39} or 0.87$

Computation of Probable error P.E (r)

P.E (r) = $0.6745 \mid \frac{1 \text{Z} r^2}{\sqrt{5}} or 0.6745 \mid \frac{1 \text{Z} 0.87^2}{\sqrt{5}} or 0.0701$

Again 6P.E(r) = $6 \mid 0.0701 \text{ X} 0.43$

ANNEX - 9

Calculation of ROA for Everest Bank (ln Rs. lakh)

Year	NI	T.A	ROA = (NI/TA) X 100
2065/66	296409	21432574	2.10
2066/67	451219	27149343	2.40
2067/68	638733	36916849	2.61
2068/69	831766	41382761	2.95
2069/70	931304	46236212	2.94

Source: Annual Report

Calculation of ROA for HBL(ln Rs. lakh)

Year	NI	T.A	ROA = (NI/TA) X 100
2065/66	491823	34314868	1.47
2066/67	635869	36857624	1.76
2067/68	752835	40046686	1.91
2068/69	508798	43860251	1.19
2069/70	893115	48137497	1.91

Source: Annual Report

ANNEX -10

Calculation of ROE for Everest Bank (ln Rs. lakh)

Year	NI	Equity	ROE = (NI/Equity) X 100
2065/66	2964	10615	27.75
2066/67	4512	15812	28.54
2067/68	6387	22054	28.96
2069/69	8318	27571	30.17
2069/70	9313	36772	25.33

Source: Annual Report

Calculation of ROE for HBL (In Rs. lakh)

Year	NI	Equity	ROE = (NI/Equity) X 100
2065/66	491823	2146538	22.91
2066/67	635869	2513004	25.30
2067/68	752835	3119835	24.13
2068/69	508798	3628640	14.02
2069/70	893115	3995400	22.35

Source: Annual Report