CHAPTER - I
INTRODUCTION

1.1 Background of the study

Nepal is a small landlocked country about 500 miles long and 100 miles wide. It is located in the Himalaya Mountains and bordered by China to the north and India to the south, east and west. Nepal is a land of extremes; climates range from subtropical (lowland) to arctic (high mountain) and vegetation ranges from sub tropical forests to arctic. It is a mountainous country with approximately 77% of its total area occupied by hills and mountains. It is a country of physical extremes from the arctic high Himalaya in the north to the subtropical hot flatlands in the south.

"Nepal is one of the richest countries in the world in terms of biodiversity due to its unique geographical position and latitudinal variation. The elevation of the country ranges from 60m above sea level to the highest point on earth, the MT. Everest at 8848 meter "(Nepal Tourism Board, Nepal Guide Book, 2002)

The World is converted into narrow boundary. The concept of borderless country took rapid motion in those days. Liberalization & Globalization is most common and essential part of investment and other activities. The open market concept creates several opportunity and threats. Rapid development in information technology sector is also milestone for increasing investment activities. Thus, competitive environment is formed in national market as well as international investor, which help to raise the life standard of people. The communist country like China has also opened their market and largest multinational companies invests their capital in various sectors. Therefore, today China becomes leading industrialist country in the World.

"Nepal is adopting the mixed economic system; this system is a mix of free market and centrally planned economies where both public and private sector co-exist. The public sector plays a strategic role through the ownership and control of basic industries including utilities. The private sector owns agriculture and small, medium and large industries but is regulated by the state. "(Agrawal, Govinda Ram, 2002:104)

In Globalization and liberalization environment of World, Nepal adopt open market policy, which attracts several multinational companies to invest in different sector. Several State Owned Enterprises were established during those days technical & financial Supervision of Japan, China, India & America. Several cottage industries & big industries were established and promoted during those days. After democracy with held in 2046, several

financial companies were established and they are growths like mushroom. But lack of proper policy, Rules & regulation and Supervision, Development of financial companies was very poor. The growths of financial companies' create several problems and unhealthy competition among the companies. The financial market is very small and underdeveloped. So investors have not enough knowledge about investment projects. They are imitating only the followers investing activities. They invest only on security at once.

Each and every managerial decision making is based on financial analysis and it covers acquisition, utilization, control and administration of fund. Finance has become an important branch of any economy of which share market is a leading sector. The financing activities help to raise the capital market which helps to expand the national economy.

Intermediaries companies are those who work like the bridge to finance company and customers. The commercial bank, stockbrokers are the example of intermediaries institution.

Secondary market is such market where already issued securities in primary market are re-transacted. In secondary market, there exist both organized and unorganized markets. Most transaction of security market is done in this market. The value of issued capital in securities is only known by stock broker and owner not issued company.

Apart from this market transaction, the transaction of securities is conducted through Over the Counter Market. The destination of transaction is not fixed and the transaction is made through telephone, Fax, Computer by stock Brokers. Therefore the market is often called Negotiated Market.

"The word Investments brings forth vision of profit, risk, speculation and wealth. For the uninformed, investing may results in disaster. For the knowledgeable, the investment process can be financially be rewarding and exciting." (Cheney and Moses, 1992: 6)

In finance, investment means the purchase of a financial product or other item of value with an expectation of favorable future returns. In general terms, investment means the use money in the hope of making more money.

Investment or investing is a term with several closely-related meanings in business management, finance and economics, related to saving or deferring consumption. Investing is the active redirection of resources: from being consumed today, to creating benefits in the future; the use of assets to earn income or profit. (Sullivan & Steven, 2003:271)

An investment is a choice by an individual or an organization such as a pension fund, after at least some careful analysis or thought, to place or lend money in a vehicle (e.g. property, stock securities, bonds) that has sufficiently low risk and provides the possibility of generating returns over a period of time.[Placing or lending money in a vehicle that risks the loss of the principal sum or that has not been thoroughly analyzed is, by definition speculation, not investment. (Graham, Benjamin and Dodd, David, 1934:73)

In the case of investment, rather than store the good produced or its money equivalent, the investor chooses to use that good either to create a durable consumer or producer good, or to lend the original saved good to another in exchange for either interest or a share of the profits.

In the first case, the individual creates durable consumer goods, hoping the services from the good will make his life better. In the second, the individual becomes an entrepreneur using the resource to produce goods and services for others in the hope of a profitable sale. The third case describes a lender, and the fourth describes an investor in a share of the business.

In each case, the consumer obtains a durable asset or investment, and accounts for that asset by recording an equivalent liability. As time passes, and both prices and interest rates change, the value of the asset and liability also change.

Investment decision depends upon two factors, i.e. risk and return. Risk is the fluctuation of actual returns and expected returns the objective of portfolio analysis is to minimize risk at the gives rate of return. The minimization of risk is possible by investing in two or various securities. Investing in two or more securities is called portfolio. “A portfolio is collection of investment securities. Portfolio theory deals with the selection of optimal portfolio’s that is, portfolios that provides the highest possible return or the lowest possible risk for any specified rate of return” (Weston & Copeland, 1992: 302)

1.2 Securities market

Capital plays a vital role in the economic development of the country. Nepal being one of the least developed countries in the world to make every possible endeavor to efficiently mobilize the available capital. The need of securities market development in Nepal has been an accepted reality; however, it had not been develop at desired rate. The growth of the economy very much depend on the strength and efficiency of its securities markets.

A place or places where securities are bought and sold, the facilities and people engaged in such transactions, the demand for and availability of securities to be traded, and the willingness of buyers and sellers to reach agreement on sales.

The history of securities market began with the flotation of shares to the general public by Biratnagar Jute Mills and Nepal Bank Limited in 1937. Introduction of the company Act in 1964, the first issue of Government Bond in 1964 and the establishment of Securities Exchange Center Limited in 1976 was other significant development resulting to capital markets.

Securities Exchange Center (SEC) was established with an objective of facilitating and promoting the growth of capital markets. The SEC was the only institution at that time managing and operating primary and secondary of long-term government and corporate securities.

A need to develop different institutional mechanism relating to securities market was strongly felt to avoid potential conflict of interest between the services provided. Therefore in1993, with a mandate to regulate and develop the securities market, securities board of Nepal (SEBO/N) was established.

The securities markets help to channel public savings to industries and business enterprises. Mobilization of such resources for investment is certainly a necessary condition for economy to tale off, but the quality of their allocation to various investment projects is as important as a factor for growth. Securities market help liquidation, which increases corporate sector productivity. Securities markets also accelerate growth indirectly by reducing risk, which encourage firm investment.

1.3 Meaning of commercial banks

A commercial bank is a financial intermediary which collects credit from lenders in the form of deposits and lends in the form of loans. A commercial bank holds deposits for individuals and businesses in the form of checking and savings accounts and certificates of deposit of varying maturities while a commercial bank issues loans in the form of personal and business loans as well as mortgages. The term commercial bank came about as a way to distinguish it from an "investment bank." The primary difference between a commercial bank and its counterpart is that a commercial bank earns revenue by issuing primary loans from its pool of deposits while an investment bank brings debt and equity offerings to market for a fee. Among its assets, including loans, a commercial bank holds a portfolio of other securities to generate proprietary income.

"A Commercial Bank refers to such type of bank other than specified bank related to Cooperative, agricultural, Industrial and other which deals in money exchange, accepting deposits and advancing loans etc" (Commercials Bank Act of Nepal , 2031, B.S)

Commercial Banks are those financial institutions that deal in accepting deposits of individual and institutions and giving loan against securities. They mobilize monetary resources from the savers to the users. They provide working capital needs of trade, industries and even to agricultural sectors. Moreover commercial banks also provide technical and administrative assistance to industries, trade and business enterprises. Commercial Banks pool together the saving or the community and arrange them for the productive use. A part from financing, they also render services like collection of bills and checks, safekeeping of the valuables, financial intermediaries etc. to their customers.

Commercial Banks are a cooperation, which accepts demand deposit subject to check and makes short-term loans to business enterprises, regardless of the scope of its other services.

Commercial Banks are the heart of the financial system. They make fund available through their lending and investing activities to borrower, individuals, business firms and services for producer to customers and financial activities of the government. Therefore, Commercial Banks are those financial institutions, which collects loan against proper securities for their productive purpose.

1.4 Development of commercial banks in Nepal

Banking in Nepal began with the establishment of Nepal Bank Limited in 1994 B.S. before this, Kaushi Toshakhana, set up during the reign of Prithivi Narayan Shah, and Tejarath Adda, set up during the reign of Ranoddip Shah, and used to carry on very limited banking-like activities. These were also money lenders and merchants partially fulfilling the requirements of the general public. These institutions and people used to lend money to the public at a certain rate of interest. However, they did not collect deposits. Due to lack of deposits Large-scale lending was not possible at the time. Against such a backdrop, the need for banking was actually felt. As a result banking commenced in Nepal with the establishment of Nepal bank limited Therefore, Nepal Bank limited can be appositely termed the progenitor of banking in Nepal.

Nepal Bank Limited is the first commercial bank in Nepal with 51% government equity and 40% owned by public. It was established under the special Banking act, 1993 having elementary functions of a commercial

bank. Because of the non-existence of a central bank in the country, Nepal Bank limited had to act as its own central bank and keep enough resources in hand for meeting emergencies.

Later on, the first central bank was established in 2013 B.S. under Nepal Rastra Bank (NRB) Act, 2012 with an objective of supervising, protecting and directing the functions of commercial banking activities. After that, NRB concentrated its attention towards the development of banking system by formulating relevant policies and procedures. Prior to this, there was no such formal organization to control and regulate the monetary system in the country. It is an autonomous body and fully owned by the government of Nepal, which works for the development of banking system in the country.

As time elapsed, the services of Nepal bank Limited turned out to be inadequate as the banking requirements of the people kept on increasing. To fulfill the growing credit requirement of the country, the commercial bank “Rastriya Banijya Bank (RBB)” was established in 2023 B.S. under RBB act, 2021 with fully government equity that of authorized capital of Rs 10 million and paid up capital of Rs2.5 million

Though, the concept of banking system was introduced in Nepal with the establishment of Nepal Bank Ltd. in 1937. The financial scenario has changed with introduction of joint venture banks in 1984. The domestic banks of Nepal, Nepal Bank Ltd. and Rastriya Baniiya Bank could no longer hold monopoly. The 2040 B.S. turned out to be crucial in the history of banking in Nepal. The government then introduced “Financial Sector Reforms” in 2037 B.S. which gave permission for the establishment of private and joint venture banks with up to a maximum of 50% equity participation. In the process, NA was established in 2041 B.S. when the sixth plan was running in the country.

The financial scenario has changed with the introduction of Joint venture Banks. The number of Commercial Banks has been increasing, science then, various financial institutions like Joint Venture Banks, Domestic Commercial banks, Development Banks, Financial Companies, Co-operatives and NGOs with limited banking transactions have come in to existence to cater the financial needs of the country thereby assisting financial development of the country.

After the liberalization of the financial sector, financial sector has made a hallmark progress both in terms of the number of financial institutions and beneficiaries of financial services. Till now, 26 commercial banks have started its operation in Nepal.

The real boost into the capital market in the form of a private sector led growth began with the financial sector liberalization. In the mid-eighties,

Nepal opened its doors to foreign investors as joint venture partners in the banking sector, which revolutionized commercial banking services in Nepal. Since then, a variety of private sector based financial institutions have evolved. In 1992, the Finance Companies Act was amended. This enabled finance companies to be established to function in various areas such as leasing, housing finance, and hire-purchase. These institutions were also allowed to perform capital market functions such as share issue, portfolio management, market making and custodial services. The growth of these financial institutions was complemented by the establishment of the Nepal Stock Exchange. In 1993, the Securities Exchange Act was amended. The Securities Exchange Center was converted into the Nepal Stock Exchange for securities trading by private brokers and the Securities Exchange Board was established for oversight functions as a regulatory body. This amendment also permitted private sector market intermediaries and set the operating guidelines for intermediary functions such as broking, market making, issue management, and portfolio management. The economic environment which provides the main stimulus for a healthy growth of the capital markets has also influenced this market quite considerably. In 1992, the Finance Companies Act was amended. As a result, in the three year period, more than 30 finance companies were established all of who have made public share issues and are being listed on the Stock Exchange. This growth in the financial sector was further boosted by the liberalization of the commercial banking sector. The Central Bank gave licenses to more than 5 joint venture commercial banks. The commercial banking industry has historically performed very well in the capital markets, which infused a lot of investor interest in the market during the early stages of its development. Together, these sectors accounted for 65% of the turnover and 36 % of the total amount of public issue in 1994/95. In Nepal, the financial sector has witnessed tremendous growth and profitability, in contrast to the manufacturing sector where profitability has been very low1. The manufacturing companies which are listed on the Stock Exchange have typically been very stagnant because they are primarily government owned public enterprises or newly established companies without a long track record of profitability. Privately owned companies which are profitable generally hesitate to go public owing to tax or other reasons. As a result, the growth of the stock market has mainly been due to the liberalization and the resulting growth of the financial sector (commercial banks and finance companies) rather that that of the industrial sector.

1.5 Functions of commercial banks

The functions of commercial banks are divided into two categories:

i) Primary functions, and

ii) Secondary functions including agency functions.

1.5.1 Primary functions:

The primary functions of a commercial bank include:

a) Accepting deposits; and

b) Granting loans and advances;

a) Accepting deposits

The most important activity of a commercial bank is to mobilize deposits from the public. People who have surplus income and savings find it convenient to deposit the amounts with banks. Depending upon the nature of deposits, funds deposited with bank also earn interest. Thus, deposits with the bank grow along with the interest earned. If the rate of interest is higher, public are motivated to deposit more funds with the bank. There is also safety of funds deposited with the bank.

- **Current deposit**

  Also called 'demand deposit', current deposit can be withdrawn by the depositor at any time by cheques. Businessmen generally open current accounts with banks. Current accounts do not carry any interest as the amount deposited in these accounts is repayable on demand without any restriction. Banks usually charge a small amount known as incidental charges on current deposit accounts depending on the number of transaction.

- **Savings deposit/savings bank accounts**

  Savings deposit account is meant for individuals who wish to deposit small amounts out of their current income. It helps in safe guarding their future and also earning interest on the savings. A saving account can be opened with or without cheque book facility. There are restrictions on the withdrawals from this account. Savings account holders are also allowed to deposit cheques, drafts, dividend warrants, etc. drawn in their favor for collection by the bank. To open a savings account, it is necessary for the depositor to be introduced by a person having a current or savings account with the same bank.

- **Fixed deposit**

  The term 'Fixed deposit' means deposit repayable after the expiry of a specified period. Since it is repayable only after a fixed period of time, which is to be determined at the time of opening of the account, it is also known as time deposit. Fixed deposits are most useful for a commercial bank. Since they are repayable only after a fixed period, the bank may invest these funds more profitably by lending at higher rates of interest and for relatively longer periods. The rate of interest on fixed deposits depends upon the period of deposits. The longer the period, the higher is the rate of interest offered.

- **Recurring deposits**

  Recurring deposits are gaining wide popularity these days. Under this type of deposit, the depositor is required to deposit a fixed amount of money every month for a specific period of time. Each installment may vary from Rs.5/- to Rs.500/- or more per month and the period of account may vary from 12 months to 10 years. After the completion of the specified period, the customer gets back all his deposits alongwith the cumulative interest accrued on the deposits.

- **Miscellaneous deposits**

  Banks have introduced several deposit schemes to attract deposits from different types of people, construction deposit scheme, sickness benefit deposit scheme, children gift plan, old age pension scheme, mini deposit scheme, etc.

b) Grant of loans and advances

The second important function of a commercial bank is to grant loans and advances. Such loans and advances are given to members of the public and to the business community at a higher rate of interest than allowed by banks on various deposit accounts. The rate of interest charged on loans and advances varies depending upon the purpose, period and the mode of repayment. The difference between the rate of interest allowed on deposits and the rate charged on the Loans is the main source of a bank's income.

- **Cash credit**

  A cash credit is an arrangement whereby the bank agrees to lend money to the borrower upto a certain limit. The bank puts this amount of money to the credit of the borrower. The borrower draws the money as and when he needs. Interest is charged only on the amount actually drawn and not on the amount placed to the credit of borrower's account. Cash credit is generally granted on a bond of credit or certain other securities. This is very popular method of lending in our country.

- **Loan**

  A specified amount sanctioned by a bank to the customer is called a 'loan'. It is granted for a fixed period, say six months, or a year. The specified amount is put on the credit of the borrower's account. He can withdraw this amount in lump sum or can draw cheques against this sum for any amount. Interest is charged on the full amount even if the borrower does not utilize it. The rate of interest is lower on loans in comparison to cash credit. A loan is generally granted against the security of property or personal security. The loan may be repaid in lump sum or in installments. Every bank has its own procedure of granting loans. Hence a bank is at liberty to grant loan depending on its own resources.

  The loan can be granted as:

  a) Demand loan

  Demand loan is repayable on demand. In other words it is repayable at short notice. The entire amount of demand loan is disbursed at one time and the borrower has to pay interest on it. The borrower can repay the loan either in lump sum (one time) or as agreed with the bank. Loans are normally granted by the bank against tangible securities including securities like Kisan Vikas Patra, Life Insurance policies, etc.

  b) Term loans

  Medium and long term loans are called 'Term loans'. Term loans are granted for more than one year and repayment of such loans is spread over a longer period. The repayment is generally made in suitable installments of fixed amount. These loans are repayable over a period of 5 years and maximum upto 15 years. Term loan is required for the purpose of setting up of new business activity, renovation, modernization, expansion/extension of existing units,

purchase of plant and machinery, vehicles, land for setting up a factory, construction of factory building or purchase of other immovable assets. These loans are generally secured against the mortgage of land, plant and machinery, building and other securities. The normal rate of interest charged for such loans is generally quite high.

c) Overdraft

Overdraft facility is more or less similar to cash credit facility. Overdraft facility is the result of an agreement with the bank by which a current account holder is allowed to withdraw a specified amount over and above the credit balance in his/her account. It is a short term facility. This facility is made available to current account holders who operate their account through cheques. The customer is permitted to withdraw the amount as and when he/she needs it and to repay it through deposits in his account as and when it is convenient to him/her. Overdraft facility is generally granted by bank on the basis of a written request by the customer. Some times, banks also insist on either a promissory note from the borrower or personal security to ensure safety of funds. Interest is charged on actual amount withdrawn by the customer. The interest rate on overdraft is higher than that of the rate on loan.

d) Discounting of bills

Apart from granting cash credit, loans and overdraft, banks also grant financial assistance to customers by discounting bills of exchange. Banks purchase the bills at face value minus interest at current rate of interest for the period of the bill. This is known as ‘discounting of bills’. Bills of exchange are negotiable instruments and enable the debtors to discharge their obligations towards their creditors. Such bills of exchange arise out of commercial transactions both in internal trade and external trade. By discounting these bills before they are due for a nominal amount, the banks help the business community. Of course, the banks recover the full amount of these bills from the persons liable to make payment.

1.5.2 Secondary functions

Besides the primary functions of accepting deposits and lending money, banks perform a number of other functions which are called secondary functions. These are as follows -

a) Issuing letters of credit, traveler's cheques, circular notes etc.

b) Undertaking safe custody of valuables, important documents, and securities by providing safe deposit vaults or lockers;

c) Providing customers with facilities of foreign exchange.

d) Transferring money from one place to another; and from one branch to another branch of the bank.

e) Standing guarantee on behalf of its customers, for making payments for purchase of goods, machinery, vehicles etc.

f) Collecting and supplying business information;

g) Issuing demand drafts and pay orders; and,

h) Providing reports on the credit worthiness of customers.

1.6 Difference between primary and secondary functions of commercial banks

S.N.	Primary functions	S.N.	Secondary functions
1	These are the main activities of the bank.	1	These are the secondary activities of the bank
2	These are the main sources income of the bank.	2	These are not the main sources of income of the banks.
3	These are obligatory on the part of bank to perform	3	These are not obligatory on the part of bank to perform. But generally all commercial banks perform these activities.

1.7 Role of commercial banks

Commercial banks are fundamental to a developed economy, and are unintentional agents of monetary policy. Commercial Banks must be able to forecast the effects of government policy on overall economic activity, interest rates, and risk in order to manage their deposits' money.

With the introduction of "Financial Sector Reform" in the year 1980, Nepal allowed the entry of foreign banks as Joint Ventures with up to maximum 50% equity participation. A meaningful step towards financial liberalization was undertaken in the fiscal year 1987/88, with the objective of expanding the process of economic development under structural adjustment program and major reforms including liberalization of interest rate strengthening of banking operation of a shift from direct to indirect to indirect money control instruments.

The establishment of new commercial banks has brought an environment of healthy competition in front of the existing commercial banks. The increased competition forces the existing banks to improve their quality and extend their services by simplifying procedures and by training, motivating their own staff to respond to the new challenges, thus, these banks have contributed towards introducing new technology, new banking systems and efficient service delivery in the country. These banks have been contributing in line with the trust of economic liberalization and financial sector reform, i.e. making the financial system more competitive, efficient and profitable.

1.8 Profile of Commercial banks

1.8.1 Nabil Bank Limited

Nabil Bank Limited, the first foreign joint venture bank of Nepal, started operations in July 1984. NA was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, NA provides a full range of commercial banking services through its 19 points of representation across the kingdom and over 170 reputed correspondent banks across the globe. NA, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business. Operations of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes ATMs, credit cards, etc.

It has all around 410 staffs all over the country. Operations of the bank including day to day operations and risk management are managed by highly qualified and experienced management team. Operations of the bank including day to day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes ATMs, credit cards, state-of-art, world-renowned software from Infosys Technologies System, Banglore, India, Internet banking system and Tele banking system.

The main slogan of the bank is “YOUR BANK AT YOUR SERVICE”. The head office is located in Kamaladi, Kathmandu. Nabil Bank has encouraged foreign investment and joint venture operation with Nepalese investors or in certain circumstances as fully owned subsidiary Nabil Bank has worldwide correspondent network, which enables it to conduct International Trade Business with high level of accuracy and efficiency. NA was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, NA provides a full range of commercial banking services through its 32 points of representation across the kingdom and over 170 reputed correspondent banks across the globe alongwith 5 correspondent banks.

Today NA is in a unique position in the banking industry in Nepal, as the nation’s first joint-venture bank it has an unmatched 22 years of operational experience giving it unparalleled insight into the market, risks, opportunities and customer needs. In conjunction to this, the bank today surges ahead in meeting its mission to be the “Bank of 1st Choice” for all its stakeholders, customers, shareholders, regulators. There are 31 th Branches of NA (Until August 2009) another going to be operation very soon. Further more, Nabil Bank Ltd. is committed to providing round the clock service to its customers through a large network of Automated Teller Machines (ATMs). For convenience, 24 ATM in Kathmandu Valley and 18 ATM outside Kathmandu Valley has been installed.

It is the only bank having its presence at Tribhuvan International Airport. The success of the Nabil Bank Ltd. is a milestone in the banking history of Nepal as it paved the way for the establishment of many commercial banks and financial institutions.

The entire NA team embraces a set of values that acronym is referred to as Customer oriented, Result oriented, Innovative, Synergistic and Professional (C.R.I.S.P) representing the fact that we consistently strive to be C.R.I.S.P. By living these Values, individually as professional and collectively as a team, Nabil Bank Nepal is committed to surge ahead to be the Bank of 1st Choice in Nepal.

1.8.2 Nepal Investment bank Limited (NI)

NI was established at 21 January 1986 as a third Joint venture bank under the company act 2964. Initially the bank was managed by 'Banque Indosuez' Pairs in accordance with Joint venture and technical services. 50% of the shares of Nepal Indosuez Bank Limited held by Credit Agricole Indosuez were sold to the Nepalese promoters on April 25, 2002 as per the transaction record of NEPSE. After this divestment of share by Nepalese owners, the name of the company was changed to NI by its 15th annual general meeting held on May 31, 2002. Out of total equity shares of NI, 50% shares are held by a Group of companies, 15% by Commercial Banks, another 15% by financial institutions and remaining 20% by public. Authorized capital of NI is Rs1000 million and issued and paid up capital are Rs. 801.3526 and 801.3526 respectively.

NI is one of the leading banks of Nepal. It was established with the vision to be the most preferred provider of financial services in Nepal. It focuses on serving the customers and communities with a belief that success can only be achieved by living our core values and ethical principles.

NI provides a complete range of commercial banking services with 30 points of representation in different parts of the country till August 2009. The head office of NI is Durbar Marg at Kathmandu of Nepal. It also has a widespread reach across the globe with the tie up with various corresponding banks. It has also fully equipped with modern technology which includes ATMs, credit cards, state-of-art, world-renowned software from Infosys Technologies System Internet banking system and Tele banking system. For convenience to its customers, Investment bank has installed 50 ATM through the country.

1.8.3 Standard Chartered Bank Limited (SCBL)

In the history of SCBL, it was formed since 1969 merger between the two overseas banks: the standard Bank of British South Africa and the Chartered Bank of India, Australia, and china. In the initial phases most of the profit made from Hong Kong, Korea and other parts of Asia in its market.

SCBL is a subsidiary of standard charted group. It is the largest international commercial bank of Nepal. It was the joint venture of Standard Chartered Group who has 75% ownership in the company with 25% shares owned by the Nepalese public and operated since 1987 with initial paid up capital 1000 million. Paid up capital and issued capital is 500 and 413.2548 million respectively.

SCBL is in a position to serve its customers through a large domestic network With 13 point of representation, 4 extension counters and 19

ATMs across the Kingdom. It was firstly lunched and implemented “Anti money laundering policy” and applied the “Know Your Customer” procedure on all the customer accounts.

Standard Chartered Group employs were around 60,000 people in over 500 locations in more than over 100 nationalities in over 50 countries in the Asia Pacific Region, South Asia, the Middle East, Africa, the United Kingdom and the Americas.

SCBL offers a full range of banking products and services in Wholesale and Consumer banking, catering to a wide range of customers encompassing individuals, mid-market local corporate, multinationals, large public sector companies, government corporations, airlines, hotels as well as the do segment comprising of embassies, aid agencies, NGOs and International Non Government Organizations.

1.8.4 Himalayan Bank Limited (HB)

Himalayan Bank Limited was established in 1992 by the distinguished business personalities of Nepal in partnership with Employees Provident Habib Bank Limited, one of the largest commercial bank of Pakistan.

It is the first commercial bank of Nepal with maximum shareholding by the Nepalese private sector. Besides commercial activities, the Bank also offers industrial and merchant banking.

Himalayan Bank has access to the worldwide correspondent network of Habib Bank funds transfer, letters of credit or any banking business anywhere in the world. Habib Bank is the largest and oldest bank in Pakistan having over 1700 domestic and 65 overseas branches covering all continents and over 1800 correspondents worldwide. Besides, Himalayan Bank has correspondent arrangements with 178 internationally renowned banks like American Express Bank, Citibank and ABN Amro.

With its head or corporate office in Thamel, Kathmandu, the bank has 18 branches. Six of its branches are located inside the Kathmandu Valley while the rest are spread across the nation. The Bank has a very aggressive plan of establishing more branches in different parts of the Kingdom in the near future.

1.9 Focus of the study

Diversifiable and Un-diversifiable risk of common stock is the major factors, which help in making decisions about investment on Securities of

the any companies. So the study is based on the risk and return of common stock of investment. There is 26 (Twenty Six) Commercial Banks in Nepal until 2066 Shrawan 31st but only 24 (Twenty Four) Commercial Banks are listed in NEPSE until 2066 Shrawan 31st In Nepal. Therefore, only three Commercial Banks are chosen. The Study is focused on the diversifiable and un-diversifiable risk of common stock followed by three chosen banks, which is representing all the banks of Nepal.

1.10 Statements of the problem

The activities of Commercial Bank are depended upon the rules and regulation of central bank i.e. Nepal Rastra Bank. The rules and regulations are changed of yearly which confused investors as well as commercial bank to make their investment strategy in changing environment. The continuous economic recession from past Nine to Ten years and political instability seriously effect investment sector and question is arise among investors how can they get optimum return. Due to small stock market and in sufficient information regarding stock market, one should not get appropriate result from investment. Inconsistence and volatile nature of market is other problem which creates high risk to get little return. To minimize risk appropriate knowledge is required for investors but investors haven't had sufficient knowledge and awareness regarding investment. So this study mainly concerned with Diversifiable or unsystematic and un-diversifiable or systematic or market risk by Nepalese commercial bank. This study Seeks to find out to the following problem are driven out below:

- How much level of diversifiable or unsystematic and un-diversifiable or systematic or market risk of Individual sample bank?
- What is the relationship between diversifiable or unsystematic and un-diversifiable or systematic or market risk of individual sample bank?
- What types of effect are facing the commercial bank of Nepal by market risk ?

1.11 Objectives of the study

The main objective of the study is to identity the situation of the diversifiable and un-diversifiable risk of commercial bank of Nepal. The specific objectives of the study as follows:-

- To study and analyze the market risk of commercial banks of Nepal.
- To compare and evaluate the diversifiable risk of commercial banks under study,

- To compare and evaluate the undiversifiable risk of commercial banks under study
- To provide suggestion to the commercial banks on the basis of study findings.

1.12 Significance of the study

The study is to point out the potential diversifiable and un-diversifiable risk of commercial bank in Nepal. The study will be helpful for investors up coming followers as well as commercial bank. It also provides proper guidelines for making choice of common stock, bond and preferred stock etc. on the basis of risk and return. It is also important those people who is interested to know about risk and return. The study will be beneficial for the entire person who is interested to know about capital market in Nepal. It provides the consolidated basic data and information about the NEPSE and commercial banks under study.

The research work is the study of diversifiable and un-diversifiable risk analysis of commercial banks of Nepal. This study is significant in following ways:-

- The study is important to policy makers and academic professionals to formulate policies and plans on the basis of the performance of these banks.
- The study helps these banks to compare each other's performance and plans accordingly for future.
- The study is guide to stakeholders (stockbrokers, to investors, customers (depositors, loan takes as well as other types of clients), competitors, personnel of the banks, dealers, market makers etc.) to take various decisions.
- This study is helps these banks to make sound programs and policies based on the recommendation suggested.

1.13 Limitations of the study

This study has following limitations:-

- The study is mainly depending on secondary data.
- There are total 26 commercial banks in Nepalese financial market but only 24 banks are listed on NEPSE therefore, this study covers only four banks (NA, NI, SC, HB) which are listed in NEPSE.
- The study is made within limited timeframe (August 2009 to September 2009).
- The study is cover the data of only five fiscal years from 2004/05 to 2008/09 and the conclusion drawn only to the above period.

- This research used only the selective tools for analysis and interpretation of data.

1.14 Chapter scheme:

This study has been comprised into five chapters, each devoted to some aspects of dividend policy and practices of commercial banks. The titles of each of these chapters are summarized and the contents of each of these chapters of this study are briefly mentioned here.

Chapter I : Introduction

Chapter II : Review of literature

Chapter III : Research methodology

Chapter IV : Presentation and analysis of data

Chapter V : Summary, conclusion & recommendations

The first chapter deals with the subject matter consisting introduction, a brief profile of the banks, identification of the problem, significance of the study, objectives, limitations and chapter scheme of the study.

The second chapter concerns with literature review that includes a discussion on the conceptual framework on projected financial statements and review of major-studies relating with financial statements.

The third chapter describes the research methodology adopted in carrying out the present research. It deals with research design, sources of data, data processing procedures, population and sample, period of the study, method of analysis and financial and statistical tools.

The fourth chapter is concerned with analytical framework. For the analysis of data all the tools are taken as appropriate as possible. Financial and Statistical Tools have been used for the calculation of data.

The fifth and the final chapter are concerned with the suggestive framework that consists with the overall findings, issues and gaps, conclusions and recommendations of the study.

The bibliography and appendices are incorporated at the end of the study.

CHAPTER - II
REVIEW OF LITERATURE

This chapter deals with the review of literature in more detail and descriptive manner, which gives theoretical aspects of the study. For this study various books, Journals, articles and Past thesis were also reviewed. Every possible effort has been done to grasp knowledge and information that are available.

2.1 Conceptual review

2.1.1 Investment

The word "investment" can be defined in many ways according to different theories and principles. It is a term that can be used in a number of contexts. However, the different meanings of "investment" are more alike than dissimilar. Generally, investment is the application of money for earning more money. Investment also means savings or savings made through delayed consumption.

According to economics, investment is the utilization of resources in order to increase income or production output in the future. An amount deposited into a bank or machinery that is purchased in anticipation of earning income in the long run are both examples of investments. Although there is a general broad definition to the term investment, it carries slightly different meanings to different industrial sectors.

According to economists, investment refers to any physical or tangible asset, for example, a building or machinery and equipment. On the other hand, finance professionals define an investment as money utilized for buying financial assets, for example stocks, bonds, bullion, real properties, and precious items. According to finance, the practice of investment refers to the buying of a financial product or any valued item with anticipation that positive returns will be received in the future. The most important feature of financial investments is that they carry high market liquidity. The method used for evaluating the value of a financial investment is known as valuation.

According to business theories, investment is that activity in which a manufacturer buys a physical asset, for example, stock or production equipment, in expectation that this will help the business to prosper in the long run.

"The current commitment of dollars for a period of time to derive future payments that will compensate the investors for i) the time the funds are committed, ii) the expected rate of inflation, and iii) the uncertainty of future payments." (Reilly and Brown, 1972: 5)

For most of our life, we will be earning and spending money. Rarely, though, will our current money income exactly balance with our consumption desires. Sometimes, we may have more money than we want to spend; at other times, we may want to purchase more than we can afford. These imbalances will lead us either to borrow or to save to maximize the long-run benefit from our income.

When current income exceeds current consumption desires, people tend to save the excess. We can do any of several things with these savings. One possibility is to put the money under a mattress or bury it in the backyard until some future time when consumption desires exceed current income. When we retrieve our savings from the mattress or backyard, we have the same amount we saved.

Another possibility is that we can give up the immediate possession of these saving for a future larger amount of money that will be available for the future consumption. This tradeoff of present consumption for a higher level of future consumption is the reason for saving. What we do the savings to make them increase over the period of time is investment.

Those who give up immediate possession of saving (that is, defer consumption) expect to receive in the future a greater amount than they gave up. Conversely, those who consume more than their current income (that is, borrowed) must be willing to pay back in the future more than they borrowed.

Therefore, these definitions quoted above, suggest that an investment regards with the allocation and mobilization of funds for certain coming time- intervals, so as to generate some extra benefit or extra attachment with mobilized funds.

2.1.2 Returns

A major purpose of investment is to get a return or income on the funds invested. On a bond an investor expects to receive interest and on a stock dividend may be anticipated. So return from investment has different meaning to different investors. Some companies seek near term cash inflows and give less value to more distant returns. Other investors are concerned primary with growth. Still others measure return using financial ratios. They might seek to invest in a company that has a high return on investment.

Investor wants to maximize expected returns subject to their tolerance for risk. Returns are the motivating force and it is the key method available to investors in comparing alternative investments. Realized returns and expected returns are two terms which is often used in the language of investment. Realized return is after the fact return, return that was earned or it is history. Expected return is the return from an asset that investor will earn over some future period. It is a predicted return, which may or may not occur.

Return is reward for investment. Historical returns allow the investor to assess the future or unknown returns, which is also called expected return. Expected returns are the ex-ante returns and such predicted return may or may no occur. (Cheney and Mosses, 1992:65) explain return is terms of single period. They have defined it as holding period return and calculated by comparing the return to the amount initially invested. This is calculated on the basis of expected return from arithmetic and geometric mean approach. Geometric mean return is consistent with assumption of reinvesting income when it is received. Due to inherent bias in the arithmetic mean, the geometric mean will always be equal or less than arithmetic mean. The arithmetic mean and geometric mean will only be equal when the holding period returns are constant over the investment horizon. However, (Van Horne and Wachowicz, 2004:103) have also agreed and have further defined it is a tool for the return of investment horizon of one year or less. They have suggested for longer periods, it is better to calculate rate of return as an investment yield. The yield calculation is present value based and this considers the time value of money. Further, return for the future can be determined from the probabilities of different phases of the economy, i.e; prosperity, recession, depression and recovery. (Weston and Copeland, 1992:145) illustrated the use of probability from the normal distribution concepts. They have defined expected return as summation of the product of probabilities of different stages in an economy and rate of return.

Sapkota (2000) has calculated the expected return from the average of holding of period return on stocks of eight different banks for each year using data of B.S.2050/51 to B.S.2055/56. He has a identified the common stock of Nepal bank limited to be fetching the maximum of return, i.e.66.99%. He further writes Nepal's State bank of India (SBI) bank as the low yielding security. The portfolio across the industries constructed during the study has identified the combination of the securities of Nepal Grindlays Bank and Bishal Bazar Company the best portfolio with the return of 0.2666 (26.66%).He concluded his study by identifying any significant differences in the portfolio return of banking industry and overall market. (Shrestha, 2005) finds the return of the Nepal Bangladesh bank limited (NRB) to be the highest. But Nepal bank limited is out of the purview of this research.

2.1.3 Risk

Risk in a financial analysis is the variability of return. The deviation between the expected and actual return brings variability in the returns and the variability is termed as risk. The higher the deviation between expected and actual return, the higher will be the risk. Risk in other words, is defined as uncertainty of returns and if there is certainty there is no risk at all. Risk and return in investment go together and without risk no more return can be expected. All investor (he/she) think about risk management before invest in any sector. (Bhattarai, 2006:107)

Risk and uncertainty are real in life. Everyone encounters uncertainty in everyday life. Uncertainty about the weather or about the performance of one's investment or about one's health exists when a decision maker knows all the possible outcomes of a certain act but for one reason or another cannot assign probabilities to the various outcomes.

Risk, on the other hand exists when the decision maker knows not only the various outcomes but also the probability associated with each one. Risk and uncertainty are an integral part of an investment decision. Risk can be defined as a situation where the possible consequence of the decision that is to be taken is known. 'Uncertainty' is generally defined to apply to situations where the probabilities cannot be estimated. However risk and uncertainty are used interchangeably.

On ground of assurance of the return, there are two kinds of Investments - Riskless and Risky. Riskless investments are guaranteed, but since the value of a guarantee is only as good as the guarantor, those backed by the full faith and confidence of a large stable government are the only ones considered "riskless." Even in that case the risk of devaluation of the currency (inflation) is a form of risk appropriately called "inflation risk." Therefore no venture can be said to be by definition "risk free" - merely very close to it where the guarantor is a stable government.

2.1.4 Type of risks

There are meagerly two types of risks in Diversification

- **Undiversifiable risks**

  Undiversifiable risks are the risks arising from exchange rates, interest rates, political instability or inflation rates and these risks are associated with almost all the companies. Investors have to bear these risks. These risks cannot be removed.

- **Diversifiable risks**

  Diversifiable risks are the systematic risks and are associated with a particular company or industry. These risks can be easily eliminated through diversification. Business risk and financial risks contribute to it. The remedy for these risks is to invest in many assets so that all assets are not affected in the same way and the portfolio stays balanced.

2.1.5 Difference between diversifiable risk and un-diversifiable risk

A diversifiable risk is a risk of price change due to the unique circumstances of a specific security, as opposed to the overall market. This risk can be virtually eliminated from a portfolio through diversification. It is also known as unsystematic risk.

An undiversifiable risk is a risk which is common to an entire class of assets or liabilities. The value of investments may decline over a given time period simply because of economic changes or other events that impact large portions of the market. Asset allocation and diversification can protect against undiversifiable risk because different portions of the market tend to underperform at different times. It is also known as systematic risk or market risk.

2.1.6 Source of investment risk

Every investment has uncertainties. Uncertainties make future investment returns risky. The sources of uncertainty that contribute to investment risk are as follows:

- **Interest rate risk**

  It is the potential variability of return caused by changes in the market interest rates. If market interest rates rise, then, investments values and market prices will fall and vice versa.

  The variability of return that results is interest rate risk. This interest rate risk affects the prices of bonds, stocks etc.

- **Purchasing power risk**

  It is the variability of return an investor suffers because of inflation (or a rise in general prices over time) seems to be the normal way of life in most countries today. However, when inflation takes place, financial assets (such as cash, stocks, and bonds) may lose their ability to command the

same amount of real goods and services they did in the past. To put another way, the real rate of return on financial assets may not adequately compensate the holder of financial assets for inflation.

- **Bull-bear market risk**

  It is arises from the variability in market returns resulting from alternating bull and bear market forces. When a security index rises fairly consistently from a low point, called a trough, for a period of time, this upward trend is called a bull market. The bull market ends when the market index reaches a peak and starts a downward trend. The period during which the market declines to the next trough is called a bear market.

- **Default Risk**

  It is the portion of an investment's total risk that results from changes in the financial integrity of the investment.

- **Liquidity risk**

  It is the portion of an asset's total variability of return that results from price discounts given or sales commission paid in order to sell the asset without delay. Perfectly liquid assets are highly marketable and suffer no liquidation costs. Illiquid assets are not readily marketable either price discounts must be incurred by the seller.

- **Convertibility risk**

  Convertibility Risk is that portion of the total variability of return from a convertible bond or a convertible preferred stock.

- **Call-ability risk**

  Some bonds and referred stocks are issued with a provision that allows the issuer to call them in for repurchase. The portion of a security's total variability of return that derives from the possibility that the issue may be called is the call-ability risk.

- **Political risk**

  The portion of an asset's total variability of return is caused by changes in the political environment. For example, a new tax law that affect the asset's market value.

- **Industrial risk**

  It is a group of companies that complete with each other to market a homogeneous product. Industry risk is that portion of an investment's total variability of return caused by events that affect the products and firms that make up an industry.

In finance risk has a very special meaning. It refers to the uncertainty associated with the returns on a particular investment. A risky investment is thus one whose returns are volatile.

2.1.7 Investment portfolio

Investment portfolio of commercial banks is the holding of securities and investment in financial assets i.e. bond, stock, loan and preference shares etc. therefore, commercial banks must invest its deposits and other funds to profitable, secured, stable and marketable sectors. Investment policy helps the bank in efficient investment operation ensuring maximum return with minimum risk. Thus, investment is the most important function of commercial bank. It is the long-term commitment of bank in the uncertain and risky environment. Therefore, to maximize the profit bank should invest in that type of securities, which are commercial, durable, market stable, transferable and high market price.

"Portfolio is a collection of different types of securities in different sectors". (West0n & Brigham,1982:245) Portfolio management is related to the efficient portfolio investment in financial assets. Portfolio Analysis considers the determination of future risk and return in holding various blends of individual securities.

According to Western & Copeland,1992 "Portfolio theory deals with the selection of optimal portfolios: that is portfolio that provides the highest possible return for any specified degree of risk or the lowest possible risk for any specified rate or return". It has been developed for the financial assets, including equity shares, preference shares and debentures of companies. Thus making investment from the selected optimal portfolio i.e. the portfolio that provides the highest rate of return with least possible amount of risk is the real investment portfolio.

Portfolio investment refers to an investment that combines several assets. The modern portfolio theory explains the relationship between assets risk and return. The theory is founded on the mechanics of measuring the effect of an asset on risk and return of portfolio. Portfolio investment assumes that the mean and variance of returns are the only two factors that the investor cares. Based on this assumption, we can say that rational investor always prefers the highest possible mean return for a given level of risk or the lowest possible level of risk for a given amount of return. Portfolio, technically known as efficient portfolios, is a superior portfolio. The efficient portfolios is a functions of not only risk and return of individual asset included, but also the effect of relationship among the asset on the sum total of portfolio risk and return. The portfolio return is straight weighted average of the individual assets. However, the portfolio risk is not the weighted average of the variances of return of individual

assets. The portfolio risk is affected by the variance of return as well as the covariance between the return of individual assets included in the portfolio and their respective weights.(Pradhan, Surendra, 1992:295)

Simply, to minimize risk a bank must diversify its investment in different sectors. If bank invest its fund in different securities, it will be able to reduce risk and maximize the return.

2.1.8 Diversification and portfolio analysis

According to Weston and Brigham,1982 "A portfolio simply represents the practice among the investment of having their funds in more than one asset. The combination of investment asset is called a portfolio". If investor holds a well–diversified portfolio, then his concern should be the expected return and risk of portfolio rather than individual assets or securities. The portfolio theory provides a normative approach to the investor's decision to investment in assets or securities.

"Most financial assets are not held in isolation, rather they are held as parts of portfolios. Portfolio theory deals with the selection of optimal portfolios i.e. portfolios that provide the highest possible return for any specified degree of risk or the lowest possible risk for any specified rate of return" (Weston & Brigham, 1982:366).

Portfolio analysis considers the determination of future risk and return in holding various blends of individual securities.

Portfolio risk analysis is the process of measuring and assessing our portfolio's exposure to market risk. Financial portfolio offers us three views on risk, allowing us to compare our portfolio to the market portfolio in terms of Risk- Adjusted return, Value – at – Risk, and Market Risk Exposure.

The portfolio of assets usually offers advantage of reducing risk through diversification. A stock or securities held, as part of a portfolio is less risky than the same stock held in isolation. Thus, portfolio analysis helps to develop a portfolio that has the maximum return at whatever level of risk the investor considers appropriate.

Diversification of portfolio helps to minimize risk. If investors invest their fund in more securities, they can reduce risk and maximize the return. However, even with large number of stocks, investors cannot avoid altogether risk, since virtually all securities are affected by the common macro economic factors.

Diversification is the one important means that control portfolio risk. Investments are made in a wide variety of assets so that exposure to the risk of any particular security is limited. By placing one's eggs in many baskets, overall portfolio risk actually may be less than the risk of any component security considered in isolation.

Elton, Gruber, Brown and Goetzmann, 2001:134, described the effect of diversification. They write portfolio with 1 to infinity of assets will have decreasing pattern of the expected portfolio variance. They have supported this interpretation through an artificial example and concluded as more and more securities are added, the average variance on portfolio decline until it approaches the average covariance to country. The average covariance relative to the variance vanes from country to country, Thus in Switzerland and Italy securities have relatively high covariance indicating that stocks tend to move together, On the other hand, the security market in Belgium and in the Netherlands tends to have stocks with relatively low covariance. For these latter security markets, much more of the risk of holding individual securities can be diversified away. Diversification is especially useful in reducing the risk on the portfolio in these markets.

Some different diversification techniques for reducing portfolio's risk are as follows:-

- **Simple diversification**

Simple diversification is the random selection of securities that are to be added to a portfolio. Simple diversification reduces a portfolio's total diversifiable risk to zero and only un-diversifiable risk remains.

Clarkes, defines simple diversification as "not putting all eggs in on basket" or "spreading the risks". (Evans and Archer, 1968: 761) made sixty different portfolio of each size from randomly selected New Work Stock Exchange (NYSE) stocks and proved the decrease in the un-diversifiable risk with increase in the number of securities in the portfolio. They made the portfolio from the randomly selected securities and allocated equal weights. "Spreading the portfolio's assets randomly over two or three times as many stocks cannot be expected risk any further".

- **Diversification across industries**

Another diversification can be experienced from the combination of the stocks from different industries. The basic principle of diversifying assets across the industries is the losses incurred in one stock can be

compensated through the gain realized from the profitable stocks. Fisher and Lorie, 1970:99-134 have made an empirical research on random and across industry diversification of portfolio containing 8, 16, 32, and 128 NYSE listed common stocks where they have concluded that diversifying across industries is not better than simple diversification and increasing the number of different assets held in the portfolio above eight does not significantly reduce the portfolio's risk.

- **Superfluous diversification**

  Under simple diversification, maximum risk reduction is attained through inclusion of 10 to 15 assets in the portfolio. If we add, further more assets in the portfolio, such diversification is called superfluous diversification and should be avoided. The investor finds it impossible to manage the assets in his portfolio because the management of a large number of assets requires knowledge of the liquidity of each investment return, tax liability and thus becomes impossible without specialized knowledge. Superfluous diversification will usually result in the following portfolio management problems:

- Impossibility of good portfolio management
- Purchase of lackluster performers
- High search costs
- High transaction costs.

  Although more money is spent to manage a superfluous diversified portfolio there will most likely to be no current improvement in the portfolio's performance. Thus, superfluous diversification may lower the net return to the portfolio's owners after the portfolio's management expenses are deducted.

- **Simple diversification across quality rating categories**

  Diversification of portfolio is also possible across the quality rating assets or securities. Different rating agencies rate different companies and their assets based on possibility of default risk. In this technique, assets are selected randomly from the homogeneous quality rating. The standard deviation of portfolios of different homogeneous quality rating attained different level of risk. The highest quality portfolio randomly diversified stocks was able to achieve lower levels of risk than the simply diversified portfolios of lower quality stocks. This result reflects the fact that default risk is part of total risk. The highest-quality portfolios contain assets with less default risk. Thus, portfolio managers can reduce portfolio risk to levels lower than those attainable with simple diversification by not diversifying across lower-quality assets.

- **Markowitz diversification**

  "Markowitz diversification may be defined as combining assets that are less than perfectly positively correlated in order to reducing portfolio risk with out sacrificing portfolio return" (Weston & Brigham, 1987:194). It is more analytical than simple diversification and considers assets correlation or covariance in portfolio formation. It shows that lower the correlation between assets, the more that the diversification will be to reduce the portfolio risk.

2.1.9 Mean variance indifference curves

Difference curves represent the investor's risk preferences. Through indifferent curves, it is possible for an investor to determine the various combinations of expected returns and risks that provide a constant utility. The curves can be drawn on a tow dimensional figure, where the horizontal axis indicates risk as measured by standard deviation (denoted by ∂_p) and the vertical axis indicates reward as measured by expected return (denoted by r_P). The sets of mean variance indifference curves are literally a theory of choice. The only assumptions necessary to draw the indifference curves for risk-averse investors are people prefer more wealth to less and they have diminishing marginal utility of wealth. These assumptions, if valid, imply that all decision makers are risk averse and will require higher return to accept greater risk.

Indifference curves cannot intersect." A risk adverse investor will find any portfolio that is lying on an indifference curve that is "father north-west" to be more desirable (that is, to provide greater utility) than any portfolio lying on an indifference curve that is "not as far northwest". Last, he further describes that an investor has an infinite has an infinite number of indifference curves".

William Sharpe, Jack Treynor, Jan Mossin and John Lintner originally developed security market line (SML) or the capital assets pricing model (CAPM) equation. SML shows the picture of market equilibrium. the capital asset pricing model (CAPM) is used to determine a theoretically appropriate required rate of return of an asset, if that asset is to be added to an already well-diversified portfolio, given that asset's non-diversifiable risk. The model takes into account the asset's sensitivity to non-diversifiable risk (also known as systematic risk or market risk), often represented by the quantity beta (β) in the financial industry, as well as the expected return of the market and the expected return of a theoretical risk-free asset.

Weston and Copeland (1992) explain SML provides a unique relationship between un-diversifiable risk (measured by beta) and expected return. Capital assets pricing model is an equilibrium theory of how to price and measure risk. Logic of the security market line is that the required return on any investment is the risk-free return plus a risk-adjusted factor. They have given the model for the risk adjustment factor as the product of risk premium required for the market return and the riskiness of the individual investment.

Brigham and Weston, 1982 have defined that if the rate of change in the risk free rate and market rate of return is the same, then the slope of the SML remains the constant, and however, the slope of the security market line. Rather they cause parallel shifts in the SML.

It assumes equilibrium where required rate of return is equal to the expected rate of return. Further the model defines disequilibrium condition appears when:

Expected rate of return > required rate of return= underpriced

Expected rate of return < required rate of return = overpriced

2.2 Reviews from international articles and journals

International Portfolio Investment Flows by Brennan and Cao, 1997 develops a model of *International Equity Portfolio Investment Flows* based on differences in informational endowments between foreign and domestic investors. It is shown that when domestic investors possess a cumulative information advantage over foreign investors about their domestic market, investors tend to purchase foreign assets in periods when the return on foreign assets is high and to sell when the return is low. Following are the conclusion from the articles:

- The article has developed a model of international equity portfolio flows that relies on informational differences between foreign and domestic investors.
- The model predicts that if foreign and domestic investors are differentially informed then portfolio flows between two countries will be a linear function of the contemporaneous returns on all national market indices and if domestic investors have a cumulative information advantage over foreign investors about domestic securities, the co-efficient of the host market return will be positive.
- Portfolio flows are associated with returns on national market indices as the systematic information hypothesis implies.

- The examination of U.S. portfolio investment in emerging markets shows the strong evidence that U.S. purchase are positively associated with local market returns in many countries.
- This model is able to explain only a small proportion of the variance of international equity portfolio flows.

Kane and Buser (1979) in their study entitled "*Portfolio Diversification at Commercial Bank*" deal how a firm performs a useful function by holding a portfolio of efficiently priced securities.

According to them, it is rational for a firm to engage in prior round of asset diversification on behalf of its shareholder's even when all assets are priced efficiently and available for direct purchase by shareholders. As a way of testing their perspective empirically, they estimated regression model designed to explain the number of distinct of U.S. treasury and federal agency debt held in a time series of cross sections of large U.S. commercial Banks. They interpret the systematic pattern of diversification observed for large U.S. Commercial Banks as evidence that bank stockholders for a relatively uniform diversification clientele. For firm, Managerial benefits form diversification takes reductions in the cost equity funds offered by its specific clientele of stockholders. To maximize the value of the firm, these benefits must be weighted against the explicit managerial cost of diversification.

Buser drowns following concluding remarks (Kane & Buser, 1979:19):

- Even wealthy investors should be sensitive to administrative costs associated with selection, evaluation, managing and continually keeping track of a large number of securities.
- Either homemade of firm produced diversification, reduces the variance of shareholder's portfolio return. IF homemade diversification bears in coordinately high levels of information risk, some benefits of form produced diversification might not be reproducible by individual investor acting on their own.
- Investor with even modest resources, the stock of financial institutions should be relatively less attractive than the stock of that avoid extensive diversification costs by engaging in specialized activities.

Berger and Bodie, 1979:233 has presented and proved three proportions regarding "Portfolio selection in a winner-take-all environment". The three propositions discussed by them are as follows

Proposition I: - Any investor seeking to maximize the expected utility of his wealth will select a portfolio, which maximizes the expected utility of his wealth. He will select a portfolio, which maximizes the probability of his

winning the contest i.e. of yielding the highest return. This shows regardless of the investor's attribute toward risk.

Proportion II: - If no short or buying on margin is allowed, then the probability of a portfolio of two or more securities beating every single security in the portfolio is Zero.

Proportion III: - If there are more than two securities to choose, one cannot select the optimal security. Therefore, comparison will be the best among the respective series of pair.

According to them, the single most important behavioral implication of the propositions above is, that an individual engaged in a winner-take-all investment contests would tend not to diversify his portfolio, even if he is risk adverse. It is a conjecture that is very highly positively correlated so as approximates a single stock as closely as possible.

There is growing empirical that multiple factors are cross sectional correlated with average return in the United States. Measured over long time, small stock earns higher average return than large stock (bank 1981). It showed that value of stock with high book-to-market earning to price (E/P), on cash flow to price(C/P) out performed growth stock with low B/M,E/P or C/P. more over stock, with high return over the past 3 month to one year continue to out performed stocks with work poor prior performance. The evidence that beta is also compensated for in average return is weaker.(Rouwenhorst, 1999:1439)

The interpretation of the evidence is strongly debated. Some believe that premiums are compensation pervasive risk factors. Other attributes them to form characteristics of insufficiency in the way market incorporated information into prices. Yet other averages that survivorship or data snooping may bias the premiums. The paper examines the source of return variation in emerging stock markets. From the perspective of collecting independents samples, emerging market countries are particularly interesting because of their relative isolations from the capital market of other countries. Compared to developed markets it is historically been low and until recently many emerging countries restricted investment by foreign investors. Interestingly, (Bekaert and Harvey,1995:403) find that despite the recent trend toward abolition of these restriction and substantial inflows of foreign capital. Some emerging equity markets have actually become more segmented from world capital markets. A large portion of the equity capital of emerging economics is held by local investors who are likely to evaluate their portfolios in the light of local economic and market condition.

On the above background, Rouwenhorst (1999) attempts to answer two sets of questions. The first set of three questions concerns the existence of expected return premiums.

- Do the factors that explain expected return difference in developed equity market also describe the cross section of expected return of emerging firm?
- Are the return factors in emerging markets primarily local or having global components as well?
- How does the emerging market evidence contribute to the international evidence from developed markets that similar return factors are present markets around the world?

The second sets of question of the paper include

- Is there a cross sectional relationship between liquidity and average returns in emerging markets?
- Are the return factors in emerging markets cross sectional correlated with liquidity?

About the data Rouwenhorst stated that as of April, 1997 the emerging market. Database (EMDB) of the IFC contains data more in the sample. Eleven countries are excluded because of insufficient return histories, which leave 1705 firms in 20 countries that the IFC tracks for at least seven years.

For some month closing process and dividends is available dating black to 1975. Staring at various points during 1980s the IFC expand its reporting to include monthly time series for price-bond ratios, price-earning ratios, market capitalization trading volume and the number of days per month that a stock is traded total returns as calculated as the sum of the divided returns and price appreciation, using prices scaled by a capital adjustment factor which the IFC computes to correct for the price effects associated with stock split stock dividend and right uses. Many emerging markets have firms with multiple classes of shares carrying different ownership restriction. Forms with multiple shares classes are treated as single value weighted portfolio of the outstanding equity securities.

The first conclusion is that the return factors in emerging markets are qualitatively similar to those in developed market small stock outperform growth stocks and emerging markets stock exhibit momentum. There is no evidence that the local markets betas are associated with the average returns. The low correlation between the country return factors suggests that the premiums have a strong local character. Furthermore global exposures cannot explain the average factor returns of emerging markets. There is little evidence that the correlation between the local portfolios have increased which suggests that the factor responsible for the increase

of emerging market country correlation and separate from those that drive the difference between expected returns within these markets. An analysis of premiums in developed and emerging markets show that unless one has strong prior beliefs to the country the empirical evidence favor the hypothesis that size momentum and value strategies are compensated for in expected returns and share turnover and examines the turnover characteristics of the local returns factor portfolios. There is no evidence of a ration between expected returns and turnover in emerging markets however beta size momentum and value is positively in emerging markets. This suggests that the return premiums do not simply reflect a compensation for liquidity. This study by Rouwenhorst does not consider the analyzed the returns factors in worldwide stock markets. However, it concentrates in the various emerging stock markets. Hence the article contributes in the articles contributes in the area of risk and return analysis in common stock investment.

2.3 Review of Nepalese articles & journals

Shrestha, Sunita (1995) in her study "Portfolio Behavior of Commercial banks in Nepal" has made remarkable efforts to examine various portfolio behavior of commercial bank in Nepal such as investment portfolio, liability portfolio, assets portfolio etc. according to her, investment of commercial banks when analyzed individually, were observed that Nepalese domestic banks invest in government securities, national saving bond, debentures and company's shares. Based on this study she found that the supply of bank credit was expected to depend on total deposit, lending rate, bank rate, lagged variables and dummy variables. Similarly, demand of bank credit was assumed to be affected by national income, lending rate, Treasury bill rate and other variables. The resources of commercial banks were expected to be relating with variables like total deposit, cash reserve requirement, bank rate and lending rate. Following are conclusions based on her finding:

- The relationship of banks portfolio variable as found to be best explained by log-linear equations.
- Demand of deposit for commercial banks in Nepal is positively affected by the GDP from non-agriculture and the deposit rate and lending rate of interest.
- The investment of commercial banks on Government securities has been observed to be affected by total deposit: cash reserve requirements, Treasury bill rates and lending rates.

- The investment of commercial banks in shares and securities are normal and not fund to have strategic decisions towards investment in shares and securities.
- The loan loss ration has been found to increase with low recovery of loan.

Shrestha, **Shiva Raj** (1998) has given a short glimpse on the "Portfolio Management in Commercial bank, Theory and Practice". He emphasized on importance of portfolio management for both individual as well as institutional investors. According to him, investors would like to select a best mix of investment assets subject to following aspects:-

- Higher return which is comparable with alternative opportunities available according to the risk class of investor.
- Good liquidity with adequate safety of investment, Certain capital gains, Maximum tax concession, Flexible investment, Economic, efficient and effective investment mix.

According to Shrestha, the above considerations are very useful for an effective investment decision. Similarly, for successful investments, he has concluded some strategies as follows:

- Do not hold single security. Do not rely on single investment alternative i.e. try to have a portfolio of different securities.
- Have a diversified investment i.e. make investment in different sectors.
- Always select such a portfolio of securities, which ensures maximum return with minimum risk with assed objective of wealth maximization.

Similarly, the approaches to be adopted for designing a good portfolio and its management, pointed by Shrestha are:

- Find the investible assets having scope for better returns depending upon individual characteristics like age, health, need, and disposition Liquidity etc.
- Analyze the attitude of investment towards risk.
- Develop alternative investment strategies foe selecting a better portfolio, which will ensure a trade off between risk and return to attach the primary objectives of wealth maximization at lower risk.
- Identify the securities for investment and risk from the investment.

He has mentioned short transitory view on portfolio management in Nepalese Commercial banks. He pointed that the portfolio management activities of Nepalese Commercial banks at present are in growing stage. However, on the other hand most of the banks are not doing such activities so far because of following reasons:

- Unawareness of the clients about the service available

- Hesitation of taking risk by the clients to use such facility
- Lack of proper techniques to run such activity in the best and successful manner
- Less developed capital market and availability of few financial instruments in the financial market.

Because of above mentioned problems the commercial Banks have very limited opportunity for exercising the portfolio management. Even considering the attraction of deposits joint venture banks are facing problems since most investors have not developed full confidence of putting money in fixed time deposit certificate of various maturing and sizes.

He has drawn following conclusion for smooth running and operation of banks and financial institutions:

- The survival of the banks depends upon its own financial health and various activities.
- In order to develop and expand the portfolio management activities successfully the investment management methodology of a portfolio manager should reflect high standards and give their clients the benefits of global strengths and product philosophy.
- With the discipline and systematic approval to the selection of appropriate countries, financial assets and the management of various risks, the portfolio manager could enhance the opportunity for each investor (client) to earn superior returns over times.
- The Nepalese Banks having greater network and access to national and international capital markets have to go for portfolio management activities for the increment of their fee based income as well as to enrich the client base and to contribute in national economy.

Timilshina, Yogendra (2002) has published an article on “managing investment Portfolio”. He is however, confronted with the problems of managing investment portfolio particularly in times of economic slowdown like ours. A rational investor would like to diversify his investment in different classes of assets to minimize risks and earn a reasonable rate of return. Commercial Banks have continuously been reducing interest rates on deposits. Many depositors are exposed to the increasing risk of non-refund of their deposits because of the mismanagement in some of the banks and financial institutions and accumulation of huge non-performing assets with them. Few depositors of cooperative societies lost their deposits because some these cooperatives were closed down because of their inability to refund public deposits. An investor in days of crisis has to make an effort to minimize the risk and at least earn a reasonable rate of return on his aggregate investment. An investment in equity share can

earn dividend income as well as capital gain in the form of bonus share and right share until an investor holds it and capital profit when he sells it in the stock market. As returns from equity investments have fluctuated within a very wide range, investors feel it much difficult to balance risk and reward in their equity portfolio. In fact, investors in equity shares should invest for a reasonable long period in order to manage the risk. Making investment in fixed deposits with commercial banks is a normal practice among the common people. Normally fixed deposits with banks are considered risk-less, but they also are not hundred percent free of risk. You should select a bank to put your deposit therein, which has sound financial health and high credibility in banking business. In times of crisis if you select a sick bank to deposit, your money there is high probability that your money could not be returned back. An investor may have option of making investment in Government bonds or debentures. In history, we have examples that a government can nationalize the private property of its citizens, cancel out old currency notes, and can convert the new investment into some conditional instrument. However, in democracy there is no probability that the government would default to repay money back. This is comparatively risk free investment, but yields low return. An investor has to evaluate the risk and return of each of the investment alternatives and select an alternative, which has lower degree of risk and offer at least reasonable rate of return. One can draw a safe side conclusion to invest all the money he has only in government securities, but this is not a rational decision. An investor who does not try to maximize return by minimizing the possible risk is not a rational investor. On the other hand, one can place over-confidence on equity investment and assume high risk by investing the whole money in equity shares. Stock market these days in much dwindling and notoriously unpredictable; therefore, this too is not a wise decision. Therefore, a portfolio, which consists of only one class of financial assets, is not a good portfolio.

Thapa, Chandra (2003) in his articles entitled “Managing banking Risks” presented different types of risks generally faced by commercial banks and accomplished the subsequent issues. Banking and financial services are among the fastest growing industries in the developed world and are also emerging as corner stones for other developing and underdeveloped nations as well. According to Thapa, the primary function of a bank is to trade risk. Risk cannot be avoided by the bank but can only be managed. There exist different types of risks. Among them interest rate risk is one of the most common risk the banks face owing to the volatility of the interest rate in the market. Another risk banks face commonly is the trading risk or market risk; Banks has to productively manage their excess liquidity by investing in various securities, in foreign currencies and in other assets for instance swaps option etc. Credit risk is one of the most significant risks, which the banks face particularly in underdeveloped country like Nepal because our financial system is mostly depended on banks. Hence, it is

crucial that the bankers should manage such risks prudently since it not only hampers the particular banks in concern but also badly affects the growth prospects of the entire economy. Credit risks are of two types: diversifiable risk and un-diversifiable risk. Off balance risk owing to the creation of contingent liabilities, should be managed by a prudent analysis of the bank officials materializing such contingent contacts. Similarly, technological changes are frequently faced by banks. Therefore, for the smooth operation banks should adopt technological up-gradation from time to time. Maintaining proper liquidity is the most difficult problem as the demand of cash is uncertain. To avoid such risk, the central bank has initiated the regulation, whereby the banks need to maintain reserve in their vault and a certain specified percentage of the total deposit with central bank.

He concludes with that risk management of the banks is not only crucial for optimum trade off between risk and profitability but is also one of the deciding factors for the overall business investment leading to growth of the economy. Managing such risks not only needs sheer professionalism at the organizational level but an appropriate environment also needs to be developed. Some of the major environmental problems of Nepalese banking sector is undue government intervention(in state-owned banks), relatively weak regulatory frame, although significant improvement has been made in the last five year but still not competitive enough when we consider the international standard, meager corporate governance and the biggest of all is lack of professionalism (especially commitment). The only solution to mitigate the banking risk is to develop the badly needed commitment, eradication of corrupt environment, especially in disbursement of lending, and to formulate prudent and conductive regulatory framework.

2.4 Reviews from thesis

Several thesis works have been conducted by various students regarding the various aspects of commercial banks such as financial performance, leading policy, interest rate structure, resources mobilization, capital structure etc.

However some relevant thesis works have been reviewed here, they are presented below.

Bhandary, Deepak Raj (1998) on thesis entitled, “A study on impact of interest rate structure on investment portfolio of commercial banks of Nepal”. The main objected of his study is to see the impact of interest rate on investment portfolio of commercial banks by analyzing their deposit, loan and advances, interest spread investment and bills purchased and discounted. He has concluded that the deposit rates and lending rates of

the commercial banks have been changing time to time. It is found that deposit rate and lending rates increased slightly immediately after liberalization of interest rate on August 31, 1998, after that rates started to decline. commercial banks investment in government securities dramatically increased which is due to lack of proper commercial banks invest a small part of their resources in non fund based areas such as purchase and discounts of bills. His recommendation was to attract more deposits commercial banks offer more incentive and government and NRB should not force the commercial banks to invest more in government and other low yield securities.

Shahi, Prem Bahadur (1999) has conducted the research on the topic "Investment Policy of Commercial Banks in Nepal" in the year 1999. The main objective of the study was to compare the investment pattern of Joint Venture Banks. He has mainly compared the investment process of Nepal Bank Limited, a semi- government bank with more than 221 branches all over the country and other Joint Venture banks concentrated in urban areas.

He found that Nepal Bank Limited is affected by many Government interferences but Joint Venture Banks are operating efficiently with good investment policy. The growth rates of Joint Venture Bank are relatively more than that of Nepal Bank Limited but the profitability position of both are some.

He concluded that Commercial Banks must mobilize the funds in those sectors yielding optimal returns like purchases of shares, debentures of various institutions. The Joint Venture Banks have to venture in new sectors of investment with low level of risks. For the recovery of loans, the loan Recovery Act should be efficiently implemented as soon as possible. Therefore, his study is basically focused on the investment policy of the commercial banks of Nepal and not concerned about any factors like risk, return etc.

Pandey (Sijapati), Pramina (2000) has conducted a research entitled "Risk and Return Analysis of Common Stock Investment" which is some how related with this study. The main objective of her study is to analyze the risk, return and other relevant variables that help in making decisions about stock and investment in Insurance Companies. The other objectives of her study are to understand and identify the problems faced by individual investor and insurance companies; to calculate risk and return of common stocks and their companies and other relevant variables that should be considered while deciding investment in stocks.

Her analysis based on Market Capitalization, found that size of Nepal Insurance Company (NIC) is the biggest one. Expected return on the

common stock of National Life and General Insurance Company Limited (NLIG) is maximum i.e., 65.39%. Expected return on common stock of Himalayan General Insurance Company Limited (HGI) is lowest with negative value. In overall industrial sector, expected return of Finance and Insurance sector is highest. Overall market expected return is over 50%. NLGI's expected return is highest which ultimate the standard deviation (risk) to be the highest and Everest Insurance Company's risk and return is the lowest one. The stock of NLGI is highly sensitive with market due to its greater degree of beta coefficient. In addition, stock of United Insurance Company (UIC) moves opposite with market because of its negative beta coefficient. She also found no significance difference between the portfolio return of insurance Companies stock and overall market portfolio.

She concluded that poor education and lack of adequate source of information are the major constraints for the development of stock market in Nepal. When risk and return of different industries are compared, the Finance companies and Insurance Companies are the best because they have highest expected return with higher degree of risk. However, most of trading industries have minimum return and maximum level of risk. Market sensitivity is measured by beta coefficient, which cannot be reduced by diversification.

Basnet, Jagdish (2002) in his Master Degree thesis entitled "Portfolio Management of Joint Venture Banks in Nepal" has made an effort to identify the situation of portfolio management of Joint Venture Banks in Nepal. The specific objectives of his research are: to analyze the risk and return ration of Commercial banks; to evaluate the financial performance of Joint Venture Banks; to survey the existing situation of portfolio management and finally to provide the suggestive package based on the analysis of the data.

His analysis shows that the mean investment to total deposits ratio of Nepal Bangladesh Bank Limited is Lowest i.e.12.87% where as Everest Bank Limited has highest i.e.(29.36%)among four Joint Venture Banks. The mean liquidity fund balance to total deposits ratio shows standard chartered Bank Nepal Limited has good liquidity position among selected banks. The major finding of his study shows that the ratios of Everest Bank Limited are more consistent among four Joint Venture Banks. However, Everest Bank Limited is investing very high amount of fund on government securities. It also has the highest risky asset in comparison to the four banks.

He concluded that while allocating funds of Joint Venture Banks into different components of banking assets having different degree of risk and varied rate of return should be verified in such a way that would maximize return and minimize risk. So portfolio condition of Joint Venture Banks

should carefully be examined from time as far as possible. From his study, he found that those banks got better result that managed the portfolio properly.

Shrestha, Prakash (2003) conducted a research entitled "Portfolio Analysis on investment of Nepalese Commercial banks" by using 8 years data from FY 1994/95 to 2001/02. The main objective of his study was to analyze, examine and interpret portfolio technique followed by commercial banks on their investment in various sectors. The other specific objectives are: to evaluate comparative financial performance of selected commercial Banks in terms of investment strategies; to analyze the way commercial banks manage their risk and return on investment in different sectors.

He found that almost commercial banks wanted to invest in short-term basis in which return is not fixed. They hesitate to invest in long-term government securities that provide regular constant return. The total investment to total deposit ratio of selected commercial banks shown that standard chartered bank Nepal limited (SC) is the most successful in utilizing its resources on investment than other commercial Banks. Similarly, on the basis of return on total assets, SC utilized its overall resources efficiently than other banks. To some extent, all commercial Banks seem to be interested in using their deposits in purchasing government securities, even there is less return. The risk and return on share and debentures are higher than other assets

He concluded based on the analysis and the findings of his study that commercial banks are not seemed to be capable of investing their funds in more profitable sectors. Most of the commercial banks are interested to invest their fund in more liquid and less risky sectors. Commercial banks are fund unable to apply scientific approach for investment diversification and portfolio management.

Bhatta, Dipesh (2004) has conducted a research work on the topic, "portfolio Management of Listed Finance Companies in Nepal". The main objective the study was to identify the present situation of portfolio management of finance companies in Nepal with the help of risk, return and other relevant variables. The other specific objectives of his study are to compare the risk and return of common stocks and their portfolio: to study the volatility of different stocks of finance companies and to recommend few key practical implications based on the analysis of the data.

Using capital Market Line, he found United Finance and Capital Market Limited (UFCML) has the highest expected portfolio return (11.27%) and risk (32.97%) but People Finance Limited (PFL) has the lowest expected portfolio return (5.43%) and risk (6.20%). Similarly, National Finance

Company Limited (NFCL) has the great performance but Peoples Finance Limited Has lower performance. NFCL stock is highly correlated (0.971) with market than that of other finance companies. In most of cases coefficient of determinants of all these finance companies have greater than 0.50 (50%) means portion of systematic risk is higher than the unsystematic portion.

He concluded that the volatility of different securities in Nepalese capital market was the major problem to manage the portfolio. Since Nepalese stock market is in developing stage, the fundamental analysis is more effective for the selection of portfolio then the technical analysis.. He further added, 'To achieve better result, passive strategy is more suitable than the active strategy in Nepalese stock Market". Due to the lack of specific knowledge of portfolio selection, majority of corporate investors' selection conventional stock bond mix.

Shrestha, Natasha (2005) in her research entitled "Portfolio Analysis on Common Stock of Commercial Banks (Commercial Banks) in Nepal" is related to this study. The main objective of the study was to find out the level of portfolio risk and return on investment of common stock of Commercial Banks. The other objectives were to find out the trend of NEPSE index, to analyze the risk and return of common stock of reviewed banks and to find out the best portfolio from NEPSE. The study was focused on portfolio analysis of four Commercial Banks.

She found that the expected return of HB stock is highest i.e. 53.68% and NA is Lowest i.e. 32.72% among the banks. The risks of NBBL is highest i.e. 93% and SC has a lowest risk i.e. 55.42%. The correlation of stock, return and market shows that all of the banks stocks are highly positive correlated with the market. The correlation values of common stock of all bank with the market is nearly equal to +1. The stock price of all four listed Commercial Banks was higher than NEPSE average price of stock. Similarly, the stock prices of four Commercial Banks were in fluctuating trend than NEPSE index.

She concluded that investment on common stock is a risky job. It does not guarantee both and principal. So, investor should be acquainted with associated risk and workout their attitude towards the riskness of various investment strategies.

Thapa, Sangita (2006) has carried out a research on title "Risk and return in Stock Market Investment in Nepal: Issue and Challenges." Her major objectives of the study were to find out and analyze the risk and return as well as to examine the trend of risk, return, total paid up value, annual turnover and capitalization of twenty three companies out of listed companies. Five companies of each sector from Banking, Finance and

Insurance sector; two of each from Hotel, Trading, Manufacturing and Processing and other companies, are included in this study.

Her research has been based on the collected data from secondary source as well as some information primary source (2054/55 to 2062/63). For analyzing data, she has applied various statistical tools in her study to find out the risk and return. She has concluded that most of the investors are found to be risk averters. They are investing in portfolio having more than four securities. Most preferable sector for investors is banking and finance sectors. Stock brokers are major source of information to the investors which show they have a remarkable role in share market. Increasing trends of share price and surplus money for investors are the influencing factors to buy share by investors. Profitability and marketability has equal influence for motivation to invest. The level of investor's satisfaction towards the present trading system (open out cry system) has found low. Most investors are not satisfied with it, because whim and rumors influ6enced every time. Thus, most of investors wish to have automation trading system. The expected return of securities market as a whole by using NEPSE index is 11.72 percent. Banking and other sectors stand higher expected return then market, while Manufacturing and Processing, Finance, Insurance, Hotel and Trading sectors have lower the expected return compared to the market return. In terms of CV, market has 2.70 CV. All sectors have found highest CV in comparison with market relative risk. In comparison of market portfolio and average return of selected companies shows that there is no difference significantly. The total paid of value of the all sectors expects trading is likely to decreasing in trends. The annual turnover of the all sectors is increasing trends. Likewise, the market capitalization of all sectors expected trading is likely to increasing trends.

Tiwari, Kedar Prasad (2007) conducted a research on the title of "Risk and Return Analysis of Selected Finance Companies Listed in Nepal" on the specific object to analysis the risk and return associated with the common stock of six finance companies. They are Kathmandu Finance Co. Ltd., Samjhana Finance Co. Ltd., and National Finance Co. Ltd., Citizen Investment Trust, Ace Finance Co. Ltd., and peoples Finance Co. Ltd. His research has been based on the collected data from the secondary source. Nepal Stock Exchange (NEPSE) Ltd is the main organization, which provides most of the data required for the study from year 2000 to 2005. For analyzing the data, he has used various statistical techniques of simple liner regression as well as other financial tools.

In his research, he found that the finance companies have positive expected return as well as most of the finance company has the return near to the average. All the investment involved certain amount of risk (i.e. standard deviation) as well as most of the finance company has the risk

less than the average. The value of best suggests majority of finance company stock volatility is less than the market volatility and they are defensive stock. There is positive relationship between expected return and deferent measure of risk of the finance company. The return of majority of finance companies has higher degree of positive correlation with the return of other companies. The overall effect of portfolio on risk and return shows mixed result. It means the portfolio helps to increase the return in some case but in some case it has also decreased the result up to negative level. But in other hand, neatly in all case it has helped to decrease the level of risk up to some extent.

Shrestha, Mangal Bhakta (2008) has carried out a research on title "Risk and Return Behavior of listed Commercial Banks in NEPSE." His major objectives of the study were to find out and analyze the risk and return behavior. His research has been based on the collected data from secondary source as well as some information primary source. For analyzing data, he has applied various statistical tools in her study to find out the risk and return.

He has concluded that Risk and Return of the selected commercial banks are not consistence. The highest risk bank is Bank of Kathmandu Ltd. whereas higher return bank is Nabil Bank Ltd. The selected commercial bank has higher risk with lower rates of return and some have low risk with higher return. The portfolio analysis provides empirical evidence of disparity between risk and return of selected commercial banks.. Most of the selected commercial banks have sensitive stock with market. Among 8 selected commercial banks, 5 of the banks have value of beta greater than 1 and 3 of them have value of beta is less than 1. In comparison of overall market return of NEPSE and average return of selected commercial banks shown that there is no significantly difference.

2.5 Research gap

Very few research works has been conducted in this topic. No specific research has yet been able to go in-depth of the topic and successfully accomplished the specific objectives of the research work. All of the previous research on portfolio management has been based on only showing the risk and return analysis of the stocks of Commercial Banks. Previous research studies focused mainly on common stock investment of COMMERCIAL BANKS but none of the researchers has concentrated on this topic deeply. In this research only concerned on diversifiable and un-diversifiable risk of Commercial Banks (NA, NIB, and SC & HB) for fiscal years 2004/05 to 2008/09. All previous researchers have identified the risk but they have not focused on this topic.

CHAPTER - III
RESEARCH METHODOLOGY

3.1 Introduction

A research is systematic and in-depth study or search of any particular topic by formulating hypothesis, collecting information, analyzing and interpreting them through the valid results. It is also called a creative investigation to search new insight to the phenomena.

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying his research problem along with logic behind them.

Research methodology is the way in which the data are collected for the research project. It refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives in view. It describes the methods and process applied in the entries subject of the study. It is the way to systematically solve the research problem (Kothari, 1990:39).

This chapter has been divided in to five sections. First section presents the research design of the study while the second section deals with the nature of population and samples. Third section consists of the nature and sources of data and four sections explain data collection and processing techniques. The final section deals with data analysis tools.

3.2 Research design

Research Design is a plan, structure and strategy of investigations conceived so as to obtain answers to research questions and to control variances (Wolf, 1975:510). It is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. Considering the objectives of the study, the analysis is based on certain research design. In order to achieve objectives, descriptive and analytical research design has been adopted. Descriptive research design describes the general pattern of the investors, business environment, problem of portfolio management etc. The analytical research design makes analysis of the information and data. Most of the data and information of the study

were concerned with past phenomenon. So it can be regarded as historical research.

It covers the data from the fiscal year 2004/05 to 2008/09. It deals with the study of portfolio analysis of commercial banks in Nepal. As the title of the study suggests it is more analytical and empirical and less descriptive.

3.3 Sources of data

This study is mainly based on secondary data. The various required data for the study are collected from concerned banks, Nepal Rastra Bank, NEPSE, SEBO/N and different libraries. Similarly, the required micro-level data received from annual reports of selected banks and websites of banks as well as NEPSE. In addition to above, supplementary data and information was collected from different library such as library of Shanker Dev Campus, Nepal Commerce Campus, T.U. Central Library, Library of NRB, NEPSE, SEBO/N etc. Likewise, various data and information were collected from the periodical economic journals and from other published and unpublished reports. Similarly, information enquires and dialogue with authorities of related institutions is also other sources of data.

The major sources of data and information are as follows:

- Economic survey, Ministry of Finance
- Quarterly Economic Bulletin, NRB
- Macro Economic Indicators of Nepal, NRB
- Annual reports SEBO/N
- Journal of Finance
- Journal of Business
- Website of NEPSE
- Website of different Commercial Banks

3.4 Population and sample

The population of the study is all the commercial banks listed in NEPSE. Until now total numbers of commercial banks listed in NEPSE are 24. Hence, these 24 commercial banks are the population of the study. For this study, only four commercial banks are taken as sample. The samples are selected by lottery method. The selected sample banks for the analysis are as follows: Nabil Bank Ltd., Nepal Investment Bank Ltd., Standard Chartered Bank of Nepal Ltd. and Himalayan Bank Ltd.

3.5 Data collection procedure

Most of the data used in the research are secondary data. Annual reports of commercial banks, annual reports of NEPSE, trading report of NEPSE and Periodicals of NRB are used as secondary data.

3.6 Data analysis tools

In order to ascertain investment analysis of any firm, various analytical tools can be used. According to the nature of statement of data, suitable to appropriate tools make the analysis more effective and significant for achieving objective. Financial and statistical tools used in this study.

In order to analyze various data, different analysis tools have been used they are as follows:-

3.6.1 Market price of stock (MPS)

There are mainly three types of MPS available in NEPSE annual report. They are high MPS, low MPS and closing MPS. Closing price is not an average prices of high and low MPS but rather it is calculated by considering the whole years MPS for the closing MPS trading report is followed.

3.6.2 Market returns

Market returns is independent variable of characteristic line. In the context of Nepalese financial market, average return or market return can be found by using NEPSE index.

Market return can be calculated as follows;

$$R_{mt} = \frac{NEPSE_{t-1} - NEPSE_t}{NEPSE_t} x100$$

Where,

R_{mt} = Market return

$NEPSE_t$ = NEPSE index at the beginning of period t

$NEPSE_{t-1}$ = NEPSE index at the ending of period t

3.6.3 Return on common stock investment (R)

The return on shares and debentures considers dividend yield and capital gain yield i.e. change in market price. The dividend yield is only a partial indication of the return; hence, the return on shares and debenture significantly depends on the change in its share price (Pandey, 1997:332). The formula for calculating the return on shares and debentures is as follow:

$$R = \frac{D_t + (P_t - P_{t-1})}{P_t}$$

Where,

R = Actual realized return on common stock at time t.

D_t = Cash dividend received at time t.

P_t = Price of a stock at time t.

P_{t-1} = Price of stock at time (t -1).

3.6.4 Dividend

Dividend can be given in the form of cash or shares. If the company declare dividend in cash then there is no difficulty in calculation. But if the company declares stock dividend or bonus share then shareholders get shares as dividend instead of cash. So there is a little difficult to calculate the exact amount in cash. In case of stock dividend the formal for total dividend amount is considered as follows:

Total dividend = Cash dividend + percentage of stock dividend $\times$ next years market price per share

3.6.5 Capital assets pricing model (CAPM)

The relationship between an asset's return and it systematic risk can be expressed by the capital assets pricing model (CAPM), which is also called the securities market line (SML). Comparison of required rate of return and expected rate or return gives the result whether the stock is overpriced or underpriced. For the analysis risk free return is needed i.e. risk free rate of return here for the study, the return of the Treasury bill issued by Nepal Rastriya Bank is taken as risk free return.

The equation for the CAPM is :

$$E(r_A) = R_f + (\overline{R}_m - R_f)\beta_A$$

Where,

$E(r_A)$ = Required rate of return on stock A.

R_f = Risk free rate of return

$\overline{R}_m$ = Expected return on market portfolio

β_A = Beta of stock A

3.6.6 Expected return on common stock ($\overline{R}_A$)

Expected return is simply arithmetic mean of the past years return. This is an average return on common stock. Expected return on common stock is measured by the following equation:

$$\overline{R}_A = \frac{\sum R_A}{n}$$

Where,

$\overline{R}_A$ = Expected rate of return on stock A

n = Number of observations

3.6.7 Standard deviation (σ)

It is a statistical concept and is widely used to measure risk from holding a single asset. The Standard deviation is derived so that a high standard deviation represents a large dispersion of return and is a high risk a low deviation is a small dispersion and represents a low risk. It provides more information about the risk of the assets. Its advantage is that the uncertainties of returns can be summarized into a single easily calculated number. The major disadvantage is that the standard deviation considers possible returns above the expected value to be as risky as returns below the expected value.

Standard deviation is a statistical measure and is widely used to measure risk from holding a single asset. The standard deviation represents a large dispersion of return and is a high risk and vice versa. Standard deviation is measured by the following equation:

$$\sigma_A = \sqrt{\frac{\sum (R_A - \bar{R_A})^2}{n}}$$

Where,

σ_A = Standard deviation of stock A

R_A = Realized rate of return of stock A

$\bar{R_A}$ = Expected rate of return of stock A

n = Number of observation

3.6.8 Variance (σ^2)

It is the square of standard deviation. It is denoted by sigma square. It measures the total risk of assets. Variance is measured by the following equation:

$$\sigma_A^2 = \frac{\sum (R_A - \bar{R_A})^2}{n}$$

Where,

σ_A^2 = Standard deviation of stock A

R_A = Realized rate of return of stock A

$\bar{R_A}$ = Expected rate of return of stock A

n = Number of observation

3.6.9 Coefficient of variance (CV)

If risk is measured by the standard deviation, then risk per unit of expected return can be measured by the coefficient of variance (CV). The larger the CV the larger the relative risk of the investment.

The coefficient of variance shows the risk per unit of return and it provides a more meaningful basis for comparison when the expected return on two alternatives is not the same.

The coefficient of Variance is more useful when we consider investments, while have different expected rates of return and different levels of risk (Weston and Brigham 1993).

Coefficient of variance measured by the following equation:

$$CV = \frac{\sigma_A}{\bar{R}_A}$$

Where,

σ_A = Standard deviation of stock A

$\bar{R}_A$ = Expected rate of return of stock A

3.6.10 Covariance

The covariance is an absolute measure of the degree of relationship between the returns a pair of securities. It is a statistical measure of the relationship between two random variables. That is, it is a measure of how two random variables, such as the return on securities A and B, move together. A positive value for the covariance indicates that the securities returns tend to move in the same direction. A negative value of the covariance indicates the return of securities move in the opposite direction and the zero value of the covariance indicates no relationship between the securities return. Following equation can be used for covariance

$$Cov_{AB} = \frac{\sum [r_A - \bar{r}_A][r_B - \bar{r}_B]}{n}$$

Where,

Cov_{AB} = Covariance between return on stock A and B.

$r_A r_B$ = Single period return on stock A and B.

$\bar{r}$ = Expected rate of return

n = Number of observations

3.6.11 Correlation

Correlation is a relative measure of relationship that is by +1.0 and -1.0. It is a statistical measure of the extent to which the returns on any two securities are related, however, it denotes only association not causation. Covariance and correlation are closely related. The correlation measure the degree of relationship of movement of securities' return. The correlation coefficient always lies between +1 and -1.

A value of +1 represents a perfectly positive correlation and value of -1 represents a perfectly negative correlation. With zero correlation, there is no relationship between the returns on the two securities.

Combining securities with perfect positive correlation provides no reduction in portfolio risk. Combining two securities with zero correlation reduces the risk of the portfolio. Finally, combining two securities with perfect negative correlation could eliminate risk altogether. Correlation is measured by the following equation:

$$\rho_{AB} = \frac{Cov_{AB}}{\sigma_A \sigma_B}$$

Where,

ρ_{AB} = Correlation coefficient between stock A and B

Cov_{AB} = Covariance between return on stock A and B.

σ_A = Standard deviation of stock A.

σ_B = Standard deviation of stock B.

3.6.12 Total risk

Total risk or total variability of returns of an asset or portfolio is measured by variance and standard deviation. This total risk can be divided into two parts; Diversifiable risk and Un-diversifiable risk. Hence,

Total risk = Diversifiable risk + Un-diversifiable risk

- **Diversifiable risk**

  Diversifiable risk is also known as unsystematic risk. This type of risk is unique to an organization and can be largely eliminated by holding a diversified portfolio of investment. Diversifiable risk creates through the events like, labor, strikes, management errors, inventions, advertising campaigns, availability of raw materials etc. Un-systematic risk is

unique to each firm an efficiently diversified portfolio of securities can successfully eliminate most of the unsystematic risk inherent in individual securities.

- **Un-diversifiable risk**

  Un-diversifiable risk is also known as the systematic risk. This risk is that portion of total variability in return caused by market factors (also called market risk) that simultaneously affect the prices of all securities. Un-diversifiable risk crates due to the changes in the macro economic factors like, interest rate, inflation, investors, expectations, gross domestic product (GDP) etc. Moreover, it is the causes of external environment (political, economic, sociological and technological) of the firm.

  Un-diversifiable risk is that part of total risk that can not be eliminated by allocating capital to a diversified portfolio of investments. A statistical measure of un-diversifiable risk index is beta coefficient. Beta coefficient measured by the following equation:

$$\beta_A = \frac{Cov_{Am}}{\sigma_m^2}$$

Where,

β_A = Beta coefficient of stock A

Cov_{Am} = Covariance between the returns of stock A and market.

σ_m^2 = Variance of market

Beta of market return equals to 1 and beta coefficient as an index of systematic risk is used to rank the assets. If beta is larger than 1, then the asset is more volatile than market and is called aggressive beta. If the beta is less than 1, the asset is called defensive beta and its price fluctuation is less volatile than market.

Beta is a relative measure of market risk. It is a ratio of covariance of the rate of return to the covariance of the market portfolio return. Correlation coefficient between market return and market return could be equal to 1.

We can prove by the following formula:

$$\beta_m = \frac{Cov_{mm}}{\sigma_m^2} = \frac{P_{mm} \times \sigma_m \times \sigma_m}{\sigma^2 m} = \frac{1 \times \sigma_m \times \sigma_m}{\sigma_m \times \sigma_m} = 1$$

Where,

β_m = Beta for market portfolio

Cov_{mm} = Correlation coefficient between market and market return

σ_m^2 = Variance of market.

3.6.13 Partitioning total risk

Partitioning risk is the division of total risk (variance) into systematic and unsystematic components.

Total risk = systematic risk + Unsystematic risk

$$Var_A = \beta_A^2 Var_m + Var_e$$

Alternatively,

$$\sigma_A^2 = \beta_A^2 \sigma_m^2 + Var_e$$

Where,

Var_e = Variance of standard error.

σ_A^2 = Total risk of stock A

$\beta_A^2 \sigma_m^2$ = Systematic risk

Var_e = Unsystematic risk or variance of standard error

Proportion of systematic risk

Percentage of systematic risk $= \frac{\text{Systematic risk}}{\text{Total risk}} \times 100$

$$= \frac{\beta_A^2 \sigma_m^2}{\sigma_A^2} x100$$

Proportion or percentage of systematic risk is also measured by coefficient of determination. Coefficient of determination is the square of the correlation coefficient.

3.6.14 Relationship between systematic risk and coefficient of determination

Coefficient of determination and proportion of systematic risk are the same. Coefficient of determination is the proportion of systematic risk in total risk. Higher the systematic risk higher will be the coefficient of determination and vice versa. The following equations justify that's the coefficient of determination and proportions of systematic risk are the same.

Coefficient of determination (ρ_{Am}^2) = $\frac{\beta_A^2 \sigma_m^2}{\sigma_A^2}$

Where,

ρ_{Am}^2 =Proportion of systematic risk

$\beta_A^2 \sigma_m^2$ =Systematic risk

σ_A^2 =Total risk.

3.6.15 Expected return of portfolio ($\overline{R}_p$)

The expected of the portfolio is the weighted average of the expected returns of the individual assets in the portfolio. The weighted are proportion of the investor wealth in each asset, and of the sum of the weights must be equal to one.

Expected return of portfolio ($\overline{R}_p$) = $W_A \overline{R}_A + W_B \overline{R}_B + \ldots\ldots + W_N \overline{R}_N$

Where,

$\overline{R}_p$ = Portfolio expected return

W_A = Weight of investment invested in stock A

W_B = Weight of investment invested in stock B

$\bar{\bar{R}}_A$ = Expected return for stock A

$\bar{\bar{R}}_B$ = Expected return for stock B

3.6.16 Portfolio risk

The calculation of a portfolio risk is not as straightforward as the calculation of portfolio expected return. In order to calculate the risk of a portfolio, consideration must be given not only to the risk of the individual assets in the portfolio and their relative weights but also to the extent to which assets' return move together. We measure the risk of an individual asset by the variances of returns or its square root, the standard deviation. The degree, to which the assets' return moves together, is measured by the covariance or correlation coefficient. By combining the measures of individual assets risk (variance or standard), the risk of portfolio can be estimated. The portfolio risk is measured by either variance or the standard deviation of returns. "The portfolio risk is affected by the variance of returns as well as the covariance between the return of individual assets included in the portfolio and respective weights." The variance of returns from portfolio made up an asset is defined by following equation:

$$\sigma_P = \sqrt{W_A^2\sigma_A^2 + W_B^2\sigma_B^2 + 2W_A W_B Cov_{AB}}$$

Where,

σ_p = Standard deviation of portfolio

σ_A =Standard deviation of stock A

σ_B = Standard deviation of stock B

W_A = Weight of stock A

W_B = Weight of stock B

Cov_{AB} = Covariance of returns between asset A and B

The covariance is related to correlation as shown in equation:-

$$Cov_{AB} = \rho_{AB}\sigma_A\sigma_B$$

3.6.17 Minimum variance portfolio

It is the portfolio with the lowest level risk in the efficient frontier. It is also called risk minimizing weight or optimal weight. In two stock portfolio, the optimal weight to invest in stock A and B

$$W_A = \frac{\sigma_B^2 - P_{AB}\sigma_A\sigma_B}{\sigma_A^2 + \sigma_B^2 - 2P_{AB}\sigma_A\sigma_B}$$

$$W_B = 1 - W_A$$

Where,

W_A = Optimal weight to invest in stock A

W_B = Optimal weight to invest in stock B

3.6.18 Portfolio beta (β_p)

Portfolio beta is the weighted average beta of total securities included in the portfolio. The portfolio beta is calculated by using the following formula:

$$\beta_P = \beta_A W_A + \beta_B W_B + ... + \beta_n W_n$$

Where,

W_A =Weight of stock A

W_B =Weight of stock B

β_A = Beta coefficient of stock A

β_B = Beta coefficient of stock B

CHAPTER - IV
DATA PRESENTATION AND ANALYSIS

This chapter includes analysis of collected data and their presentation. Detail data of market price of stock, earning per share, dividend of each bank and relevant data of NEPSE index is presented and their interpretation and analysis done with reference to preceding chapters, effort is made to analyze the recent Nepalese Stock Market movement and performance of listed commercial banks. To make the analysis and interpretation more easily different tables and diagrams are drawn.

4.1 Analysis of market risk and return

According to securities trading report published by NEPSE on 2009, the yearly closing price of stock and yearly market index are given in the following table.

Table 4.1

Movement of NEPSE index

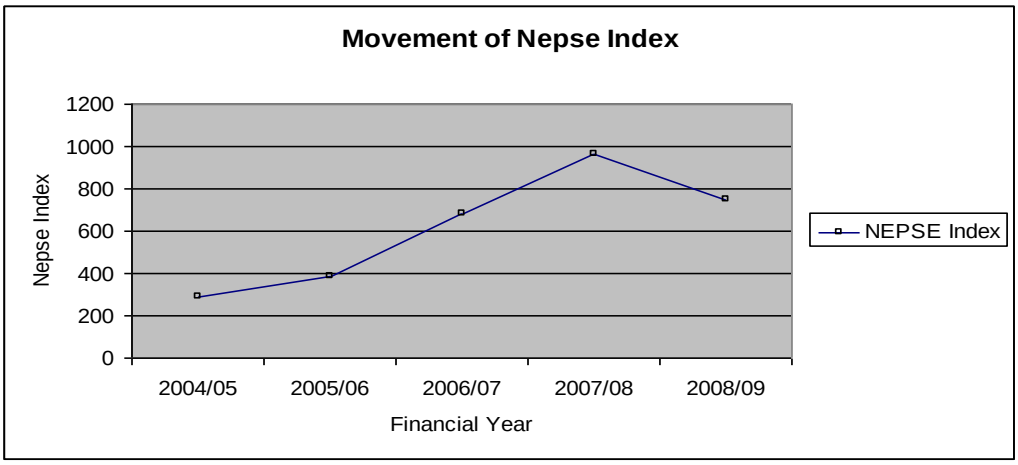
Fiscal Years	NEPSE Index
2004/05	286.67
2005/06	386.83
2006/07	683.95
2007/08	963.36
2008/09	749.11

Source: Annual Reports of Nepal Stock Exchange, 2009

From the above, table shows that from FY 2004/05 to 2007/08 NEPSE is increasing very highly but in in FY 2008/09 it ended with 749.11 points. It shows that market condition is not good in FY 2008/09. It is due to so many cause most of important cause is to be political situation of nation, worldwide recession and declaration of stock dividend by almost all the commercial banks.

NEPSE index is shown in line chart as below:

Figure 4.1



Source: www.nepalstock.com

In the above line chart, the rate of return of market in during the research period is inconsistent. It is in the rising trend till FY 2007/08 but in F/Y 2008/09 it goes downward.

Table 4.2

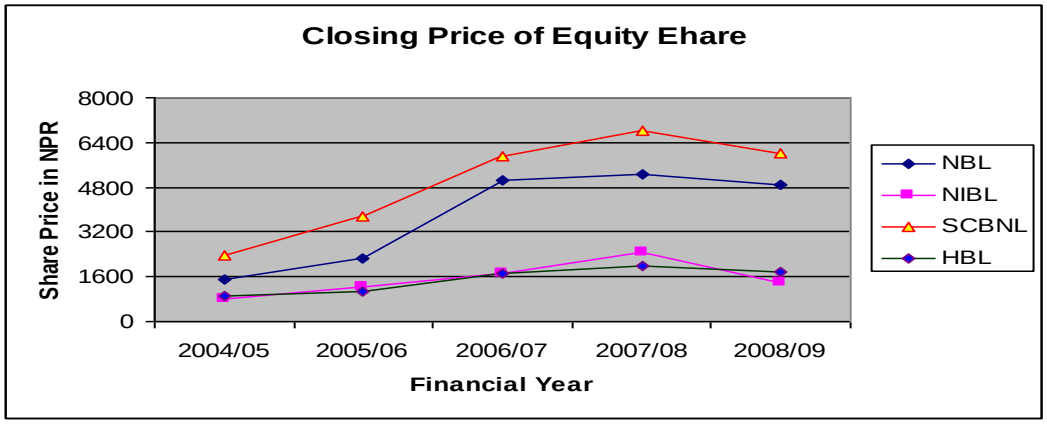
Closing price of equity share

F/Y	NA	NI	SC	HB
2004/05	1505	800	2345	920
2005/06	2240	1260	3775	1100
2006/07	5050	1729	5900	1740
2007/08	5275	2450	6830	1980
2008/09	4899	1388	6010	1760

Source: Security Exchange Board of Nepal, 2009

Above table shows that NA, NI, SC and HB has the closing price Rs.1505, Rs.800, Rs 2345 and Rs 920 in FY 2004/05 and ended in at Rs 4899, Rs.1388, Rs 6010 and Rs 1760 in FY 2008/09. The highest price Rs 5275, Rs 2450, Rs 6830 and Rs 1980 is found in F/Y 2007/08. It shows increasing trend of closing price upto F/y 2007/08 but decreasing trend in F/Y 2008/09. It is shown in below line chart:

Figure 4.2



From the line chart shown above, SC has highest price among all the commercial banks. There is a notable increment of equity share of NA in F/Y 2006/07 as compared to F/Y 2005/06. In the FY 2008/09 closing price of stock of all the commercial banks is decreased as compared to previous F/Y 2007/08. HB has the high rate of decrease in F/Y 2008/09 among the other entire bank.

Realized rate of market return, expected rate of market return, standard deviation, variance and coefficient of variance of market is calculated in table as below:

Table 4.3

Calculation of realized rate of market return, expected return, standard deviation, variance and coefficient of variance of market

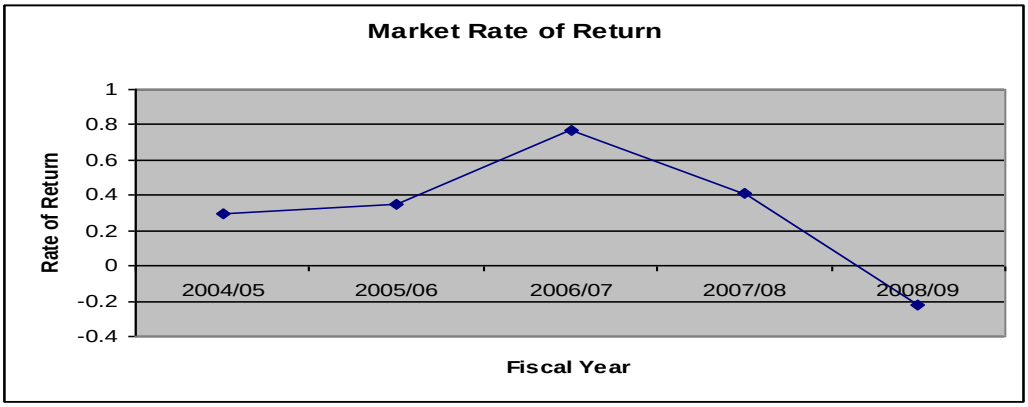
Description	Ratio
Expected return of market ($\overline{R}_m$)	0.3189
Standard deviation of market (σ_m)	0.3177
Variance of market (σ_m^2)	0.1009
Coefficient of variance of market (cv_m)	0.9961

Source: - Appendix-I

From the above data, the past four years shows that the market return of NEPSE is positive till 2007/08 But in last years it has negative market return. The expected return of market is 0.1389which is not better but it is

in good situation. The value of standard deviation of market portfolio is 0.3177, variance is 0.1009 and coefficient of variance is 0.9961

Figure 4.3



The line chart above shows the history of market return. Stock market returns vary a lot from year to year. There is a remarkable increment in return in 2006/07 but there after negative return has been observed in the next two fiscal years 2007/08 and 2008/09. It is due to so many cause most of important cause is to be political situation of nation and world wide recession. It indicates the market condition is very serious. The expected return of market is 0.3189 which is not better but it is in good situation. The value of standard deviation of market portfolio is 0.3177, variance is 0.1009 and coefficient of variance is 0.9961.

4.2 Analysis of Commercial Banks

Among 26 commercial banks in Nepal only 24 are listed in NEPSE and from those 24 commercial banks only 4 are included in this research namely SC, NA, NI and HB. Data has been collected for the five fiscal years from 2004/05 to 2008/09. First of all we are showing the market portfolio of Nepal Stock Exchange.

4.2.1 Analysis of Nabil Bank Ltd (NA)

Nabil Bank Limited is a limited liability company domiciled in Nepal. The address of its registered office is Kathmandu, Nepal. The bank is listed in Nepal Stock Exchange Limited. The Bank is licensed by Nepal Rastra Bank (NRB) to carry out commercial banking business.

Nabil Bank Limited, the first foreign joint venture bank of Nepal, started operations in July 1984. NA was incorporated with the objective of

extending international standard modern banking services to various sectors of the society. Nabil Bank Ltd. has Authorized Capital Rs 1,600 million issuied capital & paid up Capital Rs 965.75 million.

Table 4.4

Dividend per share and earning per share of NA

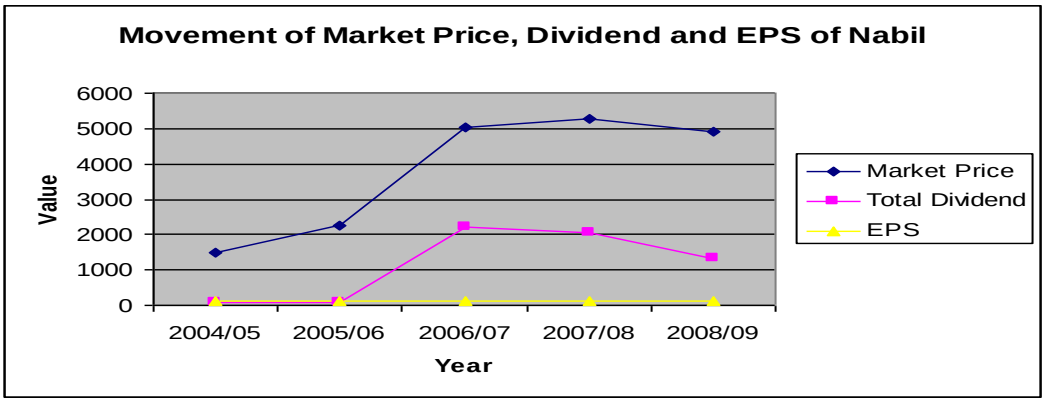
FY	Market Price	Dividend		Total Dividend	EPS
		Cash	Stock		
2004/05	1505	70	-	70+0%of 2240=70	105.79
2005/06	2240	85	-	85+0%of 5050=85	129.21
2006/07	5050	100	40	100 + 40% of 5275= 2210	137.08
2007/08	5275	100	40	100 + 40% of 4899= 2060	108.31
2008/09	4899	35	50	35 + 50% of 2583= 1327	106.76

Source: NEPSE and Annual report of NA, 2009

Total dividend = Cash dividend + % of stock dividend of next years closing price. Closing price Rs.2583 on Dec 17, 2009 (Kantipur Daily).

From the above table, we can see that the market price of stock has increased from F/Y 2004/05 to 2007/08 and decreased in 2008/09. In the F/Y 2006/07 the share value has increased from 2240 to 5050 due to declaration of cash dividend as well as stock dividend.

Figure 4.4



From the above line chart, we can see that market price, EPS and total divided of Nabil Bank Ltd has increased till F/Y 2006/07 but there after same has decreased. It is due to so many cause most of important cause

is to be political situation of nation and worldwide recession. It indicates the market condition is very serious. Similarly, EPS of NA is increased in F/Y 2006/07 but thereafter it is slowly decreased.

Table 4.5

Calculation of expected rate of return, standard deviation, coefficient of variance, variance, covariance, undiversifiable & diversifiable risk, correlation between market return and return of Nabil Bank Ltd.

Description	Ratio
Expected return of NA ($\overline{R}_{NA}$)	0.7987
Standard deviation of NA (σ_{NA})	0.7345
Coefficient of variance of NA (cv_{NA})	0.9196
Variance of NA(σ^2_{NA})	0.5395
Covariance of NA & market return $COV(R_{NA} \cdot R_M)$	0.1900
Beta coefficient of NA(β_{NA})	1.8833
Total risk of NA(σ^2_{NA})	0.5395
Systematic or un-diversifiable risk of NA ($\beta^2_{NA} \text{x} \sigma^2_M$)	0.3579
Percentage of systematic risk	66.34%
Unsystematic or diversifiable risk of NA var (e)	0.1816
Percentage of unsystematic risk	33.66%
Correlation between NA & market return($\rho_{NA.m}$)	0.8143
Coefficient of determination & market return ($\rho^2_{NA.m}$)	0.6632

Source: Appendix ii

In the above table, expected rate of return, standard deviation, coefficient of variance, variance, covariance of NA and market return, beta coefficient, undiversifiable & diversifiable risk, correlation between market return and return of Nabil Bank Ltd. are 0.7987, 0.7345, 0.9196, 0.5395, 0.1900, 1.8833, 0.3579, 0.1816 and 0.8143 respectively.

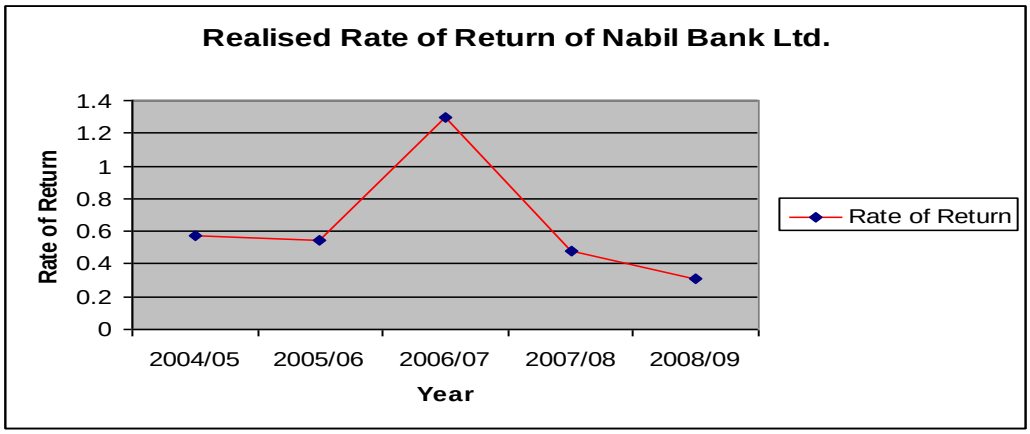
It shows that return on stock NA and market have strong positive correlationship.

We found out of total risk 0.5395, systematic risk covers 66.34% and unsystematic risk covers 33.66%.

Beta coefficient of NA is 1.8833, which is higher than market beta 1.0. Therefore, the stock of NA is aggressive.

Following line chart shows the realize rate of return of NA.

Figure 4.5



In the above line chart, the realised rate of return in 2004/05 is 0.5750. There is a remarkable increment in rate of return in 2006/07 with a value of 2.2411 but there after negative return has been observed in the next two fiscal years 2007/08 and 2008/09. At the end of 2008/09, the realised rate of return stands at 0.1802.

4.2.2 Analysis of Nepal Investment Bank Ltd. (NI)

NI has authorized capital Rs 4000 million, issued capital Rs 2409 million & paid up capital Rs 2407 million respectively.

Table 4.6

Dividend per share and earning per share of NI

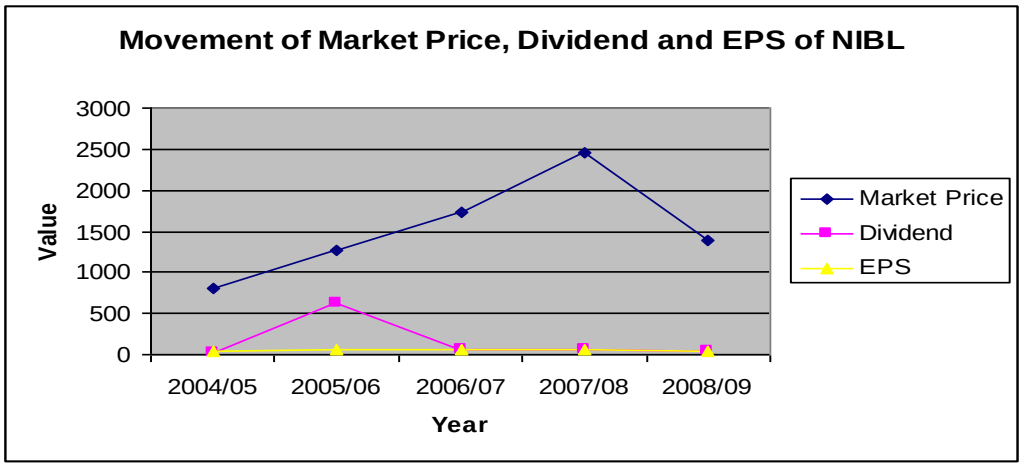
FY	Market price	Dividend		Total Dividend	EPS
		Cash	Stock		
2004/05	800	12.50	0.00	12.50+ 0 % of 1260=13	39.35
2005/06	1260	20.00	35.46	20.00+ 35.46 % of 1729=633	59.35
2006/07	1729	5.00	25.00	5.00+ 25 % of 2450 =618	62.57
2007/08	2450	7.50	33.30	7.5 + 33.30 % of 1388= 470	57.87
2008/09	1388	20.00	0.00	20 + 0 % of 735 =20	37.42

Source: NEPSE & Annual report of NI, 2009

Closing Price Rs.735 Dec 17 2009 (Kantipur Daily).

From the above , market price of stock is increased every year from F/Y 2004/05 to F/Y 2007/08 but in F/Y 2008/09 has decreased. Similarly, EPS of bank increased upto F/Y 2006/07 but thereafter it decreased in F/Y 2007/08 and 2008/09 .

Figure 4.6



In the above figure we can see that NI market price is increasing highly in F/Y 2007/08 than after market price of stock decreased in F/Y 2008/09. The market price is highest in F/Y 2007/08 & EPS is highest in F/Y 2006/07.

Table 4.7

Calculation of expected rate of return, standard deviation, coefficient of variance, variance, covariance, undiversifiable & diversifiable risk, correlation between market return and return of Nepal Investment Bank Ltd.

Description	Ratio
Expected return of NI ($\overline{R}_{NI}$)	0.4713
Standard deviation of NI (σ_{NI})	0.6593
Coefficient of variance of NI (cv_{NI})	1.3990
Variance of NI (σ^2_{NI})	0.4347
Covariance of NI & market return $COV(R_{NI} \cdot R_M)$	0.1449
Beta coefficient of NI (β_{NI})	1.4363
Total risk of NI (σ^2_{NI})	0.4347
Systematic or un-diversifiable risk of NI ($\beta^2_{NI} \text{x} \sigma^2_M$)	0.2082
Percentage of systematic risk	47.88%
Unsystematic or diversifiable risk of NI var (e)	0.2266
Percentage of unsystematic risk	52.12%
Correlation between NI & market return($\rho_{NI.m}$)	0.6919
Coefficient of determination & Market return ($\rho^2_{NI.m}$)	0.4787

Source: Appendix iii

In the above table, expected rate of return, standard deviation, coefficient of variance, variance, covariance of NI and market return, beta coefficient, undiversifiable & diversifiable risk, correlation between market return and return of Nepal Investment Bank Ltd. are 0.4713, 0.6593, 1.3990, 0.4347, 0.1449, 1.4363, 0.2082, 0.2266 and 0.6919 respectively.

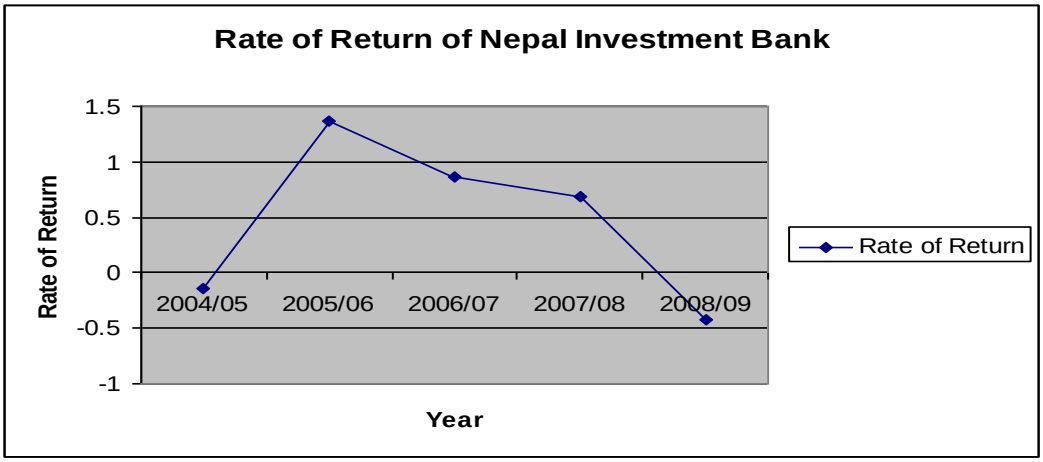
It shows that return on stock NI and market have strong positive correlationship.

We found out of total risk 0.4347, systematic risk covers 47.88% and unsystematic risk covers 52.12%.

Beta coefficient of NI is 1.4363 which is higher than market beta 1.0. So, the stock of NI is aggressive.

Following line chart shows the realize rate of return of NI.

Figure 4.7



In the above line chart, the realised rate of return in 2004/05 is -0.1356 which is increased in F/Y 2005/06 with 1.3664 but it goes downward in the next three fiscal year. At the end of 2008/09, the realised rate of return stands at negative value of 0.4253. It indicates that realised rate of return of NI is in worse condition.

4.2.3 Analysis of Standard Chartered Bank Nepal Ltd. (SC)

Standard Chartered Bank Nepal Limited has authorized capital Rs 1000 million, issuied capital Rs. 413.25 million & paid up capital Rs 500 million.

Table 4.8

MPS, DPS and EPS of SC

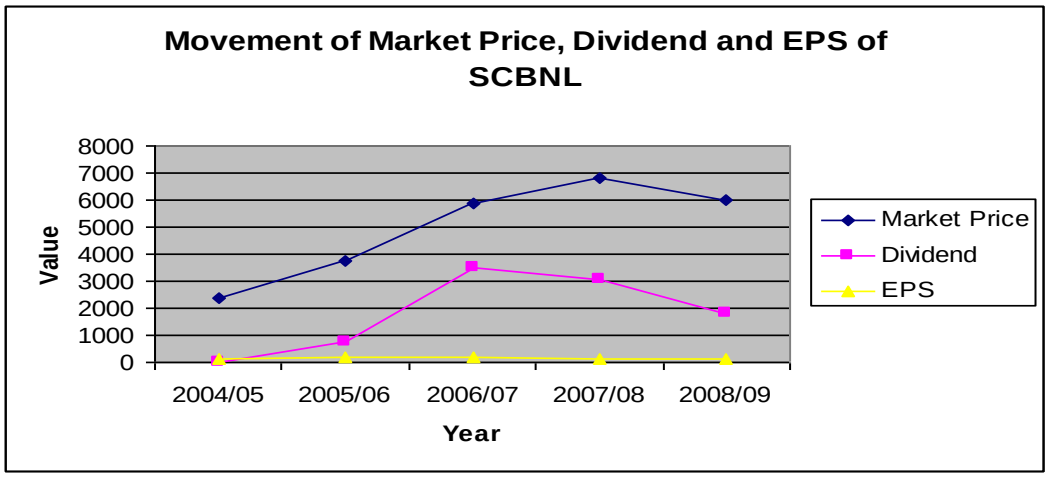
FY	Market price	Dividend		Total Dividend	EPS
		Cash	Stock		
2004/05	2345	120	0	120+0 % of 3775=120	143.14
2005/06	3775	130	10	130+10 % of 5990=720	175.89
2006/07	5900	80	50	80+50 % of 6830=3495	167.37
2007/08	6830	80	50	80+50 % of 6010=3085	131.92
2008/09	6010	50	50	50+50 % of 3320=1710	110.33

Source: NEPSE and Annual report of SC, 2009

Closing Price Rs.3320 on 17 Dec 2009 (Kantipur Daily).

From the above table, we can see the market price of stock is incresing from FY 2004/05 to 2007/08 but in the F/Y 2008/09 it is decreased. Similarly, EPS of SC is decreasing from F/Y2005/06 every year due to disbursbersement of stock dividend.

Figure 4.8



In the above figure, we can see that the total dividend is highly distributed to shareholders from fiscal years 2006/07 to 2008/09. MPS and EPS has also increased in the same scenerio as of dividend.

Table 4.9

Calculation of expected rate of return, standard deviation, coefficient of variance, variance, covariance, undiversifiable & diversifiable risk, correlation between market return and return of Standard Chartered Bank Nepal Ltd.

Description	Ratio
Expected return of SC ($\overline{R}_{SC}$)	0.7258
Standard deviation of SC (σ_{SC})	0.4633
Coefficient of variance of SC (cv_{SC})	0.6383
Variance of SC (σ^2_{SC})	0.2147
Covariance of SC & market return. $COV(R_{SC} \cdot R_m)$	0.1351
Beta coefficient of SC (β_{SC})	1.3990
Total risk of SC (σ^2_{SC})	0.2147
Systematic or un-diversifiable risk of SC ($\beta^2_{SC} \text{x} \sigma^2_m$)	0.1809
Percentage of systematic risk	84.27%
Unsystematic or diversifiable risk of SC var (e)	0.0338
Percentage of unsystematic risk	15.73%
Correlation between SC & market return($\rho_{SC.m}$)	0.9179
Coefficient of determination & market return ($\rho^2_{SC.m}$)	0.8425

Source: Appendix iv

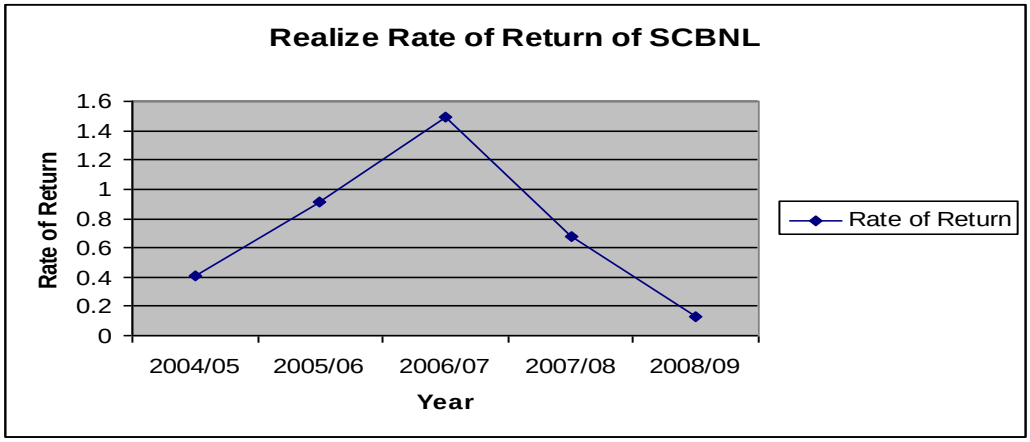
In the above table, expected rate of return, standard deviation, coefficient of variance, variance, covariance of SC and market return, beta coefficient, undiversifiable & diversifiable risk, correlation between market return and return of Standard Chartered Bank Nepal Ltd. are 0.7258, 0.4633, 0.6383, 0.2147, 0.1351, 1.3990, 0.1809, 0.0338 and 0.9179 respectively.It shows that return on stock SC and market have strong positive correlationship.

We found out of total risk 0.4127, systematic risk covers 84.27% and unsystematic risk covers 15.73%.

Beta coefficient of SC is 1.3990 which is higher than market beta 1.0. So, the stock of SC is aggressive.

Following line chart shows the realize rate of return of SC.

Figure 4.9



In the above line chart, the realised rate of return in 2004/05 is 0.4126 which is increased in F/Y 2006/07 with 1.4887 but it goes downward in the next two fiscal year. At the end of 2008/09, the realised rate of return stands at 0.1303.

4.2.4 Analysis of Himalayan Bank Ltd. (HB)

Himalayan Bank Limited – established and promoted in 1993 by a group of prominent businessman, bankers and financial institution with Habib Bank Limited of Pakistan, as a joint venture partner today stands as one of the largest private sector commercial bank in the country. Himalayan Bank Limited was incorporated in 1992. It has authorized capital Rs 2000 million, issuied & paid up capital Rs.1216 million .

Table 4.10

MPS, DPS and EPS of HB

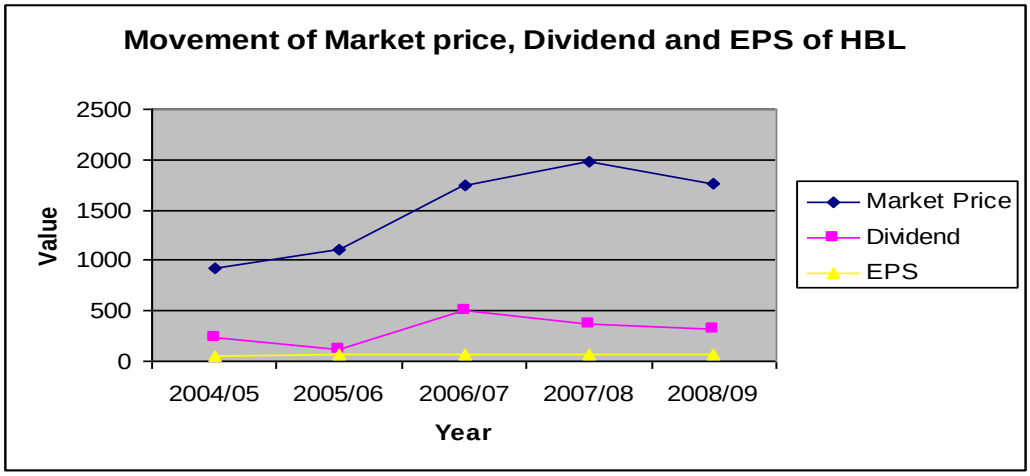
FY	Market price	Dividend		Total Dividend	EPS
		Cash	Stock		
2004/05	920	11.58	20	11.50+20 % of 1100=232	47.91
2005/06	1100	30	5	30+5 % of 1740=117	59.24
2006/07	1740	15	25	15+25 % of 1980=510	60.66
2007/08	1980	25	20	25+20 % of 1760=377	62.74
2008/09	1760	12	31.56	12+31.56% of 979=321	61.90

Source: NEPSE and Annual report of HB, 2009

Closing Price Rs.979* 17 Dec 2009 (Kantipur Daily).

We can see that the market price of HB is incresing from F/Y 2004/05 to 2007/08 but in the F/Y 2008/09 it is decreased. Movement of market price, total dividend and earning per share in below figure.

Figure 4.10



We can see that the total dividend is highly distributes to shareholders from fiscal years 2006/07 to 2008/09. MPS and EPS has also increased in the same scenerio as of dividend.

Table 4.11

Calculation of expected rate of return, standard deviation, coefficient of variance, variance, covariance, undiversifiable & diversifiable risk, correlation between market return and return of Himalayan Bank Ltd.

Description	Ratio
Expected return of HB ($\overline{R}_{HB}$)	0.4290
Standard deviation of HB (σ_{HB})	0.3295
Coefficient of variance of HB (cv_{HB})	0.7681
Variance of HB (σ^2_{HB})	0.1086
Covariance of NI & market return $COV(R_{HB} \cdot R_m)$	0.0946
Beta coefficient of HB (β_{HB})	0.9380
Total risk of HB (σ^2_{HB})	0.1086
Systematic or un-diversifiable risk of HB ($\beta^2_{HB} \text{x} \sigma^2_m$)	0.0888
Percentage of systematic risk	81.73%
Unsystematic or diversifiable risk of HB var (e)	0.1980
Percentage of unsystematic risk	19.27%
Correlation between HB & market return($\rho_{HB.m}$)	0.9041
Coefficient of determination & market return ($\rho^2_{HB.m}$)	0.8174

Source: Appendix v

In the above table, expected rate of return, standard deviation, coefficient of variance, variance, covariance of HB and market return, beta coefficient, undiversifiable & diversifiable risk, correlation between market return and return of Himalayan Bank Ltd. are 0.4290, 0.3295, 0.7681, 0.1086, 0.0946, 0.9380, 0.0888, 0.1980 and 0.9041 respectively.

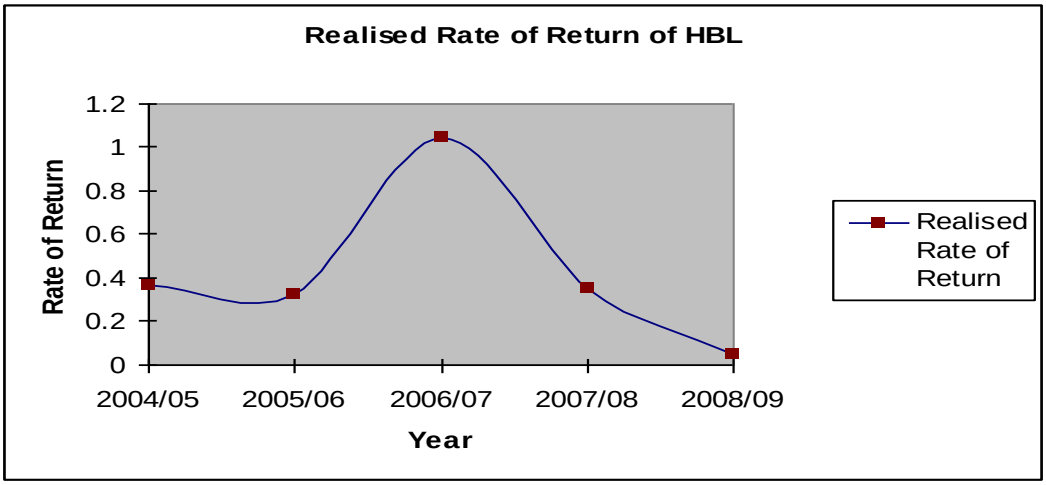
It shows that return on stock HB and market have strong positive correlationship.

We found out of total risk 0.1086, systematic risk covers 81.73% and unsystematic risk covers 19.27%.

Beta coefficient of HB is 0.9380which is higher than market beta 1.0. So, the stock of HB is defensive.

Following line chart shows the realize rate of return of HB.

Figure 4.11



In the above line chart, the realised rate of return in 2004/05 is 0.3709 which is increased in F/Y 2006/07 with 1.0455 but it goes downward in the next two fiscal year. At the end of 2008/09, the realised rate of return stands at 0.0510.

4.3 Portfolio analysis

A portfolio is the combination of different assets. The portfolio would be able to reduce unsystematic or diversifiable risk. It is the random selection of securities that are to be added to the portfolio. It reduces a portfolio's total diversifiable risk to zero. Previous analysis is risk and return based on the investment is single security.

The expected return in the portfolio is simply the weighted average of the expected return of the securities comparising that portfolio and the weights are equal to the proportion of total fund invested in each security. The sum of weight must be 100%. Therefore we need to extend our analysis of risk and return to the portfolio context. The analysis is based on the two assets portfolio and the tools for analysis are described already in the chapter research methodology.

4.3.1 Portfolio analysis of stocks between Nabil Bank Ltd. and Nepal Investment Bank Ltd.

The portfolio of the common stock of Nabil Bank Ltd. (let's suppose stock NA) and common stock of Nepal Investment Bank Ltd. (let's suppose stock NI) are analyzed below.

Table 4.12

Calculation covariance, correlation, proportion of the stocks, expected rate of return, standard deviation and beta of the portfolio of stock NA and NI

FY	$(R_{NA} - \overline{R}_{NA})$	$(R_{NI} - \overline{R}_{NI})$)	$(R_{NA} - \overline{R}_{NA})(R_{NI} - \overline{R}_{NI})$
2004/05	(0.2237)	(0.6069)	0.1358
2005/06	(0.2539)	0.8951	(0.2272)
2006/07	1.4424	0.3910	0.5640
2007/08	(0.3463)	0.2174	(0.0753)
2008/09	(0.6185)	(0.8966)	0.5545
Total			0.9518
Portfolio Weight		W_{NA} = 0.4117	W_{NI} = 0.5883
Covariance $(Cov_{NA,NI})$			0.1904
Correlation $(P_{NA,NI})$			0.3931
Expected return $(\overline{R}_{NA,NI})$			0.6061
Standard deviation $(\sigma_{NA,NI})$			0.5780
Beta $(\beta_{NA,NI})$			1.6203

Source: Appendix ii & iii.

Covariance between stock NA and NI is 0.1904 which is positive.Correlation between two stocks NA & NI is 0.3931, which is positive correlated. So, portfolio construction between these two stocks is not beneficial. The expected portfolio return of NA and NI is 0.6061 and standard deviation is 0.5780. The beta cofficient is 1.6203 which is greater than market beta 1.0.

Since, weight of stock NA = 0.4117 and weight of stock NI = 0.5883 this results indicate if the investor wanted to minimize risk then he/she would have to invest 41.17% in NA stock and 58.83 % in NI stock.

4.3.2 Portfolio analysis of stocks between Standard Chartered Bank Nepal Ltd. and Nepal Investment Bank Ltd.

The portfolio of the common stock of Standard Chartered Bank Nepal Ltd. (let's suppose stock SC) and common stock of Nepal Investment Bank Ltd. (let's suppose stock NI) are analyzed below.

Table 4.13

Calculation covariance, correlation, proportion of the stocks, expected rate of return, standard deviation and beta of the portfolio of stock SC and NI

FY	$(R_{SC} - \overline{R}_{SC})$	$(R_{NI} - \overline{R}_{NI}))$	$(R_{SC} - \overline{R}_{SC})(R_{NI} - \overline{R}_{NI})$
2004/05	(0.3132)	(0.6069)	0.1901
2005/06	0.1910	0.8951	0.1710
2006/07	0.7629	0.3910	0.2983
2007/08	(0.0453)	0.2174	(0.0098)
2008/09	(0.5955)	(0.8966)	0.5339
Total			1.1835
Portfolio Weight		W_{SC} = 1.1252	W_{NI} = -0.1252
Covariance $(Cov_{SC,NI})$			0.2367
Correlation $(P_{SC,NI})$			0.7749
Expected return $(\overline{R}_{SC,NI})$			0.7577
Standard deviation $(\sigma_{SC,NI})$			0.4603
Beta $(\beta_{SC,NI})$			1.9392

Source: Appendix iii & iv.

Covariance between stock SC and NI is 0.2367 which is positive. Correlation between two stocks SC & NI is 0.7749, which is positive correlated. That is why the construction of portfolio between these two stocks are not good for the investor. The expected portfolio return of SC and NI is 0.7577 and standard deviation is 0.4603. The beta cofficient is 1.9392 which is greater than market beta 1.0. Since, weight of stock SC = 1.1252 and weight of stock NI = -0.1252, this results indicate if the investor

wanted to minimize risk then, he/she would have to invest 100% in SC stock and no investment in NI.

4.3.3 Portfolio analysis of stocks between Nabil Bank Ltd. and Standard Chartered Bank Nepal Ltd.

The portfolio of the common stock of Nabil Bank Ltd. (let's suppose stock NI) and common stock of Standard Chartered Bank Nepal Ltd. (let's suppose stock SC) are analyzed below.

Table 4.14

Calculation covariance, correlation, proportion of the stocks, expected rate of return, standard deviation and beta of the portfolio of stock NA and SC

FY	$(R_{NA} - \bar{R}_{NA})$	$(R_{SC} - \bar{R}_{SC}))$	$(R_{NA} - \bar{R}_{NA})(R_{SC} - \bar{R}_{SC})$
2004/05	(0.2237)	(0.3132)	0.0701
2005/06	(0.2539)	0.1910	(0.0485)
2006/07	1.4424	0.7629	1.1004
2007/08	(0.3463)	(0.0453)	0.0157
2008/09	(0.6185)	(0.5955)	0.3683
Total			1.5060
Portfolio Weight		W_{NA} = -0.5703	W_{SC} = 1.5703
Covariance $(Cov_{NA,SC})$			0.3012
Correlation $(P_{NA,SC})$			0.8851
Expected return $(\bar{R}_{NA,SC})$			0.6842
Standard deviation $(\sigma_{NA,SC})$			0.4066
Beta $(\beta_{NA,SC})$			1.0285

Source: Appendix ii & iv.

Covariance between stock SC and NI is 0.3012 which is positive. Correlation between two stocks SC & NI is 0.8851, which is positive correlated. That is why the construction of portfolio between these two stocks are not good for the investor. The expected portfolio return of SC and NI is 0.6842 and standard deviation is 0.4066. The beta cofficient is

1.0285 which is greater than market beta 1.0. Since, weight of stock NA = -0.5703 and weight of stock SC = 1.5703, this results indicate if the investor wanted to minimize risk then, he/she would have to invest 0 % in NA stock and 100% invest in SC stock.

4.3.4 Portfolio analysis of stocks between Nabil Bank Ltd. and Himalayan Bank Ltd.

The portfolio of the common stock of Nabil Bank Ltd. (let's suppose stock NA) and common stock of Himalayan Bank Ltd. (let's suppose stock HB) are analyzed below.

Table 4.15

Calculation covariance, correlation, proportion of the stocks, expected rate of return, standard deviation and beta of the portfolio of stock NA and HB

FY	$(R_{NA} - \overline{R}_{NA})$	$(R_{HB} - \overline{R}_{HB}))$	$(R_{NA} - \overline{R}_{NA})(R_{HB} - \overline{R}_{HB})$
2004/05	(0.2237)	(0.0580)	0.0130
2005/06	(0.2539)	(0.1061)	0.0269
2006/07	1.4424	0.6165	0.8892
2007/08	(0.3463)	(0.0744)	0.0258
2008/09	(0.6185)	(0.3780)	0.2338
Total			1.1887
Portfolio Weight		W_{NA} = -0.7479	W_{HB} = 1.7479
Covariance $(Cov_{NA,HB})$			0.2377
Correlation $(P_{NA,HB})$			0.9823
Expected return $(\overline{R}_{NA,HB})$			0.1524
Standard deviation $(\sigma_{NA,HB})$			0.1098
Beta $(\beta_{NA,HB})$			0.2310

Source: Appendix ii & v.

Covariance between stock NA and HB is 02377 which is positive. Correlation between two stocks NA and HB is 0.9823, which is positive correlated. That is why the construction of portfolio between these two stocks are not good for the investor. The expected portfolio return of NA

and HB is 0.1524 and standard deviation is 0.1098. The beta cofficient is 0.2310 which is lesser than market beta 1.0. and found defensive. Since, weight of stock NA = -0.7479 and weight of stock HB = 1.7479, this results indicate if the investor wanted to minimize risk then, he/she would have to invest 0% in NA stock and 100% invest in HB stock.

4.3.5 Portfolio analysis of stocks between Nepal Investment Bank Ltd. and Himalayan Bank Ltd.

The portfolio of the common stock of Nepal Investment Bank Ltd. (let's suppose stock NI) and common stock of Himalayan Bank Ltd. (let's suppose stock HB) are analyzed below.

Table 4.16

Calculation covariance, correlation, proportion of the stocks, expected rate of return, standard deviation and beta of the portfolio of stock NI and HB

FY	$(R_{NI} - \overline{R}_{NI})$	$(R_{HB} - \overline{R}_{HB})$	$(R_{NI} - \overline{R}_{NI})(R_{HB} - \overline{R}_{HB})$
2004/05	(0.6069)	(0.0580)	0.0352
2005/06	0.8951	(0.1061)	(0.0950)
2006/07	0.3910	0.6165	0.2411
2007/08	0.2174	(0.0744)	(0.0162)
2008/09	(0.8966)	(0.3780)	0.3389
Total			0.5040
Portfolio Weight		W_{NI} =0.0229	W_{HB} =0.9771
Covariance $(Cov_{NI,HB})$			0.1008
Correlation $(P_{NI,HB})$			0.4640
Expected return $(\overline{R}_{NI,HB})$			0.4299
Standard deviation $(\sigma_{NI,HB})$			0.3293
Beta $(\beta_{NI,HB})$			0.9494

Source: Appendix iii & v.

Covariance between stock NI and HB is 0.1008 which is positive. Correlation between two stocks NI and HB is 0.4640 which is positive correlated. That is why the construction of portfolio between these two stocks are not good for the investor. The expected portfolio return of NA and HI is 0.4299 and standard deviation is 0.3293. The beta cofficient is 0.9494 which is lesser than market beta 1.0. and found defensive. Since, weight of stock NI = 0.0229 and weight of stock HB = 0.9771, this results indicate if the investor wanted to minimize risk then, he/she would have to invest 2.29% in NI stock and 97.71% invest in HB stock.

4.3.6 Portfolio analysis of stocks between Standard Chartered Bank Nepal Ltd and Himalayan Bank Ltd.

The portfolio of the common stock of Standard Chartered Bank Nepal Ltd. (let's suppose stock SC) and common stock of Himalayan Bank Ltd. (let's suppose stock HB) are analyzed below.

Table 4.17

Calculation covariance, correlation, proportion of the stocks, expected rate of return, standard deviation and beta of the portfolio of stock SC and HB

FY	$(R_{SC} - \overline{R}_{SC})$	$(R_{HB} - \overline{R}_{HB})$	$(R_{SC} - \overline{R}_{SC})(R_{HB} - \overline{R}_{HB})$
2004/05	(0.3132)	(0.0580)	0.0182
2005/06	0.1910	(0.1061)	(0.0203)
2006/07	0.7629	0.6165	0.4703
2007/08	(0.0453)	(0.0744)	0.0034
2008/09	(0.5955)	(0.3780)	0.2251
Total			0.6967
Portfolio Weight		W_{SC} =-0.6887	W_{HB} =1.6887
Covariance $(Cov_{SC,HB})$			0.1393
Correlation $(P_{SC,HB})$			0.9128
Expected return $(\overline{R}_{SC,HB})$			0.2245
Standard deviation $(\sigma_{SC,HB})$			0.2958
Beta $(\beta_{SC,HB})$			0.6618

Source: Appendix iv & v.

Covariance between stock SC and HB is 0.1393 which is positive. Correlation between two stocks SC and HB is 0.9128 which is positive correlated. That is why the construction of portfolio between these two stocks are not good for the investor. The expected portfolio return of SC and HI is 0.2245 and standard deviation is 0.2958. The beta cofficient is 0.66184 which is lesser than market beta 1.0. and found defensive. Since, weight of stock SC = -0.6887 and weight of stock HB = 1.6887, this results indicate if the investor wanted to minimize risk then, he/she would have to invest 0 % in SC stock and 100% invest in HB stock.

4.3.7 Comparison between commercial banks portfolio

On the basis of result calculated above, comparative analysis of stock portfolio of commercial banks is done on the basis of rate of return, standard deviation, correlation and covariance. This comparision will help to reduce a portfolio's diversifiable risk to zero.

Table 4.18
Portfolio risk, return and covariance

Portfolio/Weights		Return	Standard deviation	Correlation	Covariance
NA	0.4117	0.6061	0.5780	0.3931	0.1904
NI	0.5883				
SC	1.1252	0.7577	0.4603	0.7749	0.2367
NI	-0.1252				
NA	-0.5703	0.6842	0.4066	0.8851	0.3012
SC	1.5703				
NA	-0.7479	0.1524	0.1098	0.9823	0.2377
HB	1.7479				
NI	0.0229	0.4650	0.3293	0.4640	0.1008
HB	0.9771				
SC	-0.6887	0.2245	0.2958	0.9128	0.1393
HB	1.6887				

Source: Above tables.

The combining expected return of portfolio SC & NI is 0.7577 which is higher than the return of individual stock of SC 0.7258 & NI 0.6593. Expected return of portfolio of SC & NI is the highest return among all

portfolios. For this portfolio the investor should invest 100% in SC & 0% in NI. Similarly, return on portfolio of stock NA & HB is 0.1524 and this portfolio has the lowest return among all the portfolios.

The combining risk of portfolio NA & HB is 0.1098 which is less than the individual risk of stock NA 0.7345 & HB 0. 3295 6593 is the lowest portfolio risk among all portfolios. For this portfolio the investor should invest 0% in NA a& 100% in HB. Similarly, risk on portfolio NA & NI is 0.5780 which is the highest risk taking portfolio among all the portfolios.

All the portfolios have positive correlation and ranges between 0.3931 to 0.9823 which lies in the range of +1 and -1. So, we can reduce risk by the portfolios. The correlation between the stock NA & NI 0.3931 is nearer to -1. Hence, the portfolio stock of NA & NI is beneficial for the investors. Further, NA & SC and NI & HB have correlation between 0.40 and 0.75. In such a condition, combining those stocks into portfolio reduce risk but cannot be eliminated completely. In case of other portfolios SC & NI, NA & HB and SC & HB may move up and down together and they would be exactly as risky as individual stocks.

All the portfolios have positive covariane. They are between the ranage 0.1008 to 0.3012. These portfolio indicates that return of stocks tend to move in the same direction.

4.4 Inter banks comparison analysis

On the basis of result, comparative analysis of individual banks is performed on the basis of return, risk, variance, coefficient of variance, beta coefficient and diversifiable risk & undiversifiable.

4.4.1 Expected rate of return & required rate of return

Following table shows the expected rate of return and required rate of return of commercial banks:

Table 4.19
Expected rate and required rate of return of commercial banks

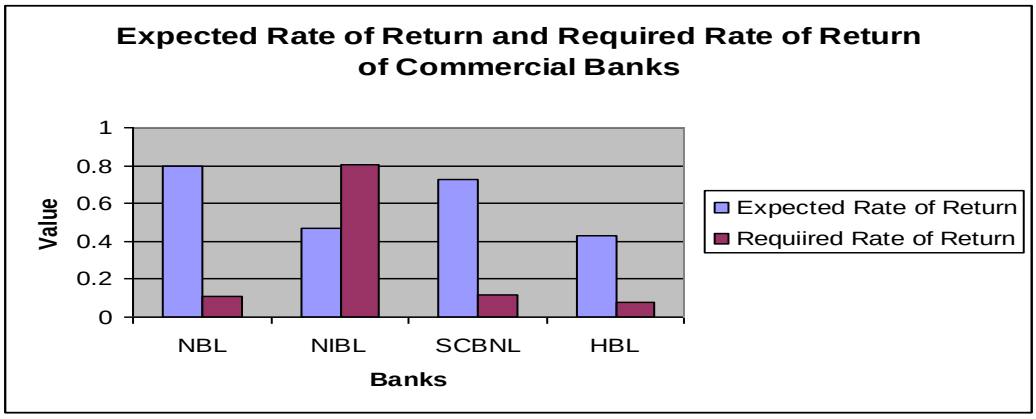
Bank	Expected rate of return	Required rate of return	Evaluation
NA	0.7987	0.1092	Underpriced
NI	0.4713	0.8025	Overpriced
SC	0.7258	0.1154	Underpriced
HB	0.4290	0.0791	Underpriced

Source: Above tables.

In the above table, almost all sample commercial banks have greater expected rate of return than required rate of return so there is underpriced of stock at that time, investor can not sell their stock they just buy and hold strategy. Stocks of NA, SC and HB have been found under priced so these stocks cannot be sold but the investor should prefer to buy those stock and hold for some period. Whereas, stock of NI is overpriced, investors should sell the stock in the market immediately.

Comparision of return is shown in bar chart below:

Figure 4.12



In the above bar chart, we can clearly see that required rate of return is higher than expected rate of return in case of NI whereas other banks has higher expected rate of return than that of required rate of return. In the following table expected return, standard deviation and coefficient of variance, of each bank from 2004/05 to 2008/09 is summarized.

Table 4.20
Presentation of expected return, standard deviation, coefficient of variance, correlation and covariance of commercial banks

Banks	Expected return	Standard deviation	CV	Correlation	Covariance
NA	0.7987	0.7345	0.9196	0.8143	0.1900
NI	0.4713	0.6593	1.3990	0.6919	0.1449
SC	0.7258	0.4633	0.6383	0.9179	0.1351
HB	0.4290	0.3295	0.7681	0.9041	0.0946

The statistical result imply what over the period the stock of NA offers the highest expected rate of return 0.7987. Whereas the stock of HB offers the

lowest expected rate of return 0.4290. On the basis of expected rate of return, the stock of NA is seems to be the best for investment.

Analysing the return characterstics seperately will mislead in the investment decision. Each and every return carries an uncertainity or risk. The risk is measured by standard deviation. Observing the standard deviation of returns of individual banks NA has the highest risk of 0.7345 and other banks NI, SC and HB have 0.6593, 0.4633 and 0.3295 respectively. HB has the lowest risk taker among all the banks.

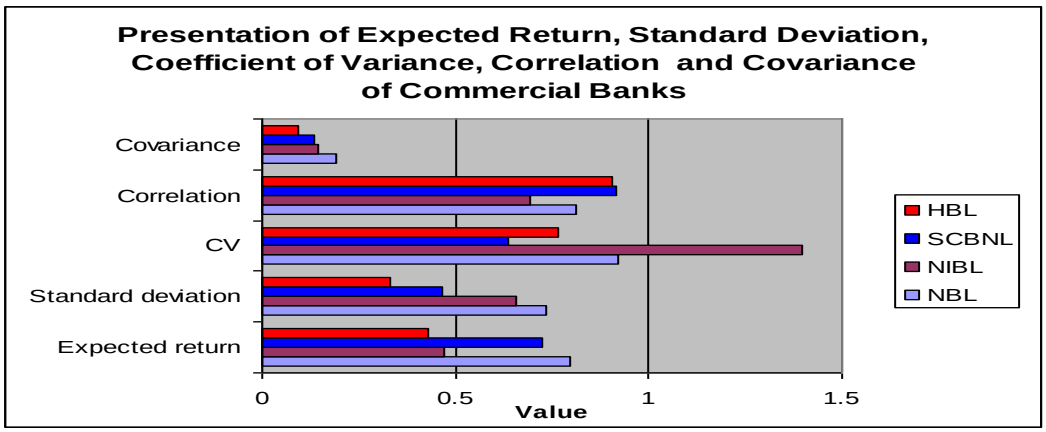
However, expected rate of return are not same and in such situation standard deviation may not provide a meaningful basis for measuring risk. So, the decision based on the risk and return seperately of risk per unit return. Lower coefficient of variance (CV) is preferable. CV of NA 0.9196, NI 1.3990, SC 0.6383 and HB 0.7681 It seems that 1% increase in return of NI causes 1.3990% increase in risk. On the basis of CV, stock of HB is attractive among the other commercial banks. NI offers the highest risk per unit of return. So, investor retaining stock of NI should assume more risk than any other bank.

The stock of commercial banks have different correlation with the range of 0.6919 to 0.9170 and all the banks have positive correlation.

Covariance of the return of NA, NI, SC and HB with the overall market return is 0.1900, 0.1449, 0.1351 and 0.0946 respectively. As covariance between two variable measures the absolute association, there is the highest absolute association between the returns of NA and market. Whereas HB 0.0946 has the less association with returns of market.

The comparison can be also shown in bar chart.

Figure 4.13



In the above bar diagram, we can see that SC seems to be the perfect bank for the investors. Because, it has higher return and lower risk.

4.4.2 Comparison of inter bank beta coefficient

In this research beta coefficient is taken as the measurement. Beta is an undiversifiable or systematic risk which can not be eliminated through diversification. Higher the beta coefficient higher will be the market Sensitivity and higher will be the reaction to the market movement. The following table shows the beta coefficient of each bank.

Table 4.21
Beta coefficient

Banks	Beta(β)	Remarks
NA	1.8833	(β <1) i.e. Aggressive
NI	1.4363	(β < 1) i.e. Aggressive
SC	0.2147	(β >1) i.e. Defensive
HB	0.0888	(β >1) i.e. Defensive

The stock of commercial banks have different beta coefficient with the range of 0.0888 to 1.8833. NA with beta coefficient of 1.8333 is more risky and aggressive in nature and HB with beta coefficient 0.0888 is less risky and defensive in nature.

4.4.3 Comparison of diversifiable and undiversifiable risk of commerical banks

Total dieresifiable and undiversifiable risk and their propertions of stock of the commercial banks are presented in the below table:

Table 4.22
Comparison of diversifable and undiversifable risk

Banks	Total risk	Undiversifable risk		Diversifable risk	
		Value	%	Value	%
NA	0.5395	0.3579	66.34	0.1816	33.66
NI	0.4347	0.2082	47.88	0.2266	52.12
SC	0.2147	0.1809	84.27	0.0338	15.73
HB	0.1086	0.0888	81.73	0.0198	19.27

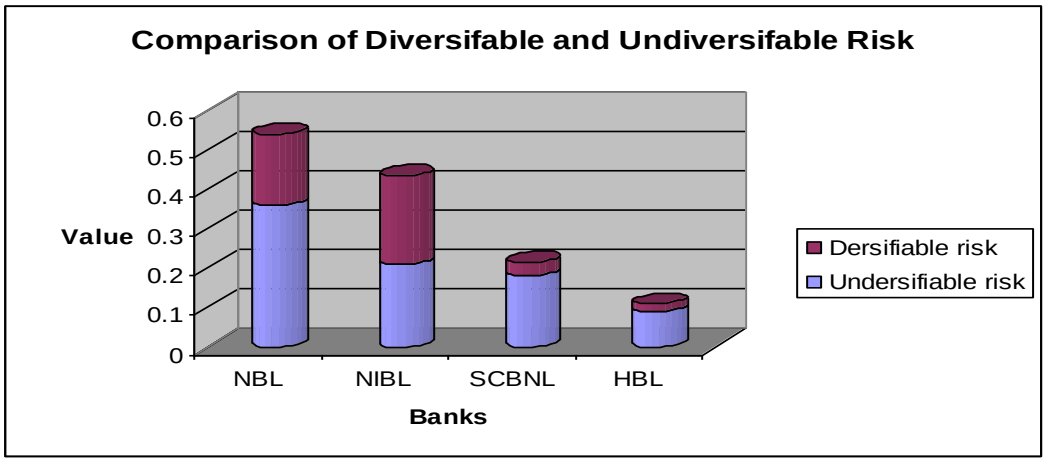
In the above table, we can see that the total risk of NA is 0.5395, NI is 0.4347, SC is 0.2147 and HB is 0.1086. We can say that NA is more risky

than other banks. The undiversifable risk of NA is also higher than other banks. It is market related risk and it cannot be diversifable from the bank.

Divesifable risk of NI is higher than other banks i.e; 0.2266 therefore NI has higher diversifable risk. It can be diversifable through the bank. If diversifiable it can be earn more benefit for stakeholder.

The diversifiable and undiversifiable risk of the common stock of commercial banks is shown in following bar diagram:

Figure 4.14



We can see in above figure the total risk of NA is higher than NI, SC and HB. NA has also higher of undiversifiable risk than NI, SC and HB but NI has very high level of diversifiable risk if it reduce that risk it is going to received high profit.

4.5 Major Findings

Major findings of the study are :

4.5.1 The NEPSE index seems to be in good condition from F/Y 2004/05 to F/Y 2007/08 but in the final year F/Y 2008/09, it goes downward. This trend has also resulted in market rate of return because negative rate of return has been observed. This is not a good message for stock market. Expected rate of return, standard deviation, variance and coefficient of variance of market are 0.3189, 0.3177, 0.1009 and 0.9961 respectively.

4.5.2 The stocks of NA, SC and HB are under priced since their required rate of return is lower than expected rate of return. The stock of NI is over priced.

4.5.3 The expected return of NA is highest i.e., 79.87% with highest risk of 53.58%. Whereas the stock of HB offered lowest expected rate of return i.e., 42.90% with the risk of 10.86%.

4.5.4 Coefficient of variance of stock NI is the highest and stock of SC is the lowest among all the commercial banks. The coefficient variance of stock NI and SC stands at 1.3990 and 0.6383 respectively. Stock of NI is assumed to be more risky than any other.

4.5.5 Standard deviation of NA, NI, SC and HB are 0.7345, 0.6593, 0.4633 and 0.3295 respecively. NA is high risk taking stock comparing to other banks.

4.5.6 Beta coefficient of NA is 1.8833 and is most higher and so it has most volatile to the market. Beta coefficienet of NI is 1.4363, SC is 0.2147 and HB is 0.088. HB has lower beta coffieient So, it is less volatile to the market.

4.5.7 Diversifiable or unsystematic risk of NI i.e; 22.66% is most higher then NA (18.16%), SC (3.38%) and HB (1.98%). it can be diversifiable through the bank. it is due to the an industrial dispute, discovery of new technology etc.

4.5.8 Undersifiable or systematic risk of NA is 35.79% and it is higher then NI (20.82%), SC (18.09%) and HB (8.88%) and represents a portion of systematic risk out of the total risk.

4.5.9 The portfolio standard deviation of NA & HB is lower i.e., 0.1098 and the portfolio NA and NI is higher i.e., 0.5780. Investors who want to take low risk would prefer to invest in the portfolio NA & HB.

4.5.10 All the portfolios have positive correlation. So, the portfolio risk can be reduced. The correlation between the stock NA & NI 0.3931 is nearer to -1. Hence, the portfolio stock of NA & NI is beneficial for the investors. Further, NA & SC and NI & HB have correlation between 0.40 and 0.75. In such a condition, combining those stocks into portfolio reduce risk but cannot be eliminated completely. In case of other portfolios SC & NI, NA & HB and SC & HB may move up and down together and they would be exactly as risky as individual stocks..

4.5.11 The combining expected return of portfolio SC & NI 0.7577 is the highest return among all portfolios.

4.5.12 All the portfolios have positive covariane. They are between the ranage 0.1008 to 0.3012. These portfolio indicates that return of stocks tend to move in the same direction.

CHAPTER – V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter summarizes the whole study, draws the conclusion from the study and forwards recommendations for further improvement. Summary is a brief introduction of whole study. Conclusions are made based on the analysis of relevent data by using various financial and statistical tools that presents the strength, weakness, opportunities and threats of the commercial banks. Recommendations are presented in terms of suggestions, which are prepared based on findings and conclusion.

5.1 Summary

Commercials banks are major financial institutions, which occupy very important place in the framework of every economy. It plays vital role in capital formulation, proper utilization of collected funds and providings various types of services. Commercial banks collect money from the public by providing sound interest and can earn profit by lending it in business organisation, industry, agricultural sectors etc. Therefore, we can say the main task of commercial banks is to mobilize idle resources in productive areas by collecting it from scattered sources and generating profit. Banks plays the role of intermediary role between saving and investment requirements of savers. Thus, it is clear that efficient and stable banking systems are crucial for an orderly economic growth.

Successful formulation and effective implementation of investment policy is the prime requisite for the better performance of commercial banks. Similarly, good investment policy has a positive impact of economy development of the country and vice versa. Bank should attract to its customers by implementing best or competitive investment policy. It helps to increase the quality of banking services as well as volume of quality deposits and its investment in various sectors.Investment management of a bank is guided by the investment policy adopted by the bank. The investment policy of the bank helps the investment operation of the bank to be efficient and profitable by minimizing the inherent risk. Therefore, the commercial banks must mobilize its deposits and other funds to profitables, secured, stable and marketable sectors so that it can earn a good profit.

The investment portfolio is a collection of securities. It simply represents the practice among the investors having their funds in more than one asset. portfolio theory deals with the selection of optimal portfolio that is

portfolio provides the highest possible return for any specified degree of risk or lowest possible risk for any specified return. The income or profit of the bank entirely depends upon its investment decision. Considering this fact, the bank should never invest its funds in individual security alone, which is subject to too much depends upon its investment decision. Banks should accept that types of securities,which are commercial, marketables, stable,liquid and profitable. A bank should not lay all its eggs on the same basket i.e. to minimize risk a bank must diversify its investment on different sectors and in different securities.

To atten the objectives of the study, various analysis such as risk and return analysis of individual assets have been done. There are twenty six commercial banks in Nepal but only twenty four are listed in NEPSE. Only four banks are taken as reference for the analysis.

During the research work, a brief review of literature has been conducted. For this, various textbooks and published journals have been reviewed. The required data for the study are collected from the concerned banks, NRB, NEPSE and Security Exchange Board (SEBO). According to the need and objectives, the secondary data are compiled, processed, tabulated and graphed for the better presentation.

5.2 Conclusion

The risk analysis is the major tool used in this study. Risk and return of the individual banks are calculated and analyzed. It is observed that this analysis can give better results only when the long range of post information is available. But as most of the banks do not have long history, the results might not explain fully what is intended to.

The downward movement of NEPSE index is showing bad situation of Nepalese stock market. It is due to so many causes. Most of the important cause is world wide recession, declaration of stock dividend by all the commercial banks and political instability in the country.

The overall market return and risk of stock SC seems more attractive cosidering expected return and risk per unit. Investors retaining the stock of NA should assume more risk inspite of higher return than any other banks. Similarly, NI is assumed to be more risker considering its lower return. The investor who do not want to take risk should prefer the stock of HB because it has lower return and lower risk.

Investors of NA, SC and HB have to wait for sometime for the disinvestment of stock considering its underpriced stock. These stocks cannot be sold but the investor should prefer to buy stocks and hold for

some period. Whereas stock of NI is over priced, investor should sell the stock in the market immediately.

Coefficient of variance of SC is lower than other banks Considering the risk, return and coefficient of variances factor, SC has higher retrun with lower risk. Investors should prefer to invest in stock of SC. Because the above calculation is showing lower return and high risk in other banks.

Beta coefficient of NA & NI are greater than 1. So, they are aggressive in nature. Those stocks are more sensitive to the market and risker for the stock holders. The beta coefficient of SC and HB are less than 1. So, these stocks are defensive in nature and less sensitive to the market.

The portfolio risk of stock NA and HB is lower among the other portfolios. So, the preference goes to NA and HB for the buyers who does not want to take any risk. Whereas the investor who are risk taker and want higher return, portfolio stock NA & SC is preferable for investment.

Diversifiable and undiversifiable both risk of HB is lower as compared to other banks. This means the total risk which is created from the market movement or macroeconomic factors and internal factors affect less to HB than other sample banks.

5.3 Recommendations

Based on the analysis, findings and conclusion of the study, the following recommendations are suggested to overcome weakness, inefficiency and to improve the present fund mobilization and investment of commercial banks.

Investors must focus on the risk factors before making and investment if they want to get maximum benefit from the investment. The coefficient of variance is considered the best tool for relative measurement of risk. In the basis of cofficient of variance, it is proved that SC's stock is the lowest risky and NB is the highest risky stock for the investment. So, it is recommended that the stock of SC is the best for investment because the expected rate of return is also high.

Beta coefficient measures the sensitivity of the stock with market. Higher the beta, greater the volatility. The beta of market is always equal to 1. Stock having beta coefficient more than 1 is more risky than the market. If an investor is aggressive or risk taker, he/she can invest the market on that stocks. Stock having beta coefficient less than 1 is less risky than the market. Bbeta coefficient of HB is lower and, is recommended that the

investor should select HB stock whose beta is lowests compare to other banks hence it is less risky or defensive stock.

The stock having more systematic risk have high sensitivity as such type of risk can not be minimized. So, the investors have to consider the adequate compensation for the acceptance of risk. It is clear from the study that the investor should select HB's stock whose systematic risk is lowest as compare to other bank.

Diversifiable or Unsystematic risk diversification through the bank if it so, the bank or investor makes more benefits hence, HB is more diversifiable risk than other banks . It is recommended that the investor should select HB's stock if it reduce diversifiable risk. Investor make more profit than other banks.

Investors of NA, SC and HB have to wait for sometime for the disinvestment of stock considering its underpriced stock. These stocks cannot be sold but the investor should prefer to buy stocks and hold for some period. Whereas stock of NI is over priced, investor should sell the stock in the market immediately.

Portfolio standard deviation which measures the risk is also calculated to analyze the portfolio risk. The entire portfolio's have almost same kind of risk. Portfolio standard deviation between NA and HB is lowest which is less risky than other portfolio. So, it is recommended that if the investor wants to take minimum risk they can invest in NA and HB as best option for the investment.

The portfolio return of stock NA and SC is higher among the other portfolios. So, the preference goes to NA and SC for the buyers who want high return irrespective of higher risk..

Finally, we recommended that NEPSE needs to modernize the trading system and effective information channel. It needs to develop different programs for private investors. These programs will contribute to increase investors rationally as well as market efficiency. The listed campanies should operate their activities smoothly. They should publish their annual reports and information timely and correctly which will help the investors to take the investment decisions on their common stocks.

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Appendices

Appendix-I

Presentation and Calculation of Realized Market Return, Expected Return, Standard Deviation, Variance and Coefficient of Variance of Market

FY	NI	$R_m = \frac{NEPSE_{t-1} - NEPSE_t}{NEPSE_t}$	$(R_m - \overline{R}_m)$	$(R_m - \overline{R}_m)^2$
2004/05	286.67	0.2911	(0.0279)	0.0008
2005/06	386.83	0.3494	0.0305	0.0009
2006/07	683.95	0.7681	0.4492	0.2017
2007/08	963.36	0.4085	0.0896	0.0080
2008/09	749.11	(0.2224)	(0.5413)	0.2930
Total		1.5947		0.5045
Expected return				0.3189
Standard deviation of market (σm)				0.3177
Variance of market (σ2m)				0.1009
Coefficient of variance of market (C.Vm)				0.9961

Appendix-II

Calculation of realize rate of return, expected rate of return, standard deviation, coefficient of variance, variance, undiversifiable & diversifiable risk, correlation between market return and return of Nabil Bank Ltd.

FY	MPS	T. Div.	$R_{NA} = \frac{(P_t - P_{t-1}) + D}{P_{t-1}}$	$(R_{NA} - \bar{R}_{NA})$	$(R_{NA} - \bar{R}_{NA})^2$	$(R_m - \bar{R}_m)$	$(R_{NA} - \bar{R}_{NA})(R_m - \bar{R}_m)$
2004/05	1505	70	0.5750	(0.2237)	0.0500	(0.0279)	0.0062
2005/06	2240	85	0.5449	(0.2539)	0.0644	0.0305	(0.0077)
2006/07	5050	2,210	2.2411	1.4424	2.0804	0.4492	0.6478
2007/08	5275	2,060	0.4524	(0.3463)	0.1199	0.0896	(0.0310)
2008/09	4899	1,327	0.1802	(0.6185)	0.3826	(0.5413)	0.3348
Total			3.9935		2.6974		0.9501

Expected return of NA ($\bar{R}_{NA}$)	0.7987
Standard deviation of NA($\pm_{NA}$)	0.7345
Coefficient of variance of NA (cv_{NA})	0.9196
Variance of NA($\pm^2_{NA}$)	0.5395
Covariance of NA & market return $COV(R_{NA} \cdot R_M)$	0.1900
Beta coefficient of NA($_{NA}$)	1.8833
Total risk of NA($\pm^2_{NA}$)	0.5395
Systematic or un-diversifiable risk of NA ($^2_{NA}$x$\pm^2_M$)	0.3579
Percentage of systematic risk	66.34%
Unsystematic or diversifiable risk of NA var (e)	0.1816
Percentage of unsystematic risk	33.66%
Correlation between NA & market return($\circ_{NA.m}$)	0.8143
Coefficient of determination & market return ($\circ^2_{NA.m}$)	0.6632

Workings

Expected rate of return of NA, $\bar{R}_{NA} = \frac{\sum R_{NA}}{n} = \frac{3.9935}{5} = 0.7987$

Standard deviation of NA, $\pm_{NA} = \sqrt{\frac{\sum (R_{NA} - \bar{R}_{NA})^2}{n}} = \sqrt{\frac{2.6974}{5}} = 0.7345$

Coefficient of variance, $CV = \frac{\pm_{NA}}{\bar{R}_{NA}} = \frac{0.7345}{0.7987} = 0.9196$

Variance, $\pm^2_{NA} = \frac{\sum (R_{NA} - \bar{R}_{NA})^2}{n} = \frac{2.6974}{5} = 0.5395$

Covariance, $Cov_{NA,m} = \frac{\sum [r_{NA} - \bar{r}_{NA}][r_m - \bar{r}_m]}{n} = \frac{0.9501}{5} = 0.1900$

Beta cofficient, $_{NA} = \frac{Cov_{NA,m}}{\pm^2_m} = \frac{0.1900}{0.1009} = 1.8833$

Un-diversifiable risk $= {}^2_{NA}\pm^2_m = (1.8833)^2 x 0.1009 = 0.3579$

Diversifiable risk $= \pm^2_{NA} - {}^2_{NA}\pm^2_m = 0.5395 - 0.3579 = 0.1816$

Percentage of un-diversifiable risk $= \frac{UndiversifiableRisk}{TotalRisk} = \frac{0.3579}{0.5395} = 66.34\%$

Percentage of diversifiable risk $= 1 - UndiversifiableRisk = 1 - 0.6634 = 33.66\%$

Correlation between NA & market return, $\rho_{NA,m} = \frac{Cov_{NA,m}}{\sigma_{NA}\sigma_{m}} = \frac{0.1900}{0.7345x\sqrt{0.1009}} = 0.6632$

Coefficient of determination & market return, $\rho^2_{NA,m} = \frac{\sigma^2_{NA}\sigma^2_{m}}{\sigma^2_{NA}} = \frac{0.3579}{0.5395} = 0.8143$

Portfolio weight of stock NA , $W_{NA} = \frac{\sigma^2_{NI} - P_{NA,NI}\sigma_{NA}\sigma_{NI}}{\sigma^2_{NA} + \sigma^2_{NI} - 2P_{NA,NI}\sigma_{NA}\sigma_{NI}}$

$$= \frac{0.4347 - 0.3931x0.7345x0.6593}{0.5395 + 0.4347 - 2X\,0.3931x0.7345x0.6593} = 0.4117$$

Portfolio weight of stock NI, $W_{NI} = 1 - W_{NA} = 1 - 0.4117 = 0.5883$

Covariance of stock NA and NI, $Cov_{NA,NI} = \frac{\sum[r_{NA} - \bar{r}_{NA}][r_{NI} - \bar{r}_{NI}]}{n} = \frac{0.9518}{5} = 0.1904$

Correlation between NA & NI, $\rho_{NA,NI} = \frac{Cov_{NA,NI}}{\sigma_{NA}\sigma_{NI}} = \frac{0.1904}{0.7345x0.6593} = 0.3931$

Expected portfolio return of NA & NI, $\bar{R}_{NA,NI} = W_{NA}\bar{R}_{NA} + W_{NI}\bar{R}_{NI}$

$$= 0.4117x0.7987 + 0.5883x0.4713 = 0.6061$$

Portfolio standard deviation, $\sigma_P = \sqrt{W^2_{NA}\sigma^2_{NA} + W^2_{NI}\sigma^2_{NI} + 2W_{NA}W_{NI}Cov_{NA,NI}}$

$$= \sqrt{(0.4117)^2(0.7345)^2 + (0.5883)^2(0.6593)^2 + 2x0.4117x0.5883x0.1904}$$

$$= 0.5780$$

Portfolio beta of NA and NI, $\beta_P = \beta_{NA}W_{NA} + \beta_{NI}W_{NI}$

$$= 1.8833x0.4117 + 1.4363x0.5883 = 1.6203$$

Appendix-III

Calculation of realize rate of return, expected rate of return, standard deviation, coefficient of variance, variance, undiversifiable & diversifiable risk, correlation between market return and return of Nepal Investment Bank Ltd.

FY	MPS	T. Div.	R_{NI}	$(R_{NI} - \bar{R}_{NI})$	$(R_{NI} - \bar{R}_{NI})^2$	$(R_m - \bar{R}_m)$	$(R_{NI} - \bar{R}_{NI})(R_m - \bar{R}_m)$
2004/05	800	13	(0.1356)	(0.6069)	0.3684	(0.0279)	0.0169
2005/06	1260	633	1.3664	0.8951	0.8012	0.0305	0.0273
2006/07	1729	618	0.8623	0.3910	0.1529	0.4492	0.1756
2007/08	2450	470	0.6887	0.2174	0.0473	0.0896	0.0195
2008/09	1388	20	(0.4253)	(0.8966)	0.8039	(0.5413)	0.4854
Total			2.3559		2.173		0.7246

Expected return of NI (R_{NI})	0.4713
Standard deviation of NI ($\pm_{NI}$)	0.6593
Coefficient of variance of NI (CV_{NI})	1.3990
Variance of NI ($\pm^2_{NI}$)	0.4347
Covariance of NI & market return $COV(R_{NI} \cdot R_M)$	0.1449
Beta coefficient of NI ($_{NI}$)	1.4363
Total risk of NI ($\pm^2_{NI}$)	0.4347
Systematic or un-diversifiable risk of NI ($^2_{NI} X \pm^2_M$)	0.2082
Percentage of systematic risk	47.88%
Unsystematic or diversifiable risk of NI	0.2266
Percentage of unsystematic risk	52.12%
Correlation between NI & market return($\circ_{NI.m}$)	0.6919
Coefficient of determination & market return ($\circ^2_{NI.m}$)	0.4787

Appendix-IV

Calculation of realize rate of return, expected rate of return, standard deviation, coefficient of variance, variance, undiversifiable & diversifiable risk, correlation between market return and return of Standard Chartered Bank Nepal Ltd.

FY	MPS	T. Div.	R_{SC}	$(R_{SC} - \overline{R}_{SC})$	$(R_{SC} - \overline{R}_{SC})^2$	$(R_m - \overline{R}_m)$	$(R_{SC}-\overline{R}_{SC})(R_m-\overline{R}_m)$
2004/05	2345	120	0.4126	(0.3132)	0.0981	(0.0279)	0.0087
2005/06	3775	720	0.9168	0.1910	0.0365	0.0305	0.0058
2006/07	5900	3495	1.4887	0.7629	0.5821	0.4492	0.3427
2007/08	6830	3085	0.6805	(0.0453)	0.0021	0.0896	(0.0041)
2008/09	6010	1710	0.1303	(0.5955)	0.3546	(0.5413)	0.3224
Total			3.6290		1.0733		0.6755

Expected return of SC (R_{SC})	0.7258
Standard deviation of SC ($\pm_{SC}$)	0.4633
Coefficient of variance of SC (cv_{SC})	0.6383
Variance of SC ($\pm^2_{SC}$)	0.2147
Covariance of SC & market return $COV(R_{SC} \cdot R_m)$	0.1351
Beta coefficient of SC ($_{SC}$)	1.3990
Total risk of SC ($\pm^2_{SC}$)	0.2147
Systematic or un-diversifiable risk of SC ($^2_{SC} \text{x} \pm^2_m$)	0.1809
Percentage of systematic risk	84.27%
Unsystematic or diversifiable risk of SC var (e)	0.0338
Percentage of unsystematic risk	15.73%
Correlation between SC & market return($\circ_{SC.m}$)	0.9179
Coefficient of determination & market return ($\circ^2_{SC.m}$)	0.8425

Appendix-V

Calculation of realize rate of return, expected rate of return, standard deviation, coefficient of variance, variance, undiversifiable & diversifiable risk, correlation between market return and return of Himalayan Bank Ltd.

FY	MPS	T. Div.	R_{HB}	$(R_{SC} - \overline{R}_{SC})$	$(R_{SC} - \overline{R}_{SC})^2$	$(R_m - \overline{R}_m)$	$(R_{HB} - \overline{R}_{HB})(R_m - \overline{R}_m)$
2004/05	920	232	0.3709	(0.0580)	0.0034	(0.0279)	0.0016
2005/06	1100	117	0.3228	(0.1061)	0.0113	0.0305	(0.0032)
2006/07	1740	510	1.0455	0.6165	0.3801	0.4492	0.2769
2007/08	1980	377	0.3546	(0.0744)	0.0055	0.0896	(0.0067)
2008/09	1760	321	0.0510	(0.3780)	0.1429	(0.5413)	0.2046
Total			2.1448		0.5431		0.4732

Expected return of HB (R_{HB})	0.4290
Standard deviation of HB ($\pm_{HB}$)	0.3295
Coefficient of variance of HB (cv_{HB})	0.7681
Variance of HB ($\pm^2_{HB}$)	0.1086
Covariance of NI & market return $COV(R_{HB} \cdot R_m)$	0.0946
Beta coefficient of HB ($_{HB}$)	0.9380
Total risk of HB ($\pm^2_{HB}$)	0.1086
Systematic or un-diversifiable risk of HB ($^2_{HB} \times \pm^2_m$)	0.0888
Percentage of systematic risk	81.73%
Unsystematic or diversifiable risk of HB var (e)	0.1980
Percentage of unsystematic risk	19.27%
Correlation between HB & market return($\circ_{HB.m}$)	0.9041
Coefficient of determination & market return ($\circ^2_{HB.m}$)	0.8174