A Comparative Study of Risk and Return Management of Development Banks
(With selected Siddhartha Development Bank and Ace Development Bank Ltd.)

A Thesis

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Faculty of Management
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July, 2013

RECOMMENDATION

This is to Certify that the Thesis

Submitted By

Shambhu Prashad Gautam

Entitled:

"A Comparative Study of Risk & Return Management of Development Banks"

(With selected Siddharth Development Bank and Ace Development Bank)

has been prepared as approved by Research Department on the prescribed format of Faculty of Management, Tribhuvan University. This Thesis is forwarded for examination.

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VIVA-VOCE SHEET

We have conducted the Viva-Voce Sheet Examination of the Thesis Presented

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"A Comparative Study of Risk & Return Management of Development Banks"

(with selected Siddharth Development Bank and Ace Development Bank)

and found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for the Degree of Master of Business Studies.

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DECLARATION

I hereby declare this thesis entitled "A Comparative Study of Risk & Return Management of Development Banks" submitted to the Office of the Dean, Faculty of Management, Tribhuvan University is my original work done in the format of T.U. for the fulfillment of the requirement of Degree of Master of Business Studies (MBS) under the supervision and guidance of Reader Mr. Surendra Keshar Amatya, Nepal Commerce Campus, Minbhawan, Kathmandu.

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ABBREVIATIONS

ACEDBL	Ace Development Bank Limited
SDBL	Siddhartha Development Bank Limited
Ltd.	Limited
GON	Government of Nepal
UK	United Kingdom
SAARC	South Asian Association for the Regional Co-operation
IMF	International Monetary Fund
FY	Fiscal Year
FNCCI	Federation of Nepal Chambers of Commerce and Industry
T.U.	Tribhuvan University
NCC	Nepal Commerce Campus
USA	United State of America
Govt.	Government
Mfg.	Manufacturing
NRB	Nepal Rastra Bank
NEPSE	Nepal Stocks Exchange
WTO	World Trade Organization

CHAPTER-I
INTRODUCTION

1.1 General Background of the Study

Bank is a financial institution, which plays a very important role in the economic development of the nation. Bank deals in receiving, collecting, transforming, lending, investing and exchanging the money both domestically and internationally. It provides financial services to various segments of the society as well as it facilitates for the growth of trade, commerce, industry and agriculture of the country.

"Concept of Banking has been developed from the ancient history with the effort of ancient goldsmiths who developed the practice of storing people's gold & valuables for safe custody & serving & a given receipt by the goldsmith, when-ever, the receipt was presented the depositors would get back their gold & valuables paying a small amount as for keeping and serving (Paul, 2008: 210)

The term "Bank" is originated from the French word "Banque" and Italian word "Benque". The origin of traditional banking is traced back to the Babylonians and Athenians period but the first modern banks are traced Bank of Venice (1171 A.D) the banks of Geneva (1320 A.D.) and the bank of Amsterdam (1609A.D). The traditional forms of banking were traced during the civilization of Greek, Rome & Mesopotamia. The ancestors of modern banking are merchants, goldsmith & Money lenders. Following is the brief description of the ancestors of modern banking. (Dahal & Dahal, 2002: 8)

Merchants:

Business activities had been carried out since the time immemorial. Merchants had to remit money from one place to another. It was very difficult to carry physical money (coins) each time when trading was executed. The merchants were so popular and credit worthy that the letter issued by them treated as good as money. They used to make trading activities based on these letters & settle the outstanding (due to/form)

through actual coins on the periodic basis. These letters gave birth to modern negotiable instruments.

Goldsmiths:

Goldsmiths had very sound credit standing in the society. They used to provide safeguard to valuables from fear of theft & robbery led people to keep valuables (gold, silver & metallic coins) in the custody of the Goldsmiths.

Goldsmiths used to charge commissions for the safe keeping and also to return the valuables on demand. The depositors had to visit Gold Smiths for part and full with drawn of valuables Gold, Silver and Coins. Gold & Silver used to remain with the Gold Smiths for relatively a long time but coins used to be withdrawn from time to time. In order to remove the inconveniences, goldsmiths started issuing a receipt to the depositors with a notation. "I owe u (IOU)…"Which could be transferred to any person by the depositor upon his wish. This gave birth to the bank note.

Money Lenders:

Money Lenders used to give loan to the needy public out of their own treasury. Later on, savers started depositing their deposits /savings with money-lenders. The Gold-Smiths & Money-lenders experienced that all the moneys deposited with them were not withdrawn at a time. Some of the amount was kept as deposit while some was withdrawn but a large amount used to remain with them. Then they started offering interest on the deposits & started utilizing these funds to disburse the loans to the needy people. They used to keep fraction of total deposit in the form of cash to honor withdraw demands & the rest was lent. This principle to fractional reserve is the foundation of modern banking liquidity arrangement.

All functions & activities performed by merchants, Goldsmiths & Money lenders in the ancient time are being performed by the various types of banks in modern ways at the present time. In fact the main function of banks is to get engaged in the transaction of money. However, at present time, banks perform several other functions, Hence; a bank

can be defined as a 'financial department store', which renders a host of financial service beside taking deposits & giving loans.

1.1.1 Origin of Banks in Nepal

Nepalese history of banking sectors is rather more slow evolution. Even now the banking system is still in the evolution phase. So far as banking is concerned with debts, we may go back in the Nepalese history, where a merchant namely "Sankhdhar" is recorded. He was the person who alone paid all the existing debts of the people in the country at that time. Since then he introduced a new era called *"Nepal Sambat"* this record proves the existence of money lending function at that time. During the course of development of borrowing, we further come across the term 'Tanka Dhari' at the end of the 14th century meaning money lenders. They are one of the 64 castes classified on the basis of occupation.

Established of **Tejarath Adda** by then Prime Minister Rannodip Singh (B.S. 1933) was the first step towards the institutional development of banking in Nepal. Tejarath Adda did not collect deposits from the grave loans to the employees & general public against the bullion.

The Banking history of Nepal is not more than even decade. Nepal Bank Ltd. is the first bank of Nepal set up on 30th Kartik 1994 B.S (A.D. 1937/11/15). Till the establishment of Nepal Rastra Bank, Nepal Bank Ltd. was also discharging the function of Central Bank. As a result, Nepal Rastra Bank was established in 2013 B.S. The objective of the bank was to promote, develop & facilitate banking sectors. Because of rapid growth of industrial & scientific activities a single commercial bank was not sufficient to meet National Commercial Bank. So Rastriya Banijya Bank was also established on 2022 B.S. as fully government under talking.

After declaring free economy and privatization and HMG encouraged the foreign banks and different types of financial institute like Commercial Banks, Development Banks, finance company and co- operative organizations in Nepal.

1.1.2 List of Commercial and Development Banks in Nepal

1.1.2.1 List of 'A' Class commercial bank licensed by Nepal Rastra Bank

S.N.	Name	Date of Operation	Head Office
1.	Nepal Bank Ltd.	1937/11/15	Kathmandu
2.	Rastriya Banijya Bank Ltd.	1966/01/23	Kathmandu
3.	Agricultural Dev. Bank Ltd.	1968/01/02	Kathmandu
4.	Nabil Bank Ltd.	1984/07/16	Kathmandu
5.	Nepal Investment Bank Ltd.	1986/02/27	Kathmandu
6.	Standard Chartered Bank Nepal Ltd.	1987/01/30	Kathmandu
7.	Himalayan Bank Ltd.	1993/01/18	Kathmandu
8.	Nepal SBI Bank Ltd.	1993/07/07	Kathmandu
9.	Nepal Bangladesh Bank Ltd.	1994/06/05	Kathmandu
10.	Everest Bank Ltd.	1994/10/18	Kathmandu
11.	Bank of Kathmandu Ltd.	1995/03/12	Kathmandu
12.	Nepal Credit and Commerce Bank Ltd.	1996/10/14	Rupandehi
13.	Lumbini Bank Ltd.	1998/07/17	Chitawan
14.	Nepal Indust.& Commercial Bank Ltd.	1998/07/21	Morang
15.	Machhapuchhre Bank Ltd.	2000/10/03	Kaski
16.	Kumari Bank Ltd.	2001/04/03	Kathmandu
17.	Laxmi Bank Ltd.	2002/04/03	Parsa
18.	Siddhartha Bank Ltd.	2002/12/24	Kathmandu
19.	Global IME Bank Ltd.	2007/01/02	Parsa
20.	Citizens Bank International Ltd.	2007/06/21	Kathmandu
21.	Prime Commercial Bank Ltd	2007/09/24	Kathmandu
22.	Sunrise Bank Ltd.	2007/10/12	Kathmandu
23.	Bank of Asia Nepal Ltd.	2007/10/12	Kathmandu
24.	Grand Bank Ltd.(Previous: DCBL Bank Ltd,	2008/05/25	Kathmandu
25.	NMB Bank Ltd.	2008/06/05	Kathmandu

26.	Kist Bank Ltd.	2009/05/07	Kathmandu
27.	Janata Bank Nepal Ltd.	2010/04/05	Kathmandu
28.	Mega Bank Nepal Ltd.	2010/07/23	Kathmandu
29.	Commerz & Trust Bank Nepal Ltd.	2010/09/20	Kathmandu
30.	Civil Bank Litd.	2010/11/26	Kathmandu
31.	Century Commercial Bank Ltd.	2011/03/10	Kathmandu
32.	Sanima bank limited	2012/02/15	Kathmandu

List of "B" Class Development Banks licensed by Nepal Rastra Bank.

1.1.2.2 List of "B" Class Development Banks licensed by Nepal Rastra Bank.

S.N.	Name	Date Of Operation	Head Office
1	Nepal Industrial Dev. Corporation	1959/06/15	Kathmandu
2	Siddharth Development Bank Ltd.	1998/08/20	Kathmandu
3	Malika Development Bank Ltd.	1998/12/19	Kailali
4	UddyamDevelopment Bank Ltd.	1999/11/11	Chitawan
5	Manakamana Development Bank Ltd	2001/06/19	Kathmandu
6	Narayani Development Bank Ltd.	2001/10/17	Chitawan
7	United Development Bank Ltd.	2002/03/16	Bara
8	Pashimanchal Development Bank Ltd.	2003/03/02	Rupandehi
9	Sahayogi Bikas Bank Ltd.	2003/10/21	Dhanusha
10	Pashupati Development Bank Ltd.	2004/01/01	Kavre
11	Karnali Bikash Bank Ltd.	2004/02/14	Banke
12	Triveni Development Bank Ltd.	2004/07/26	Chitawan
13	Annapurna Development Bank Ltd.	2004/08/23	Kavre
14	Bhrikuti Bikas Bank Ltd.	2004/08/19	Rupandehi
15	Shubhechchha Bikas Bank Ltd.	2004/09/14	Chitawan
16	Bageshowri Development Bank Ltd.	2004/10/19	Banke
17	Siddhartha Development Bank Ltd.	2004/11/26	Kathmandu
18	Gaurishankar Development Bank Ltd.	2004/11/29	Nawalparasi
19	Gorkha Bikas Bank Ltd.	2004/12/01	Kathmandu
20	Gandaki Bikas Bank Ltd.	2005/01/19	Kaski
21	Infrastructure Development Bank Ltd.	2005/04/29	Kavre
22	Business Development Bank Ltd.	2005/05/10	Kaski

23	Biratlaxmi Bikas Bank Ltd.	2005/05/11	Morang
24	Excel Development Bank Ltd.	2005/07/21	Jhapa
25	Western Development Bank Ltd.	2005/09/15	Dang
26	Arniko Development Bank Ltd.	2006/07/06	Kavre
27	NDEP Development Bank Ltd.	2006/07/17	Kathmandu
28	Clean Energy Development Bank Ltd.	2006/09/06	Kathmandu
29	Miteri Development Bank Ltd.	2006/10/13	Sunsari
30	Tinau Bikas Bank Ltd.	2006/10/13	Rupandehi
31	Rising Development Bank Ltd.	2006/12/18	Nawalparasi
32	Muktinath Bikas Bank Ltd.	2006/12/18	Kaski
33	Sewa Bikas Bank Ltd.	2007/02/25	Rupandehi
34	Kankai Bikas Bank Ltd.	2007/05/04	Jhapa
35	Public Development Bank Ltd.	2007/06/07	Parsa
36	Ace Development Bank Ltd.	2007/08/15	Kathmandu
37	Mahakali Bikas Bank Ltd.	2007/08/18	Kanchanpur
38	Sangrila Bikas Bank Ltd.	2007/08/26	Kaski
39	Bhargab Bikas Bank Ltd.	2007/08/30	Banke
40	Vibor Bikas Bank Ltd.	2007/10/04	Kathmadu
41	Resunga Bikas Bank Ltd.	2007/09/26	Gulmi
42	Rara Bikas Bank Ltd.	2007/09/30	Surkhet
43	Diyalo Bikas Bank Ltd.	2007/10/01	Kavre
44	Country Development Bank Ltd.	2007/10/04	Kavre
45	Kasthamandap Development Bank Ltd.	2007/10/25	Kathmandu
46	Alpine Development Bank Ltd.	2007/10/05	Makawanpur
47	Nilgiri Bikas Bank Ltd.	2007/10/12	Myagdi
48	Corporate Development Bank Ltd.	2007/10/25	Parsa
49	Kamana Bikas Bank Ltd.	2007/09/29	Kaski
50	City Development Bank Ltd.	2007/10/19	Kaski
51	Garima Bikas Bank Ltd.	2007/11/23	Kaski
52	Biswo Bikas Bank Ltd.	2007/11/21	Kaski
53	Pathibhara Bikas Bank Ltd.	2007/11/21	Morang
54	Professional Bikas Bank Ltd.	2007/10/17	Kavre
55	Kabeli Bikas Bank Ltd.	2007/11/15	Dhankuta
56	Purnima Bikas Bank Ltd.	2008/05/20	Rupandehi
57	Jyoti Development Bank Ltd.	2008/08/25	Kathmandu
58	Shine Development Bank Ltd.	2009/02/22	Rupandehi
59	Bagmati Development Bank Ltd.	2009/03/23	Sarlahi
60	Hamro Bikas Bank Ltd.	2009/04/19	Nuwakot

61	Kakre Bihar Bikas Bank Ltd.	2009/05/15	Surkhet
62	Pacific Development Bank Ltd.	2009/07/26	Lamjung
63	Civic Development Bank Ltd.	2009/08/13	Dhading
64	International Development Bank Ltd.	2009/09/04	Kathmandu
65	Kanchan Development Bank Ltd.	2009/09/19	Kanchanpur
66	Gulmi Bikas Bank Ltd.	2009/09/24	Gulmi
67	Bright Development Bank Ltd.	2009/10/08	Kavre
68	Matribhumi Bikas Bank Ltd.	2009/10/09	Sindhuli
69	Innovative Development Bank Ltd.	2009/11/13	Rupandehi
70	Jhimruk Bikas Bank Ltd.	2009/12/14	Pyuthan
71	Metro Development Bank Ltd.	2009/12/16	Kaski
72	Raptibheri Bikas Bank Ltd.	2010/01/15	Banke
73	Gaumukhi Bikas Bank Ltd.	2010/01/25	Pyuthan
74	Nepal Consumer Development Bank Ltd	2010/02/5	Kaski
75	Khandbari Development Bank Ltd.	2010/03/5	Sankhuwasava
76	Tourism Development Bank Ltd.	2010/03/18	Kathmandu
77	Mission Development Bank Ltd.	2010/06/15	Rupandehi
78	Surya Development Bank Ltd.	2010/07/18	Dolkha
79	Mount Makalu Development Bank Ltd.	2010/07/21	Terathum
80	Kailash Bikash Bank Ltd		
81	Sindhu Bikas Bank Ltd.	2010/09/09	Sindupalchowk
82	Social Development Bank Ltd.	2010/10/12	Kathmandu
83	Sahara Development Bank Ltd.	2010/10/27	Sarlahi
84	Nepal Community Dev. Bank Ltd.	2010/11/03	Rupendehi
85	Cosmos Development Bank Ltd.	2010/11/17	Gorkha
86	Manasalu Development Bank Ltd.	2010/12/14	Gorkha
87	Samabriddhi Development Bank Ltd.	2010/12/31	Dhading
88	H&B Development Bank Ltd.	2011/06/15	Kathmandu

Sources: http://www.nrb.org.np/

1.1.3 Introduction of selected Banks:

1.1.3.1 Siddhartha Development Bank Ltd.

Siddhartha Development Bank limited (SDBL) is the first development bank of western region of Nepal established formally in the year 2056 which commenced operation on 11th Ashad, 2057. The bank has been established by the business persons of western Nepal. The Bank has been established solely with the aim of getting exclusive confidence of Nepalese market by rendering global standards of services through professional & quality management. SDBL has been promoted as a dedicated bank with a primary focus in the development of industrial trade and commercial in Nepal Besides debt financing, the bank also offers assistance to the clean and renewable energy projects by way of private equity and advisory and consulting services The Bank is rated as "A" class financial institution by Nepal Stock Exchange since listing of its public shares. It has Rs. 645,000 thousand as a Paid up Capital. Mr. Shekher Aryal, Mr. Motiraj Gyawali, Mr. Ramesh Kumar Sharma, Er. Meenraj Gyawali, Dr. Madan Bahadur Basnet, Mrs. Anju Pandey Pokhrel are the Board of Directors of SDBL.

1.1.3.2 Ace Development Bank Ltd.

Ace Development Bank Ltd (ACEDBL) has been a leading player in the financial market of Nepal. It was founded in August 1995 as Ace Finance Company Ltd. at Narayanchaur, Kathmandu as a Head office and was upgraded to Ace Development Bank Ltd. a full fledge category “B” Development Bank in 2007/08/15. It has Rs. 750,500 thousand as a Paid up Capital. Mr. Yogendra Sakhya, Mr. Rajib Raj Bhandari, Mr. Boind Ratna Tuladhar, Mr. Mukesh Agrawal & Mr. Shiva Bahadur Shah are the Directors of ACEDBL.

1.2 Focus of the Study:

The main focus of this study is the risk and returns analysis of the common stock investment of the listed developments banks of Nepal. Common stock is comparatively risky assets than other security in the capital market.

1. The main purpose of the study is to analyze how one can get sustainable profit by minimizing the risk.
2. Secondary purpose is market return, expected return, total risk, systematic risk and unsystematic risk are analyzed to give an idea to get sustainable profit by diversifying the risk to avoid future loss of the common stock investment.

1.3 Statement of the Problems

Lack of information and lean knowledge is chief problem faced by individual investor who are manipulated and exploited by the financial institutions and their market intermediaries. The attitude of investors play vital role in making investment decisions which are influenced by the information and access to the data required for analysis. Investors invest their wealth on the basis of guess and hunches because they do not have sufficient information about the financial assets and they also lack the idea to reach to ideal investment decision. Investors purchase stocks merely looking past trend of stock prices and sometimes they have to bear heavy loss due to inadequate knowledge and information related to the stock investment.

Capital market of Nepal is still in infancy stage so that most people do not know about shares, bond, debenture and other securities. On other hand, there are no strong commitment towards increasing public investment in policy makers and government. Stock brokers and financial institutions have no effective programs to develop investor's knowledge. So that people are unfamiliar with the stock investment. They would rather prefer to invest in land, buildings, gold and other unproductive assets. "Therefore, it is obvious that inadequate capital market people in undeveloped countries have tendency to invest in non productive assets such as land and other physical properties, jewelers, hoarding cashes etc. Nepalese people also have similar tendency in investment process" (Shrestha 1993).

In an efficient market condition, stock price is equal to the intrinsic value of stock. When required rate of return and expected rate of return are not equal, then intrinsic value and market value of stock will not be equal. It is also assumed that all stock remains in security market line, and if the case is not so, they strive towards this line. But theoretical and practical knowledge may not always match each other.

Therefore, it needs courage and at the some time faith to invest in common stock. In most of the time which can be generated through proper evaluation with giving due attention towards prevailing market atmosphere. What are the criteria for evaluating the stocks performance? What should be the compensation investors have to receive for bearing risk? How can investors make higher return through lower risk? are the major concerns of today's capital market. Some researches problems specially focused on this study are:

- To what extent, the investors should be compensated for taking a certain degree of risk?
- How do they know the scale and intensity of risk?
- What are the criteria for evaluating investment performance?
- How can one make higher return assuming lower risk?

1.4 Objectives of the Study:

The main objective of this study is to assess the risk associated with return on common stock investment of the listed Development Banks on the basis of selective financial tools and techniques. Some specific objectives of this study are as follows:

- To evaluate risk and return on common stock investment of development banks
- To see the trend of rate of return of development banks.
- To analyze the correlation among the returns of development banks.
- To analyze comparative risk and return position of this sector.

1.5 Significance of the Study:

Analysis of the risk and return is a significant in investment decision as well as managerial decision. It influences risk and return of the shareholders. Consequently the risk and return analysis influences the market price of the stock. So before making an investment decision, a person must analyze the risk and return from particular stock as well as they can make a good risk minimizing portfolio between their investments in the stock.

In the context of Nepal, there lacks wider investment opportunities, which provides good rate of return. So there must have been huge amount of unutilized saving funds with general public. In the security market, MPS of joint venture commercial bank has higher than others so it attracts the investor. Therefore they are investing their saving funds in common stock of public companies with the good expectation of higher capital gain in future. But, there seems least consciousness about the real financial conditions of the companies and degree of risk involved in their investments.

This research not only fulfils the requirement of MBS from T.U, but also provides some important knowledge about Nepalese stock market development along with providing ideas to minimize the risk on stock investment. The measuring in stock investment is essential for achieving growth of an economy. This study will be helpful for other researcher in the area of investment as it provides suggestion to some extent.

1.6 Limitations of the Study:

This study is to fulfill the requirement of Master Degree in Business Studies. It cannot cover all the dimensions of the subject matter and resources. The major limitations of the study are as follows.

1. This research concerns only risks and returns of common stocks of the selected Development Bank.
2. The accuracy of data depends upon the data collected and provided by the organization.
3. This study has collected the data from fiscal year 2007/08 to 2011/12
4. Time and financial constraints are also major limitations of this study
5. The portfolio analysis has been conducted between two sets of development banks having highest positive correlation and lowest positive correlation because negative correlation is not obtained by calculation.

1.7 Research Methodology:

Research methodology is a way to systematically solve the research problems. In other words it describes the method & process applied in the entire aspects of the study. Research methodology comprises of methods, tools & technique to analyze the data for the comparison of Risk & Return Analysis of Development Banks. The research methodology also focuses on the data collection methods, the research instruments utilized and the sampling plan to the followed. Following are the tools & techniques used to analyzed the data of risk & return analysis.

A. Sources of Data:

There are mainly two kind of data will be used for research work namely: primary and secondary data. The data will be taken for this study is Siddhartha Development Bank & Ace Development Bank Ltd. and other sources.

B. Method and Source of Data:

The collection of data will be on the basis of secondary source. Various reports and article such as balance sheet and financial statement, financial report, Report journal published by the central office, Annual statement and Bulletins, National planning commission, Government policy towards joint ventures banks. Nepal stock exchange board statically year book, Website of the concerned bank, Other published and unpublished book, Thesis, Magazines, Newspaper and Booklet etc have been consulted for the required data.

C. Tools & Techniques:

Following financial & statistical tools are used to analyze the financial structure of Siddhartha Development Bank & Ace Development Bank Ltd

- **Financial Tools:**
  - Financial ratio analysis examines the financial position of the banks.
  - Risk and return analysis measures the profitability and risk.
  - Percentage change expresses the change on the profit rate.
- **Statistical Tools:**

- Average Mean, Standard Deviation & Coefficient of variance. analysis examines the relationship between the variables of these banks

1.8 Organization of the Study:

This study has been organized in five chapters each deals with some features and characters of risk and return analysis and common stock valuation of listed development bank. The research work will be furnished with the following five chapters:

Chapter -I: Introduction

This chapter includes General Background of the Study, Origin of Banks in Nepal, List of Commercial & Development Banks, Introduction of reference banks, Focus of the Study, Statement of Problem, Object of the Study, Significant of the Study, Limitation of Study, Research Methodology & Organization of the Study

Chapter -II: Review of Literature

This chapter contains the profound review of available literature related to the area of this study. It is directed towards the review of conceptual framework and review of major related studies. Risk and return, its relationship, determinants, measuring techniques and methods etc. are reviewed from the various available literatures

Chapter -III: Research Methodology

This unit presents research methodology used in the study which includes various tools and techniques of data. It consists of research method sources of data, population and sample, research design, methods of data analysis etc.

Chapter -IV: Presentation and Analysis Data

This chapter presents the analysis and presentation of data by using various methods of statistical and financial tools. Tables, pie charts, etc. will be used accordingly to present the data effectively

Chapter -V: Summary, Conclusion & Recommendation

It states summary, conclusion & recommendations of the study. This chapter states main findings, issues, gaps and suggestive frame work of study.

At the end of the study **bibliography and appendices** is presented.

CHAPTER-II
REVIEW OF LITERATURE

It is very important to study the materials on the topic of research and that is called review of literatures. Review of literature deals with the theoretical aspect of the topic on risk and return on common stock investment in more detail and descriptive manner. This chapter helps to take adequate feedback to broaden the information base and inputs to study. This chapter reviews some basic academic courses books, journals and others related studies.

2.1 Conceptual Framework

Various books are reviewed which are related with topic, which may helpful to understand clearly about risk and return. The objective of this section is to know how various writers have described about risk and return.

This study is focused on the common stock investment. It is defined as a share in the ownership of the firm. Common stockholders are real owner of business firm Common stocks are more risky than both preferred stocks and bonds but it has also benefit like voting right, right in participation in profit. Common stock can be purchased and sold immediately on demand.

"Common stock represents ownership status in a firm. It has a residual claim, in the sense that shareholders can receive earnings only after the payment of all others claims of securities. But it has also an unlimited potential for dividend payment through increasing earnings and for capital gains through raising prices. The risk is highest with common stock investment. Common stock holders usually have voting rights in the management of the corporation board of directors and usually holders of preferred stock have no voting rights. Since the value of common stock depends largely on its earning, it is often issued on par value. In the case of bankruptcy common stock holders are entitled only to assets remaining after all clients have

been satisfied. When investors buy common stock, they receive certificate of ownership as a proof of being part of the company. The certificate states the number of shares purchased and their par value" [Alexender, Sharpe and Bailey, 2003, Indian reprint, P-241].

Common stock holders are the owner of the corporation. As owners, common stock holder have certain rights, the most important are the right to participate in profit distribution, the right to vote etc. From the corporation viewpoint, common stock represents a fund raising device. From the investors' viewpoint, stock ownership gives the stockholders an opportunity to share in the profit when declared as dividend, an opportunity to make money on appreciation in the value of the securities and the opportunity to vote for directors of the corporation.

The firm's common shareholders are right to receive dividends, if and when it is declared by board of directors. Dividends are the share of profits (earnings) which are distributed among all the outstanding shares of common stock. The common stockholders also have the right to elect the members of the board of director, the right to inspect the firm's books and the right to obtain a list of the names and address of other shareholders.

Return is reward received from investment for sacrifice of present certain amount of assets. Return is the motivational factor, encourages investors to sacrifices some certain amount of assets for uncertain benefit in future.

"The return from holding an investment over some period, simply any cash payments received due to ownership plus the change in market price of stock, derived by the beginning price is called Return." [Padam Raj Joshi, P-104].

Return is the income received on investment plus any change in market price usually expressed as a percent of beginning price of the investment "Although a return on investment is not necessarily guaranteed, it is expected return that motivates people

to invest. Every investment doesn't guarantee a return. The return on investment may be made up of more than one source of income. There are two kinds of return that investor receives from common stock.

- Current Income: It is received periodically in the form of dividends from stock.
- Capital Gain: The second dimension of return is concerned with change in the market value of a stock.

Investors pay a certain amount for stock from which they expect to receive not only current income, but also the return of the invested funds sometimes in the future.

Return is the key variable in the investment decision because this measure allows us to compare the amount of actual or expected gain provided by various investments.

- **Historical Performance:** Most people agree that past data often provide a meaningful basis for formulation of future expectation. A common practice in the investment world is to look closely at the historical performance if a given investment when formulating expectation about its future performance.
- **Expected Return:** It also can be used in investment decision process rather than historical behaviors. It is what you think the stock and a bond will earn in the future (in terms of dividend/interest plus capital gain) that determines what an investor should be willing to pay for a security.

Return on common stock also known as single period rate of return. It is cash received as dividend plus changes in price of stock. We can calculate actual return of common stock with the help of cash dividend and stock price of previous year and current year. The rate of return can be restated in a form appropriate for almost any investment.

Single Period rate of return (R_t**)**

$$= \frac{Ending\ \ price\ \ \Z Beginning\ \ price\ \ \Gamma Dividend}{Beginning\ \ \Pr ice}$$

$$= \frac{(P_t\ \ \Z P_{t\Z1})\ \ \Gamma D_t}{P_{t\Z1}}$$

Where,

P_t = Stock price at the end of period t.

P_{t-1} = Stock price at the end of period t-1.

D_t = Cash dividend received during the t^{th} period.

This formula can be used to calculate both actual single period return (base on historical data) as well as expected single period return (based on expected dividend and price).

Annualized rate of returns are several period can be calculated in two ways. The first one is simply to take the arithmetic average of the annual holding period returns over a given period and the second one, which also takes into account the compounding effects of cash receipts over different time intervals, is the geometric mean rate of return.

The Simple Arithmetic Mean $E(r_t) = \frac{\sum_{t=1}^{n} r_t}{n}$

Where,

$E(r_t)$ = Arithmetic Mean of Return

n = Number of Year

r_t = Single Period Rate of Return

For investors, return is considered as the main attraction to invest in a risky security as a stock accepting a varying degree of risk tolerance

Risk and return are the determinant for the valuation of securities. However risks means that we do not know what is going to happen even through we occasionally have a good idea of the range of possibilities that we face. Therefore, risk may be defined as the like-hood that the actual return from an investment will be less than the forecast return. Started differently, it is the variability of return from an investment.

"Risk is defined as uncertainty in investment return or changes in investment return

or more formally the variability of the actually return from the expected return associated with a given assets. The greater the variability of return on assets said to be riskier assets and the more certain the return from an assets, the less the variability and therefore less risk"[Shiva Raj Ghimire, P-103]

Risk is the fact of business, which is a product of uncertainty and its magnitude depends upon the degree of variability in uncertain cash flows. Risk, in fact is an indication of chance of loosing investment value. Different people interpret risk in different ways. To some it is simply a lack of definite outcome, which can be any unknown event, which may be unfavorable. It is a chance of happening some unfavorable event or danger of losing some material value.

Risk, as defined above, is the deviation between actual return and expected return. Various factor play important role to bring such deviation or variability. Such variability statistically is measured by standard deviation. The degree of risk of common stock is measured by the standard deviation. We can measure risk by examining the tightness of the probability distribution associated with the possible outcomes. It is widely used to measure risk form holding a single assets. Greater the standard deviation represents a high dispersion of return and is a greater the risk.

On the other hand smaller standard deviations are a low dispersion and represent smaller risk. Standard deviation is donated by the 'σ' (sigma) symbol. It can be expressed mathematically as:

$$\pm \sigma = \sqrt{\frac{\sum_{t=1}^{n} [r_t - E(r)]^2}{n}}$$

where,

σ = Standard deviation

r_t = Return for t^{th} possibility

E(r) = Expected rate of return

N = Number of years.

n = N-1

"Financial analysis and statisticians prefer to use a quantitative risk surrogate called

the variance of returns, denoted by var. (r). The variance is well known among statisticians, several hand calculators and computers are programmed to calculate it. The variance of an asset's rate of return equals the sum of the products of the required deviations of each possible rate of return from the expected rate of return multiplied by the probability that the rate of return occurs.

$$Var(r) = \frac{\sum_{t=1}^{n} [r_t - E(r)]^2}{n}$$

The square root of the variance of the rates of returns is called the standard deviation (σ) of the rate of return.

$$\pm \sqrt{Var(r)}$$

"The standard deviation and the variance are equally acceptable and conceptually equivalent quantitative measures of an asset's total risk" [Francis, Jack Clark, 2000].

The standard deviation can sometimes be misleading in comparing the risk or uncertainly surrounding alternatives if they differ in size. To adjust for the size or scale, problem, the standard deviation can be divided by the expected return to compute the coefficient of variation (C.V.)

$$\text{Coefficient of Variation (C.V.)} = \frac{\pm}{E(r)}$$

Where,

σ = Standard deviation

E(r) = Expected rate of return.

The coefficient of variation is a measure of risk per unit of expected return. The larger the C.V., the larger the relative risk of the investment.

C.V is the ratio of the standard deviation of a distribution to the mean of that distribution which is the measure of the relative risk. Total risk of stock is measure

by the standard deviation and total risk is composition of systematic risk and unsystematic risk.

The systematic risk is also known as the undiversifiable risk. It can not be diversified. This risk is that portion of total variability in return caused by market factor than simultaneously affect the prices of all securities. Systematic risk is due to that factor, which affect the overall market such as changes in the macro economic factors like, interest rate, inflation, expectations of investors, gross domestic product, tax reform by the government etc. Moreover, it is the cause of external environment of the firm. Unsystematic risk can be reduced through diversification. 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, labour strikes, management errors, inventions, advertising campaigns, availability of raw materials etc. The relation among total risk, systematic risk and unsystematic risk are shown below.

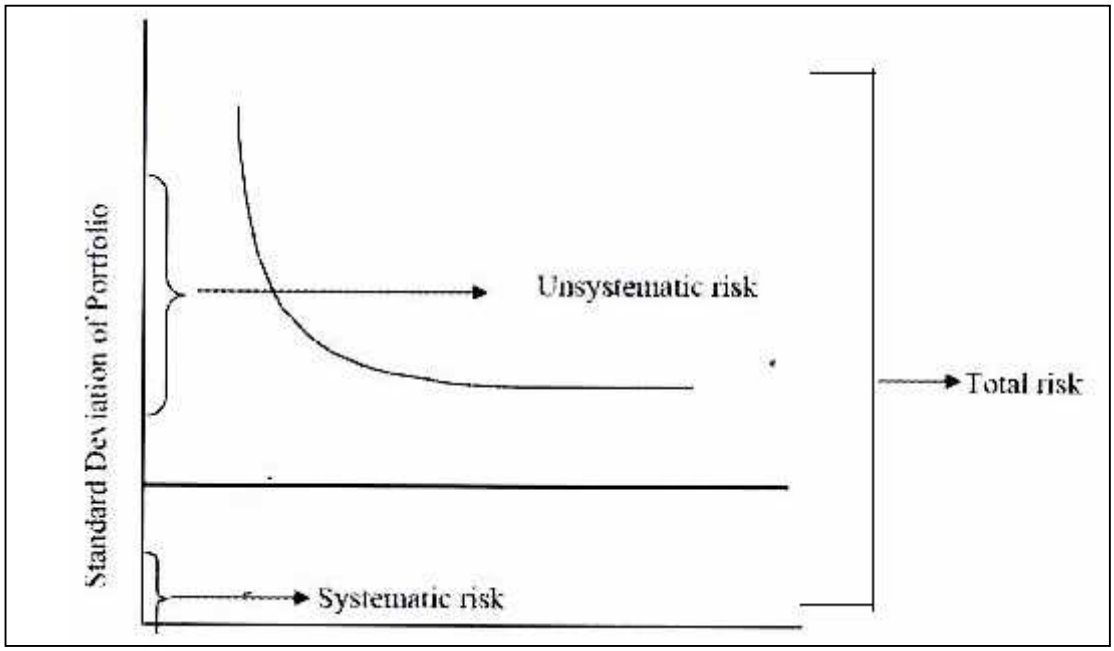
Total risk = systematic risk + unsystematic risk

Systematic risk = $\sigma^2 \times \sigma_m^2$

Unsystematic risk = $\sigma j^2 - \sigma^2 \times \sigma_m^2$

Figure No. 2.1

Total Risk, Systematic Risk and Unsystematic Risk



"For most stocks, unsystematic risk accounts for between 60 to 70 percent of stocks total risk or standard deviation"

Investor invest in only one in the stocks of company is exposed total risk that includes both systematic and unsystematic risk the proportion of unsystematic risk can be avoid by diversification of investment in many companies. If the number of security in the portfolio increases, the total risk curve will be decrease and finally reaches to the level of systematic risk. A portfolio containing all the repeatable stocks is completely diversified and its total risk is equal to the market average risk.

Portfolio is combination of individual or a group of assets. Portfolio is the holding of securities and investment in financial assets like, common stock, preferred stock, bound, debenture etc. Investors have different types of investment opportunity but they have limited resource for investment so that investors have to select that investment, which maximizes return for a given level of risk. Therefore it is needed to extent analysis of risk and return to include portfolio. There are two types of objectives, primary objective and secondary objective. The primary objective of portfolio are to

maximize return and to minimize risk and secondary objectives are regular and stable return, safety of investment, appreciation of capital, tax benefits etc.

The expected return on a portfolio is simply the weighted average expected returns on the individual assets in the portfolio with weights being the fraction of the total amount invested in each asset.

CAPM is a model that describes the relationship between risk and expected return. It explains the behavior of security price. It also describes how the price and interest rate on risky financial assets are determined in the capital market. In this model, a security's expected return is the risk free rate plus a premium based on the systematic risk of the security, where risk is measured by the beta coefficient.

CAPM provides a measure of risk and method of estimating the market's risk return line. The market or systematic risk of security is measured in terms of its sensitivity to the market movement. This sensitivity is referred to the security's beta. Investors can eliminate unsystematic risk when they invest their wealth in a well diversified market portfolio.

Harry M. Markowitz laid down the foundation of modern portfolio theory in 1952. Capital assets are the long term financial as well as real assets and CAPM is based on the pricing of assets. Modern portfolio theory of Markowitz suggests that the investment decision should base on the total risk and price of assets should also be determined on the basis of total risk. But the CAPM suggests that, any investor can create a portfolio of assets that will eliminate virtually all diversifiable risk, the only relevant risk is non diversifiable risk, therefore, the investment decision and pricing of assets should be based on the un-diversifiable risk. This is the primary importance of selecting assets with the most desired risk return characteristics. The CAPM further suggest that the price of capital assets should determine in a way that to compensate the systematic risk.

"The major implication of the CAPM is that the expected return of an asset will be related to measure of risk for that asset known as beta (ß). The model provides the intellectual basis for a number of the current practices in the investment industry" [Edwin J. Elton and Martin J. Gruber, 1995, Chapter-14].

'Based on the behavior of risk averter investors, there is an implied equilibrium relationship between risk and expected return for each security. In market equilibrium a security is supposed it provide an expected return commensurate with its systematic risk of a security. Greater the systematic risk greater the return that investors will expect from the security. The relationship between expected return and systematic risk and the valuation of securities that follow, is the essence of Noble laureate William Shaper's capital assets pricing model (CAPM)" [Gordan J. Alexander and Jack Clarck Francis, 1995,Chapter-8].

The security market line clearly shows that return is the increasing function. The SML equation as suggested for the computation of expected rate of return on common stock. The model is,

$$E(r_j) = r_f + [E(r_m) - r_f] ß_j$$

where,

$E(r_j)$ = Expected return on security j.

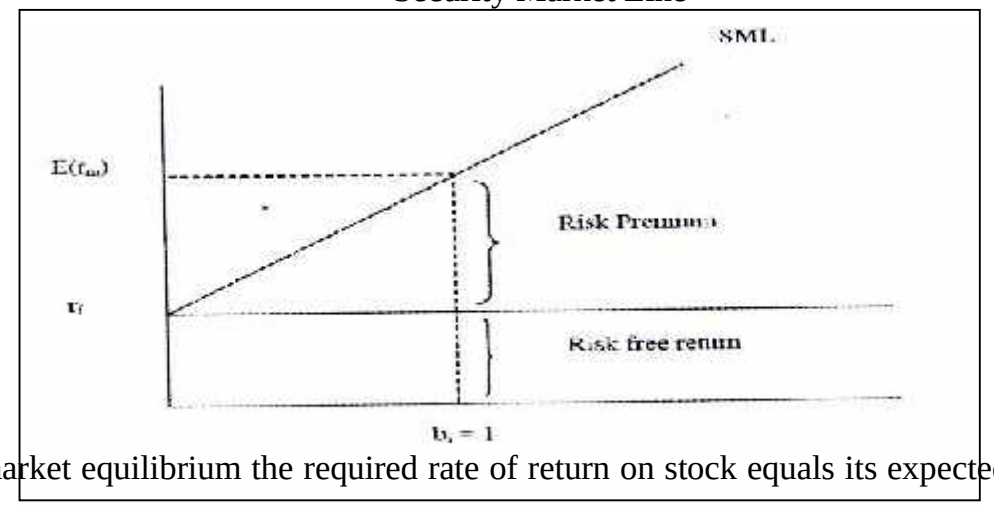
r_f = Risk free rate.

$E(r_m)$ = The expected market return.

$ß_j$ =Assets beta

Figure No 2.2

Security Market Line

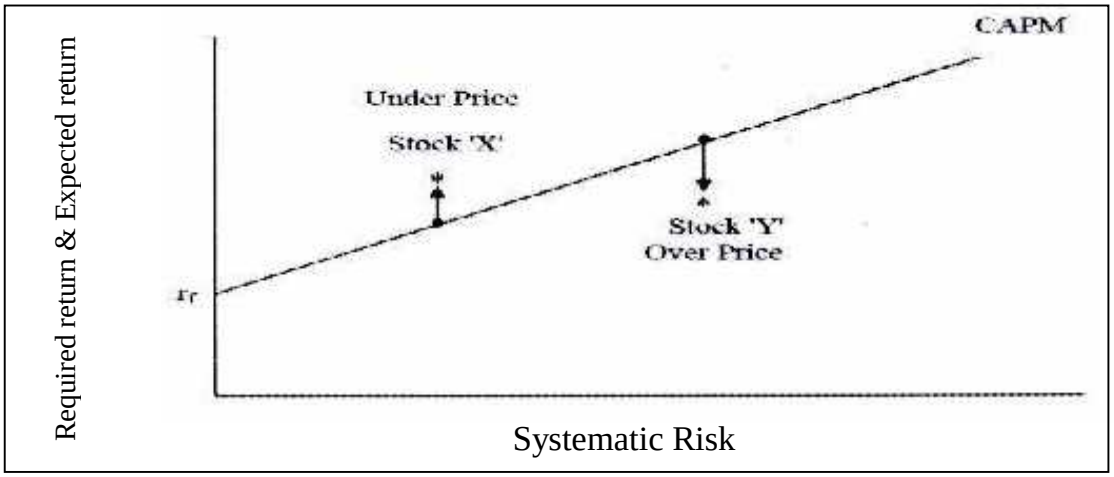


In market equilibrium the required rate of return on stock equals its expected return.

That is all stocks will be on the security market line, what happens when this is not so? The primary concern of portfolio management is to identify the overpriced and under priced of security. Overpriced and under priced securities are identified either comparison of their value with market price or compassion of required rate of return and expected return.

Figure No. 2.3

Under Price and Over-Priced Stock During Temporary Market Disequilibrium



As a result, stock 'X' is expected to provide a rate of return grater than the required, base on its systematic risk. Stock 'Y' is expected to provide a lower return than required to compensate for its systematic risk. Investors seeing the opportunity for superior returns by investing in stock 'X', should rush to buy it. In the case of stock 'Y', investors holding this stock would sell it, recognizing than they could obtain a higher return for the same amount of systematic risk with other stocks.

The CAPM is based on the efficient market hypothesis and provides a basis to measure the systematic risk in terms of covariance of its return with the market return.

2.2 Reviews from Related Studies

In this section of review various studies are reviewed related with the topic. The objective of this section is to show how the relation between risk and return is defined, described and measured by different studies. It also helps us to understand more about risk and return.

2.2.1 Review form Journals

Mitchell and Pulvion (1987, Aug) in *"Characteristics of Risk and Return in Risk Arbitrage".* Journal of finance had to determine whether the returns to risk arbitrage reflect market inefficiencies or rewards for bearing rare-event risk over the 1963 to 1986 time period.

"Using a comprehensive sample of cash and stock-for-stock mergers, we examine returns generated from risk arbitrage. For constraints merger an investment in any merger cannot exceed 10 percent of total capital, sizes are limited by the liquidity of the under lying securities. The index fund must have an adequate amount of cash reserves to undertake the investment.

In most market environments, risk arbitrage returns are uncorrelated with market returns however, during market downturns, the correlation between market returns and risk arbitrage returns increases dramatically. From this study suggest that risk arbitrage returns are similar to those obtained from writing uncovered index put options. Risk arbitrage may be better evaluated using a contingent claims analysis rather than a liner asset pricing model such as CAPM. However, this analysis shows that when measuring excess returns, the error associated with CAPM is significant only when the nonlinearity in returns is severe. This tends to be the case in time periods when cash, rather than stocks, is the predominant from merger consideration. Although linear assets pricing models mark the true risk in risk arbitrage, they do not result in large errors when measuring excess returns".

Bowman (1988, Feb) in *"The Theoretical Relationship between Systematic Risk and Financial Variables"* examined the relationship between risk and financial variables. Systematic risk of livered firm is equals to the systematic risk of the same firm without leverage. There is no direct relationship between earning variability and market risk. Systematic risk is directly related to the accounting beta. There is no theoretical basis for relationship of dividend payout and beta. There is not only theoretical relationship between dividends and systematic risk but also size and growth of the firm and systematic risk.
This study shows that there is a theoretical relationship between systematic risk and

firms accounting beta and systematic function are not a function of earning variability, dividends policies and size and growth of firm."

Enally and Ravenscraft (1999, June) in *"The Performance of Hedge Funds: Risk Return, and Incentives"* journal of finance, have examined "Hedge funds may be enhancing returns by taking on extra risk. Many hedge funds use tools designed to reduce systematic rather than total risk. Though this is obviously true for short sellers and market neutral funds techniques such as short sales are employed by most hedge funds. Combination of incentives alignment and investment flexibility gives hedge funds a clear performance advantage over funds. Incentive funds are the most important and significant determinants of risk adjusted return. Using 2,4,6 and 8 year sample all ending in December 1995 with 547, 272, 150 and 79 hedge fund observations, main findings of this study are the average hedge fund sharp ratio is higher than comparable mutual fund sharp ratio and this performance advantage increases when we match fund by reign Hedge funds achieve this sharp ratio superiority despite their higher total risk. In this study, the average total risk is higher for hedge funds. Thus, some of the characteristics that enhance hedge fund performance may not be appropriate for mutual funds that attract undiversified, risk-averse clients.

This hedge fund concluded that the Flexible investment options employed by hedge funds make it difficult to classify hedge funds, identify the correct benchmark, and thus measure relative performance. Standard deviation of returns measure of total risk may not fully capture the complex risk taking from hedge funds dynamic, highly levered strategies. Monthly incentive fees, therefore, contain an unknown reporting bias that may be as important as depreciation rates, common cost allocation, and transfer pricing issues in accounting profits.

2.2.2 Review From Nepalese Studies

In the topic of finance very few independent studies can be found. However, the available independent studies which are related to the Nepalese stock market and about shareholders democracy, views expressed by different person in their articles regarding risk and return of common stock of commercial banks are presented or reviewed here in the topic.

Pradhan (2004) conducted a study on *"Fundamental of Stocks Return in Nepal"* based on pooled cross sectional data of 40 listed companies in NEPSE Ltd and traded in the stock market. The study examines if dividend yield, capital gain yield and total yield are related to earning yield, book to market ratio and cash flow yield. Pradhan and Balampaki have summarized the following results.

- Earnings yield and cash flow yield have significant positive impact on dividend yield, and an insignificant impact on book to market value, whereas, size has negative impact on dividend yield. In the case of earnings yield and cash flow yield, cash flow yield has been found to be more informative than earnings yield.
- Capital gain yield is positive influenced by earnings yield and size, whereas, the same is negatively influenced by book to market value and cash flow yield. Book to market value has been found to be statistically strong in predicting capital gain yield.
- Similarly, total yield is positively determined by earnings yield and size, where as, the same is negatively determined by book to market value has been found to be more informative than other variables.
- The positive relationship exists among earnings yield, book to market value and cash flow yield. However, the size is negatively related to these three variables."

Sherestha, (1992) *"Shareholders Democracy and Annual General Meeting Feed Back."* critically analyzed the situation of common stock investors and the situation that is not improving till date.

His study has been divided into two parts. The first part includes view on the rights of the shareholders regarding how they can exercise then in democratic perspective and second part consists of feedback and the issues raised by shareholders at different annual general meeting of Public Limited Companies and financial institutions.

"In this study, he mentions that government is not interested in formulating separate act to protect the right of shareholders, although the size of shareholders population in Nepal has been growing constantly and, he has viewed the need of separate act regarding the protection of shareholders right. Company and others acts relating to financial and industrial sector has provisioned rights of the shareholders as:

- Voting right
- Participation in general meeting
- Right of getting information
- Electing as a board of director
- Participation in the profit and loss of the company
- Transferring shares
- Proxy representation

The collective rights of the shareholders are:

- Amend the internal by laws
- Authorize the sale of assets
- Inter into merger
- Change amount of authorize capital

In many cases of the existing authoritarian mentality of management seems to have not considered the shareholders in deciding the managerial plans and policies. Top level decision often by passes the interest of shareholders. As the management lacks serious concern about the protection of shareholder's rights and expectations. The annual general meeting has become a platform for shareholders to express opinions and grievance in front of the management and board of directors. Many general

meetings feedback reveal no serious response to the felling of shareholders. It reflects unwillingness of the management and board of directors to change their traditionally held activities towards shareholders.

Similarly, mini research paper conducted by **Khagendra Prasad Ojha (2000)** on *"Financial Performance and Common Stock Pricing"* concluded that: An investment in common stock of a corporate firm neither ensures annual return nor ensure the return of principal. Therefore, investment in common stock is very sensitive on the ground of the risk. Dividend to common stockholders is paid only of the firm marker on operating profit after tax and performance dividend. The company can return the principal in case of its liquidation only to extent of the residual assets after satisfying to all of its creditors and preferential shareholders. Besides this, investors have to sacrifice the return on their investment in common stock, which could be earned investing fund elsewhere in the next best opportunity.

The Study focused on the financial performance where financial activities involve decision regarding

- Forecasting and planning of financial requirement.
- Investment decision.
- Financial decision

Further, Ojha added that the stock price in Nepal is determined more by other factors rather than the financial performance of the concerned company.

2.2.3 Review of Thesis

Review of thesis is a section of review of literature where various theses are reviewed which are related its topic and which may be helpful for this study. In this section some thesis are reviewed which have done on risk and return topic and the objective of this section is to know how the relation between risk and return is described and measured by different thesis.

Bhatta (1995) has conducted his Master's thesis on *"Assessment of the Performance of Listed Companies in Nepal"*, He has taken 10 listed companies' data from 1990 to

1995.

His research objectives are to analysis the performance of listed companies in terms of risk and return i.e. expected rate of return and company specific risk, required rate of return and internal rate of return, systematic risk and diversification of risk through portfolio context.

He made financial and statistical analysis which include MPS, EPS, SD, CV, T-test, Z-test and correlation.

He has addressed the following finding from his studies.

A highly significant positive correlation has been address between risk and return character of the company Investors expect higher risk Nepalese capital market is not efficient one so the price does contain all the information relating to market and company itself. Neither investor analyses the overall relevant information of the stocks nor does the member of stock exchange try to disseminate the information. So, the market return and risk both may not show high priced stocks.

Investors of Nepal have not yet practiced to invest in portfolio of securities. An analysis of the two securities portfolio shows that the risk can be totally minimizes if the correction is perfectly negative. In this situation, the risk can totally be diversified, but when there is perfectly positive correlation ship between the returns of the two securities, the risk is not diversified.
On the basis of his findings concluded:

" An analysis of risk and return show that many companies have higher unsystematic or specified risk. There is a need of expert institution which will provide consultancy services to the investors to maximize their wealth through rational investment decision".

Lastly, Mr. Bhatta recommended the following points to improve the market efficiency.

- Developed institutions to consult investors for risk minimization.
- Establish an information channel in Nepal stock exchange and
- Make proper amendment on trading rules.

Pandey (2000), in the title of "*Risk and Return Analysis of Common Stock Investment*" In her study, she has taken 7 listed insurance companies data from 2049 to 2056. She focused on following objectives: -

- To understanding and identify problems faced by an individual investor and insurance company.
- To calculate the risk and return of the common stocks and their portfolio.
- To analyze the volatility of different stock of insurance companies and other variables that should be considered while deciding investment in stocks.

  She has used following methodology
  - Study design.
  - Population & Sample
  - Secondary data collection techniques.

Data Analysis tool included: - MPS, DPS, Expected return and Hypothesis testing

She obtained following findings from the study in terms of risk and return is as follows: -

Although overall objective of her study is about investment in common stock, it is mainly concentrated on the risk and return trade off economically Nepal is backward; it's economic performance is not satisfactory. Generally Public are rest understood about the stock market and have fake conceptual thoughts about its risk. Poor education and lack of adequate Source of information are the major Constraints for the development of stock market of Nepal

Based on market capitalization, size of NIC is the biggest one. Expected return on the common stock of NLGI is maximum (i.e. 65.39%). This high rate of return is due to unrealistic annual return in 2050\51. Expected return on common stock of

HGI and EIC is lowest with negative value. In overall industrial sector, expected return of finance and industrial sector is highest. . Overall, market expected return is 50%. Annualized return is unexpectedly high in FY 2050\51 and then declines in the preceding years. This is all about return.

When risk and return compared to different industries, finance and insurance is best as per highest expected return with higher degree of risk whereas trading industry has minimum return and risk.

In Nepal, however, in terms of the volume of transaction the situation of the capital market, according to NEPSE sources has remained quite optimistic, in aggregate, commercial banks occupy large percentage of traded amount whereas insurance sector is being low responsive towards its trading Though it is difficult to estimate the exact volume of business potential in insurance, one can have a rough idea by looking at the insurance depth compared to the potentials in the business, the figure is too low, which is also agreed by both the insurance board and insurance companies they accuse government for not doing enough to realize the potentials. Premium collection per capital of population is quite less not even a dollar.

She has recommended which are related to the study are as follows:

One of the study most important things to consider when choosing an investment strategy is the balance between risk and return that you are comfortable with.

Having all of your eggs in one basket can be a risky proposition. It is better to invest in mutual funds; however having all investment in on type of mutual fund still exposes investors to the risk of that asset class. The best way to diversity against market risk is to hold different asset classes in your portfolio that may have highly negative correlation. The institution is that an asset with a low correlation to the tangency portfolio is desirable.

Stock market investment is a risky job. To win the stock market, investors should always be clear to his own –strengths, weaknesses, needs desires risk taking capabilities and how to react on different and ever changing market conditions This is one game where self Knowledge, superior forecasting ability, sound understanding on the information of stock market can give a winning edge to the investor.

In most countries, an organization publishes updated information periodically informing the public about its economic condition, but it is lacking in Nepal.

There should be an institution to analyze the information provided by the companies' send to process them to make them understandable by general investors.

There is complete absence of sensitive index of stock prices and government is not much concerned to conduct a survey of investors in Nepal.

Whatever be the drawbacks, stock market investment is important to improve the lives of people and to push the economic state of the country. So, we along with government, regulating authority, the stock exchange listed companies etc should understand their perspective roles and should give proper attention to play their roles with sincerity

Sapkota (2000) in " *Risk and Return Analysis in Common Stock Investment* " had the main objective to analyze the risk and return of the common stock in Nepalese stock market. This study is focused on the common stock of commercial banks. Mr. Sapkota found that the banking sector is the biggest one in terms of market capitalization and turnovers. Expected return on the common stock of Nepal Bangladesh Ltd is maximum (i.e. 66.99%) and common stock of Nepal SBI Bank Ltd. is found minimum. Common stock of NBL is the most risky and common stock of Nepal SBI is the least risky. Mr. Sapkota has concluded that common stock of Nepal Bangladesh Bank is the best one for investment. On the other hand, portfolio return between the common stock of Nepal Grindlays Bank (Now Standard chartered Bank Ltd) and Nepal SBL is 26.66 percent but portfolio standard

deviation is only 14.97 percent, which is less than single stocks standard deviation.

Mr. Sapkota has recommended reducing the risk; investors should diversify their fund into proper construction of portfolio. Individual Investor should try and work out their attitude towards the risk of various investment and Government of Nepal needs to manage the trading of securities with fair environment in NEPSE."

Upadhaya (2004) " *Risk and Return on Common Stock Investment of Commercial Bank in Nepal* " With the objectives to evaluate the common stock of the listed commercial banks in terms of risk and return and to perform sector wise comparison on the basis of market capitalization from study. Mr. Upadhaya found the common stock of Nepal Grindlays Bank (Now Standard Chartered Bank) bears the maximum rate of return (127.84%) and Nepal SBI Bank has minimum (7.77%) rate of return. In the context of industries or other sectors, expected return of other sector is highest and manufacturing and production sector is found least performer.

This study had analyzed that "High Risk High Return" because in this study it has found common stock of NGBL is most risky and Nepal SBI is least risky. Common stock of Everest Bank is most volatile, common stock of Nepal Indosuez Bank is the least volatile and common stock of all the commercial banks is overpriced. Mr. Upadhya has recommended for the portfolio construction, to select the stock that have higher return with not correlated or negatively correlated stocks otherwise stock can not be diversity risk properly."

Shakhya (2001) has conducted her master's thesis in "*Risk and Return Analysis on Common Stock Investment* " with the specific objectives of study are to asses the general investors perception, attitude and awareness towards risk associated with return, to calculate risk and return of selected securities and there portfolio and to analyze the volatility of common stocks and other valuates. The Researchers' result reveals that 58.3 percent investor considers return, and 33.3 percent investor consider risk before investing: To invest in common stock 50 percent prefer primary

market, 21.7 percent prefer secondary and 28.3 percent of total investor prefer bath market. 71.7 percent of total investors give first preference to the banking sector. 46.7 percent investors have knowledge about correlation coefficient, 48.3 percent of total investors prefer C.V and 36.7 percent prefer S.D. for measuring risk.

Miss Shaky recommended that, if negatively correlated assets are combined in portfolio, them risk can be minimized to some extent only negatively correlated assets which is favorable with view paint of diversification.

Kansakar (2004) on his thesis, "*A Case Study on Risk and Return Analysis of Common Stock Investment* " with the view to evaluate the common stock of the listed Manufacturing company in terms of risk and return obtained the following conclusion.

Mr. Kansakar has used following methodology

- Study design.
- Population & Sample
- Primary data collection technique: - Questionnaires and interview.
- Company annual report.

Data Analysis tool included: - MPS, DPS, Expected return and inter companies comparisons, market capitalization, analysis of market sensitivity, required rate of return, ki-square, t-test.

Mr. Kansakar obtained following finding from the study in term of risk & return is as follows:

Return is an income received by the investor for bearing a risk within the stock. Expected return on the common stock of Nepal Lever Limited has the highest with 0.5214 i.e.52.14%. Similarly, expected rate of return of the common stock of Bottlers Nepal (Terai) has second highest expected rate of return with 0.5161 i.e.51.61%. Other common stock having expected rate of return is common stock and of Bottlers Nepal (Balaju) and Nepal Lube Oil Limited with 0.2008 i.e. 20.80%

and 0.1078 i.e. 10.78% respectively. But Arun Vanaspati Udhyog has negative expected rate of return because market price of the common stock of Arun Vanaspati Udhyog is downward from fiscal Year 1997/97 to 2001/02 gradually. In the context of sector wise comparison, Banking sector has the highest expected rate of return with 0.1323 i.e. 13.23% and then after Finance and Manufacturing and Processing sector has expected rate of return with 0.12.90 i.e. 12.90% and 0.0698 i.e. 6.98% respectively. Hotel, Trading and Others sectors' expected rate of return are in negative value. Variability in returns is called risk is called risk is measured in terms of standard deviation of returns. From this point of view, Nepal Lever Limited is the most risky assets with 0.9983 and Bottlers Nepal (Balaju) is the least risky assets with 0.2857. Actual least risky asset is Arun Vanaspati Udhyog with 0.0702, but it has negative expected return. So, Bottlers Nepal (Balaju) is taken as least risky asset. Due to the highest expected rate of return and standard deviation, Nepal Lever Limited proverb "High risk –High return". A comparison to expected return, common stock of Bottlers Nepal (Balaju) has low standard deviation too. CV is also known as relative tools for measurement of risk in terms of coefficient of variation; Bottlers Nepal (Balaju) has lowest CV with 1.4226. Hence, having low CV, common stock of Bottlers Nepal (Balaju) is the best one for investment from both points i.e. risk and return. In the context of inter sector comparison, Banking sector has the highest expected rate of return with 0.1323 i.e. 13.23% and then after Finance and Manufacturing and Processing sector have the expected rate of return with 0.1290 i.e. 12.90% and 0.0698 and i.e. 6.98% respectively. Expected rate of return of remaining sector have negative value. Others sector has the highest standard deviation with 0.4927 and trading sector has the lowest standard deviation with 0.1000.Among expected rate of return having positive value, Banking sector has the highest standard deviation with 0.4388 and Manufacturing & Processing sector has the lowest standard deviation with 0.2537. In terms of CV, finance sector has the lowest CV with 1.9674, Manufacturing and processing sector has 3.6346 and the remaining sectors have negative value.

The higher risk of common stock may have greater possible return.

The Hypothesis Testing–T is based on the test of significance difference of mean of

Manufacturing and Processing Industries' Return and Market Return. It has been executed to test whether overall return on common stocks of Manufacturing and processing industries is equal to the market or not. Hence, over the study period, it was found that the null Hypothesis has been accepted i.e. overall returns on common stock of Manufacturing and processing industries is equal to the overall market.

Standard deviation is a tool for measuring an unsystematic risk, which can be eliminated. But systematic risk is that which cannot be eliminated, is defined by market and measured by beta coefficient (*ß)* . Beta shows the sensitivity or volatility of the stock with the market. Higher the beta greater the volatility. In our research, BNT's common stock is the most volatile with beta =1.80139 i.e. highest beta coefficient and common stock of BNL is the least volatile with beta =0.4121 i.e. Lowest beat coefficient. Others have in between 1.8039 and 0.4121except common stock of AVU has negative beta coefficient with –0.0769.

With the help of comparison between RRR and ERR, it can be identify whether the stock is over-priced or under –priced .If ERR is greater than RRR, a stock is known as under-priced and investor tends to buy this stock .If RRR is greater than ERR, a stock is known as over –priced and investor tends to sell this type of stock .In market equilibrium, ERR and RRR are equal. The study shows that all the stocks of manufacturing industries are under-priced except AVU which is over-priced.
Mr. Kansakar has recommended the followings:

- A common stock investment is a risky job. It does not guarantee return and principal both. Hence, it is undoubtedly risky in the short term and investor needs to be prepared for it. Investors should be acquainted with the associated risk and work out their attitude towards the risk of various investment strategies.

- The tools used in the study could not be appropriate for our economy i.e. .due to differences in prevailing condition with the western market. Alternatively, it may not exactly perform, as it should be in condition like ours. Various sectors

could be beneficial from different point of view e. g. Coefficient of variation (C.V.) suggests that the finance sector is the best for an investment. However, banking sector may be the best, if other subjective analyses are considered .Its CV is also not so higher than Manufacturing and processing and overall market. Similarly, while analyzing individual security, BNL is the best in terms of CV and Beta having lowest among reviewed industries.

- Investors need to diversify their wealth to reduce risk. Proper way of construction of portfolio is a dynamic job .it is changed according to change in environment of the country or market movement .For optimum portfolio, select a stock having high return with not correlated i.e. negatively correlated stocks A correlated stock cannot diversify risk properly.
- Investment clubs are effective way to exchange investment ideas. There is no any such type of club in Nepal. Collective investment e.g. mutual fund is worthwhile for a people with little interest in investment. Mutual fund is in emerging stage in Nepal. It allows investors to obtain reasonable diversification from limited wealth. Hence, this recommendation is given to the concerned bodies for entering the mutual fund business in the market for the well diversification of portfolio in national and global levels. Hence, sharing experience ideas and consulting with an expert will be fruitful.
- Assessment of personal risk attitude, needs and requirements will be an added advantage before making an investment decision in stock market. Making an investment decision in stock market with the help of reliable information rather than rumors and imagination will ultimately favour the investor. Investor's investment decision should be based on financial parameters of the company. This is the age of digital technology. NEPSE is still following "Open cry systems" for trading while world is using a sophisticated technology in the field of stock market it needs to develop efficient and effective information channel and to provide up-to-date data.
- The corporate should provide reliable financial statements. Value of assets and liabilities should not be manipulated for under or over profitability. The decisions, taken by the corporation should be headed towards maximize the

value of the firm and value per share.

- Government should amend the rules and a regulation regarding stock market frequently that ensures the protection of an individual investor's right. Such amendment is essential to make the act effectiveness with the pace of time. And also needs to follow the implementation and supervision of rules and regulation to make sure the objectives are achieved.
- All the reviewed stock of Manufacturing and processing industries are under – valued except common stock of AVU is over –valued Investors should invest their wealth on under valued stock and sell over –valued stock.
- It will be fruitful to buy going up stock and sell going down stock. In addition, adding more good stocks will make it better and adding more bad stock will make it worst
- A risk and return analysis is completely a new area for the country which strongly suggested that further study should be conducted on this topic and also would like to suggest including maximum number of samples. Hence, it is recommended to carry out further more researches on common stock investment to enhance growth and development of the capital market in the country.

2.3.1 Research Gap

All above research studies are based on very old data before 2005 and not an above single research is belongs to the development bank common stock study. To the gap of the previous research work and find out the risk and return associated with purely development bank I realize the need of a new research based on recent data. Hence I have done this study using new data of two development banks namely: Siddhartha Development Bank Ltd and Ace Development Bank Ltd. from 2007/08 to 2011/12. This study uses recent data of two listed development bank and other secondary data where ever need form different sources.

CHAPTER-III

RESEARCH METHODOLOGY

The research methodology is the systematic way of solving research problems. This chapter refers to the overall research processes, which is a researcher conducts during his/her study. It includes research design, sources of data, analytical tools, and procedures of collection and analysis of data. Research is systematic and organizational effort to investigate a specific problem that needs a solution. This process of investigation involves a series of well though out activities of gathering, recording, analyzing and interpreting the data with the purpose of finding answer to the problems. This research is on the basis of historical data using both financial and a statistical tools performs detail analysis of different variables. Results are presented in simple way. Detail research methods are described in following headings.

3.1 Research Design

This research is belongs to risk and return analysis so that this research is based on recent historical data, which covers the five years period data from the FY 2007/08 to FY 2011/12. It deals with the common stocks of development banks on the basis of available information. As the title of the study suggests, it is more analytical and empirical but less descriptive.

3.2 Sources of Data

The data required for the research is collected from the secondary as well as primary sources. During the study, informal opinion survey has also been taken with the individuals, bank officials. Security board of Nepal, staff of Nepal stock exchange and stockbrokers. Data related to the market prices of stocks, capitalization, movement of NEPSE index etc. It is taken from the trading report published by NEPSE and the website of Nepal Stock Exchange (i.e. www.nepalstock.com). Annual report of development banks and their financial statement are also collected from the respective sample banks. NEPSE periodicals, articles and previous research report etc. has also been considered.

3.3 Population and Samples

The population of the study is all the listed development banks in NEPSE index. This study is concentrated in two listed development banks. They are as follows.

1) Siddhartha development Bank Ltd.
2) Ace Development Bank Ltd.

3.4 Data Analysis Tools :

To achieve the objectives of research, this study has used various financial and statistical tools that are necessary to find out results. The following tools shall analyze the data presented in the study.

3.4.1 Market Price of Stock (P)

Market price of stock is one of the major data of this study. These are three prices high, low and closing price of each year are available. We can use average price (of high and low) or closing price of the stock. Closing price or average price represents the price of whole year. But, to get the real average volume and price of each transaction in the stock and duration of time of each transaction in the whole year are essential. It is very difficult to obtain and include these all information and average of high and low price is not reliable and representative information. Hence the closing price of stock is used as market price of stock.

3.4.2 Dividend (D)

Dividend is relevant during the computation of rate of return, which is a return to the shareholders for the investment. If company declares only cash dividend there is no problem while taking exact amount of dividend. But if company declares bonus share, shareholder will receive extra number of shares consequently price of the stock declines. So, here stock dividend is ignored and cash dividend is taken only under consideration. At this condition,

Total dividend amount = Cash dividend only

3.4.3 Return on Common Stock (R)

It is known as realized rate of return or single period rate of return. It is cash received plus price changes in period of stock (capital gain/loss). It is calculated in the form

of percentage. It is calculated by adding change in market price with total dividend and than dividing by market price of previous year.

Symbolically

$$R_j \; X \frac{(P_1 \; Z P_{tZ1}) \Gamma D_1}{P_{tZ1}}$$

Where,

R = annual rate of return

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.

3.4.4 Expected Rate of Return on Common Stock E(R)

One of the major aims of the study is to determine the expected return on the investment in common stock. Generally, this rate is obtained by the arithmetic mean of the part year returns.

Symbolically,

$$E(R_j) \; X \frac{R_j}{n}$$

Where,

$E(R_j)$ = Expected rate of return on Stock j.

R_j = Return on stock j.

n = number of years that the return is taken.

$\sum$ = Sign of summation.

3.4.5 Return on Market

It is the percentage increase in NEPSE index. Market return is the average return of the market as a whole. It is calculated as.

$$R_m \text{ X} \frac{NI_t \text{ Z } NI_{t\text{Z}1}}{NI_{t\text{Z}1}}$$

Where,

R = Return on Market

NI = NEPSE index at time t

NI_{t-1} = NEPSE index at time t-1.

3.4.6 Expected Return on Market, $E(R_m)$

It is average return of future expectation. It is calculated by summing up the past return and dividing by number of samples period.

$$E(R_m) \text{ X} \frac{R_m}{n}$$

Where,

$E(R_m)$ = Expected return on market.

$\sum R_m$ = Summation of market return.

N = Number of samples period.

3.4.7 Standard Deviation (S.D)

It is a statistical measure of the variability of a set of observations. The symbol is called sigma (

∑). It measured the total risk on stock investment. Standard deviation can be calculated using following formula,

If data given as time series

$$\pm_j X \sqrt{\frac{\bullet R_j Z E(R_j)'^2}{n Z 1}}$$

If data is probability distribution

$$\pm j X \sqrt{\sum_{t X 1}^{n} [R_j Z E(R_j)]^2 p}$$

Where,

$\exists_j$ = Standard Deviation on of return sock j during the time period n.

P_j = Probability distribution of the observation.

R_j = Single period rate of return on stock j.

$E(R_j)$ = Expected rate of return on stock j.

n = Number of years that the returns are taken.

Particularly, in this study data collected from NEPSE are in the farm of time series so first relation well cover into effect.

3.4.8 Coefficient of Variation (C.V.)

It is the relative measurement of risk with return. It measures the risk per unit of return. It provides a more meaningful basis for comparison when the expected returns on two alternatives are not the same. The higher coefficient of variation, higher the risk. It is calculated as

$$C.V. X \frac{\pm_j}{E(R_j)}$$

Where,

C.V. = Coefficient of variation of stock.

$\exists_j$ = Standard deviation of return on stock j.

$E(R_j)$ = Expected rate of return on stock j.

3.4.9 Beta Coefficient ( )

Beta coefficient shows the market sensitivity of stock. Higher the beta, greater the sensitivity and reaction to the market movement. Beta coefficient of a particular

stock will be less equal or more than 1, but the beta for market will be always 1.

$$_{j}\ \mathrm{X}\frac{Cov_{jm}}{\pm_{m}^{2}}$$

Where,

ß$_j$ = Beta coefficient of stock j .

Cov$_{jm}$ = Covariance between return on stock j and return on market.

$$\frac{\bullet R_j\ \mathrm{Z}E(R_j)'\ \bullet R_m\ \mathrm{Z}E(R_m)'}{n\ \mathrm{Z}1}$$

$\exists^2_m$ = Variance of market return.

3.4.10 Correlation Coefficient (°)

Two variables are correlated when they are related that the change in the value of one variable is accompanied by change in the value of other. Correlation may be positive or negative. If return on two securities is negatively correlated which combined in portfolio reduces the risk. If securities are positively correlated risk cannot be reduced. Correlation coefficient is negative or positive which ranges from +1 to -1. It can be calculated as.

$$\circ_{i\,j}\ \mathrm{X}\frac{Cov_{ij}}{\pm_i \pm_j}$$

where,

∂_{ij} = Correlation coefficient for securities i and j.

Cov$_{ij}$ = Covariance between securities i and j.

$\exists_i$ $\exists_j$ = Standard deviation of returns for securities i and j.

3.4.11 Portfolio Risk and Return

Portfolio is combination of individual or a group of assets. Investors have different types of investment opportunity but they have limited resource for investment so that investors have to choose that investment opportunity which maximizes return for a given level of risk or minimize risk for a given level of return. Thus the combination

of this investment is called portfolio.

Portfolio Return, $E(R_p)$

The expected return on a portfolio is simply the weighted average of expected returns on the individual assets in the portfolio with weights being the fraction of the total portfolio invested in each asset.

Symbolically,

$E(R_p) = W_i \ E(R_i) + W_j \ E(R_j)$

Where,

$E(R_p)$ = Expected return on portfolio

W_i = Proportion of wealth invested in i asset.

W_j = Proportion of wealth invested in j asset.

$E(R_i)$ = Expected return on i asset.

$E(R_j)$ = Expected return on j asset.

Portfolio Risk,

It is the combined standard deviation of individual stock return. It is the risk of individual securities plus covariance between the securities. The formula for the calculation of portfolio risk for two assets case is given by

$$\pm_p X\sqrt{\pm_i^2 w_i^2 \Gamma \pm_j^2 w_j^2 \Gamma 2 w_i w_j \quad \text{cov}_{ij}}$$

Where,

$\exists_p$ = Standard deviation of stock i & j.

$\exists_i^2$ = Variance of assets i.

w_i = proportion of assets i.

$\exists_j^2$ = Variance of assets j.

w_j = Proportion of assets j.

Cov_{ij} = Covariance between the return of assets i & j.

3.4.12 Risk Minimizing Portfolio

It is the portfolio with lowest level of risk in the efficient frontier. In other word it is the proportion of stock that minimizes the risk. In two stock portfolio the optimal weight to invest in stock i and j are calculated as follows

$$w_i \; X \frac{\pm_j^{\,2} Z Cov_{ij}}{\pm_i^{\,2} \Gamma \pm_j^{\,2} Z 2Cov_{ij}}$$

Where,

w_i = optimal weight to invest in stock i.

w_j = optimal weight to invest in stock j.

$\exists_j^2$ = Variance of stock j.

$\exists_i^2$ = Variance of stock i.

Cov_{ij}) = Covariance of returns between stock i and j.

3.4.13 Partitioning of Total Risk

$$Systematic \quad risk \quad proporation(\circ^2) \; X \frac{^{2}_{j} \pm_m^{\,2}}{\pm_j^{\,2}}$$

$$unsystematic \quad risk \quad proporation(1 Z \circ^2) \; X \frac{Var(e)}{\pm_j^{\,2}}$$

$\exists_j^2$ = Variance of stock j.

$ß_j^2$ = Square beta of stock j.

$\exists_m^2$ = variance of market return.

Var (e) = residual variance.

3.5 Method of analysis and presentation

Results are presented in tabular form and clear interpretation on it is given simultaneously. All the methods of analysis and presentation are applied as simple as possible. Detail calculations are presented in appendices at the end of report. To make report simple and easily understandable charts, diagrams and graphs have been used. Summary conclusion and recommendations are presented finally at fifth chapter of this study.

CHAPTER-IV

PRESENTATION AND ANALYSIS OF DATA

This chapter is the main part of study. In this chapter the effort has been made to analyze risk and return on common stock investment, which includes, detail data of market price of share and dividend of each selected development banks, their interpretation and analysis. With reference to the various readings and literature reviews in the preceding chapter effort is made to analyze the recent Nepalese stock market movement to the listed development banks. The analysis of data consists of organizing, tabulating and assessing financial and statistical result. Different table and diagrams are used to make the result easily understandable.

4.1 Analysis of Individual Development Banks

Two listed development banks are taken as sample for study. There are 64 listed development banks listed in NEPSE. Every bank's common stock risk and return are analyzed properly.

Risk and return is considered to be one of the best ways to analysis the behavior of changing market price of common stock. In this analysis, it is attempted to find out periodical realized returns to the investors, its expected return or average rate of return, standard deviation, co-efficient of variation. In the following paragraph each banks are introduced and their common stock's risk and return are analyzed here.

4.1.1 Siddhartha Development Bank Ltd. (SDBL)

Siddhartha Development Bank limited (SDBL) is the first Development bank of western region of Nepal established formally in the year 2056 which commenced operation on 11th Ashad, 2057. The bank has established the businessman of western Nepal .The Bank is rated as "A" class financial institution by Nepal stock Exchange

Since listing of its public shares. It has 18 branches operating different parts of the country. Authorized capital, issued capital and paid up capital of the bank are Rs.

1,000,000,000 Rs. 64,50,00,000 and Rs. 64,50,00,000 respectively with par value per share Rs. 100.

Following table 4.1 represents the market price and dividend per share of SDBL bank for the purpose of risk and return analysis.

Table No. 4.1

Market Price Per Share and Dividend Per share Data of SDBL

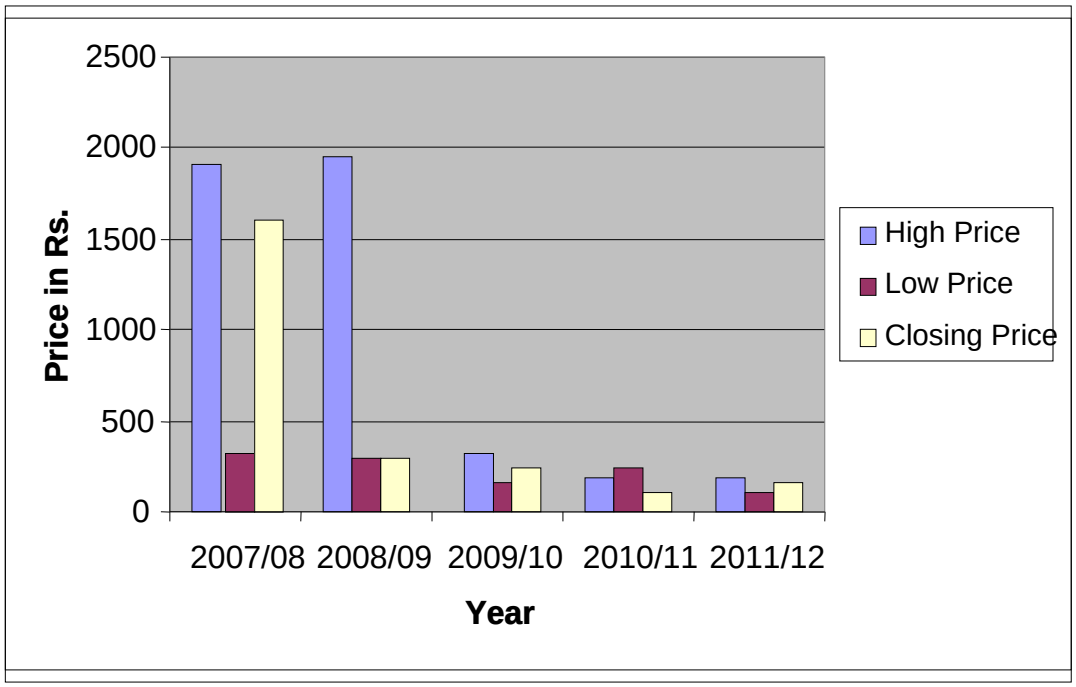
Fiscal Year	Market Price Per Share			Cash Dividend Per Share (Rs)
	High (Rs)	Low (Rs)	Closing (Rs)	
2063/64 (2006/07)	309/-	130/-	290/-	0.79/-
2064/65 (2007/08)	1795/-	290/-	1525/-	10/-
2065/66 (2008/09)	1996/-	240/-	253/-	5/-
2066/67 (2009/10)	316/-	162/-	193/-	6/-
2067/68 (2010/11)	190/-	198/-	119/-	0.36/-
2068/69 (2011/12)	128/-	73/-	96/-	0/-

Data Source: Annual Trade Report of NEPSE

Closing Price is maximum in FY 2007/08 and minimum in FY 2011/12 and dividend means cash dividend only ignoring bonus share & right share.

Diagram 4.1

Market price of Share and Dividend per Share of SDBL



Closing price is maximum in Fiscal year 2064/65 (2007/08) and minimum in Fiscal year 2068/69 (2011/12)

- **Rate of Return, Expected Return, Standard Deviation, Coefficient of Variation and Trend Line of Rate of Returns of SDBL.**

Rate of return for each year are calculated for the basis of closing price of common stock and cash dividend amounts of respective year. Table 4.2 shows the calculation of year wise rate of return, expected rate of return, standard deviation and coefficient of variation of return.

Table No. 4.2

Rate of Return, Expected Rate of Return, S.D., CV, of the Common Stock of SDBL Bank

FY	Closing Price (P)	Dividend (D)	$R\,X\frac{D_t\,\Gamma(P_t\,Z\,p_{tZ1})}{P_{tZ1}}$	[R-E(R)]	[R-E(R)]^2
2063/64(2006/07)	290	0.79	1.9079	1.1442	1.30946
2064/65(2007/08)	1525/-	10/-	4.2931	3.7582	14.124
2065/66(2008/09)	253/-	5/-	-0.8308	-1.3656	1.86486
2066/67(2009/10)	193/-	6/-	-0.2134	-0.748216	0.5598
2067/68 (2010/11	119/-	0.36/-	-0.38115	-0.916366	0.8397
2068/69 (2011/12	96	0	-0.19327	-0.728086	0.5301
TOTAL			4.5827		19.22

We have,

Expected Return, E(r) = $\frac{R}{n} = \frac{4.58198}{6}$ =0.7637=76.37%

Standard Deviation(□)= $\sqrt{\frac{[R\,Z E(r)]^2}{n\,Z1}} = \sqrt{\frac{19.22}{6-1}}$=1.96

Coefficient of Variation (C.V) = $\frac{\pm}{E(r)} = \frac{1.960}{0.7637}$ = 2.56

Rate of returns (Trend Value) for each year are calculated on the basis of rate of return on common stock of SDBL respective year by using least square method as follows.

Table No. 4.3

Time series analysis of SDBL

FY	Rate of Return (Y)	Deviation from (FY 2006/07 (X)	XY	X^2	Trend Value (Y_c)
2064/65 (2007/08)	4.2931	-2	-8.5862	4	2.2394
2065/66 (2008/09)	-0.8308	-1	0.8308	1	1.387146
2066/67 (2009/10)	-0.2134	0	0	0	0.53486
2067/68 (2010/11)	-0.3815	1	-0.3815	1	-0.3317
2068/69(2011/12)	-0.1932	2		4	-1.1698
2069/70 (2012/13)	-	3			-2.02217
2070/71 (2013/14)	-	4			-2.87450
2071/72 (2014/15)	-	5			-3.726834
	∑y= 2.67408	**∑x =0**	**∑XY = -8.5233**	**$\sum X^2$= 10**	

We have,

The equation of trend line is $Y_c = a + bx$

As, $\sum x = 0$, $a = \frac{y}{n} = \frac{5.2568}{5} = 1.0514$

$$b = \frac{xy}{x^2} = \frac{-3.1521}{10} = -0.3152$$

Here,

Trend line Yc = 0.534816 + (-0.85233) x

When, x = -2, Yc = 0.534816 + (-0.85233) x (-2) = 2.2394

When, x = -1, Yc = 0.534816 + (-0.85233) x (-1) = 1.3874

When, x = 0, Yc = 0.534816 + (-0.85233) x 0 = 0.534816

When, x = 1, Yc = 0.534816 + (-0.85233) x 1 = -0.3317514

When, x = 2, Yc =0.534816 + (-0.85233) x 2 = -1.169844

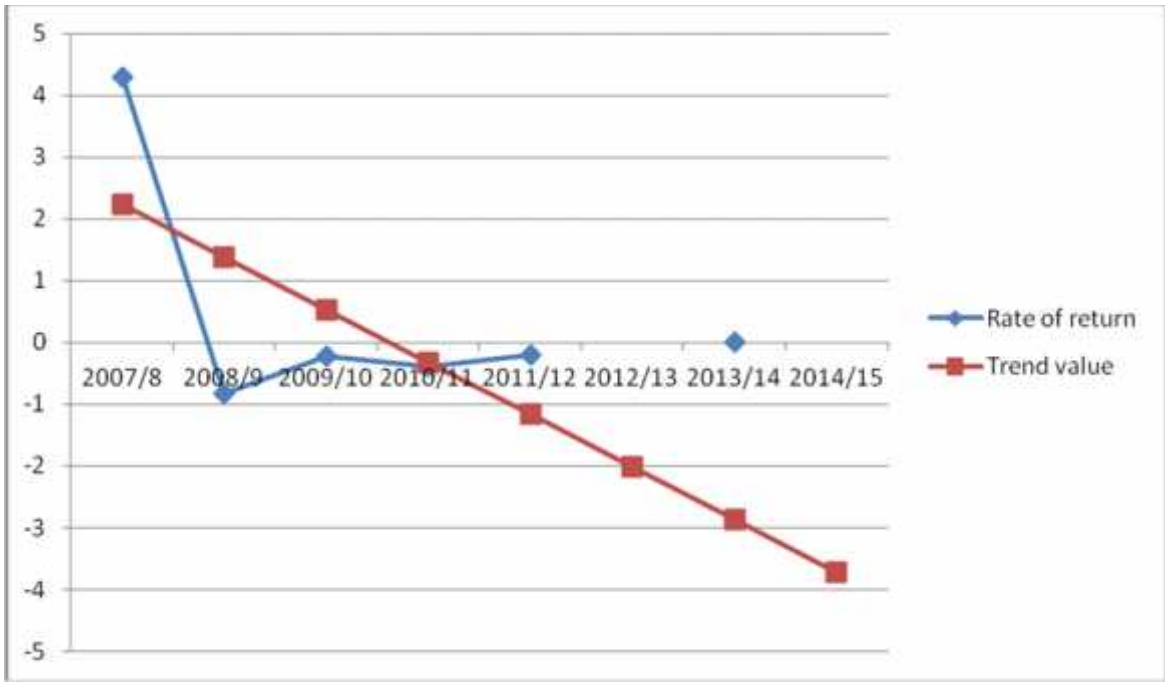
When, x = 3, Yc = 0.534816 + (-0.85233) x 3 = -2.022174

When, x = 4, Yc = 0.534816 + (-0.85233) x 4 = -2.874504

When, x = 5, Yc =0.534816 + (-0.85233) x 5 = -3.726834

Diagram 4.2

Movement of Stocks Rate of return and Trend Line of SDBL



The above diagram shows the movement of common stock of SDBL in rate of return (R) and trend line. In the beginning (FY 2007/08) Rate of Return is 4.2931, then it start to decrease at high rate throughout the 2008/09 to 2011/12 with minimum negative value of (-0.1932) in FY 2011/12. Similarly the trend value is high in FY 2007/08 (i.e. 2.2394) and takes downward movement and reaches to the lowest point in FY 2014/15 (i.e. -3.726834)

4.1.2 Ace Development Bank Limited (ACEDBL)

Ace Development Bank Ltd has been a leading player in the financial market of Nepal. It was founded in august 1995 as Ace Finance Company Ltd. at Narayanchaur, Kathmandu as a Head office and was upgraded to Ace Development Bank Ltd. a full fledge category "B" Development Bank in 2007/08/15. And it has 13 branches in different cities. And Bank's authorized capital, issued capital and paid up capital is Rs. 1000,000,000 Rs. 750,464,000 and RS. 750,464,000 respectively.

Following table 4.4 represents the market price and dividend per share of ACEDBL for the purpose of risk and return analysis.

Table No.: 4.4

MPS and DPS of Ace Development Bank Ltd.

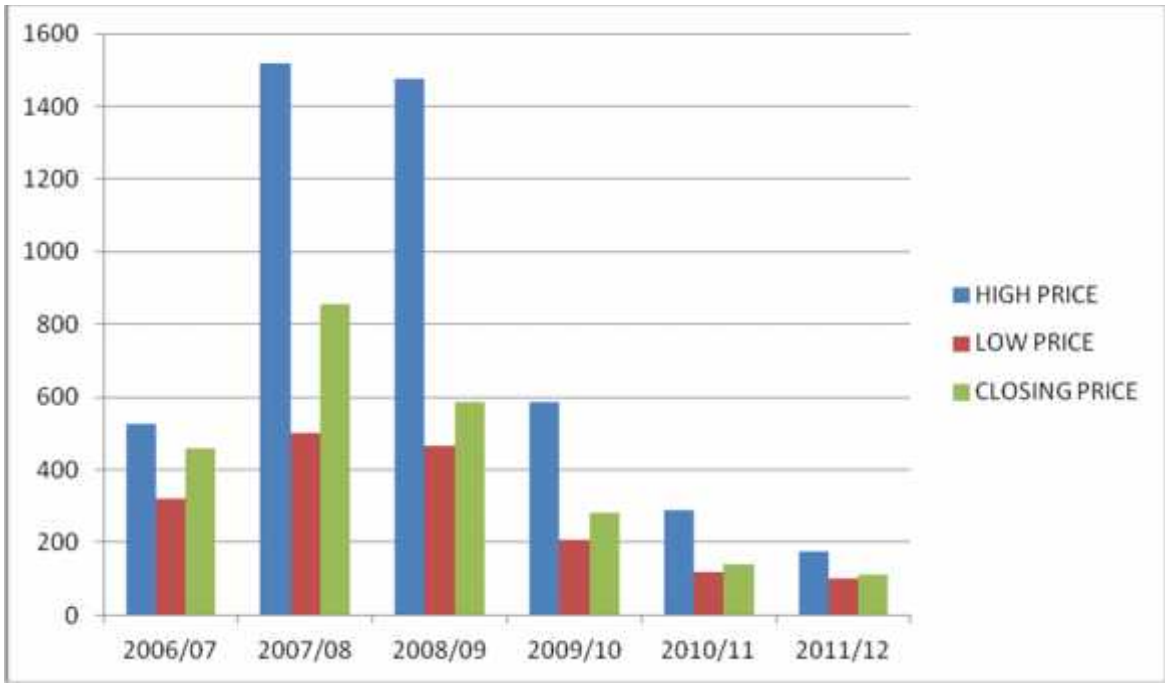
Fiscal Year	Market Price Per Share			Cash Dividend Per Share (Rs)
	High (Rs)	Low (Rs)	Closing (Rs)	
2063/64(2006/07)	525/-	320/-	459/-	5.26/-
2064/65 (2007/08)	1519/-	500/-	856/-	10.53/-
2065/66 (2008/09)	1476/-	465/-	588/-	5.5/-
2066/67(2009/10)	585/-	206/-	280/-	8.5/-
2067/68 (2010/11)	290/-	117/-	141/-	6.3/-
2068/69 (2011/12)	175/-	100/-	113/-	0/-

Data Source: Annual Trade Report of NEPSE

Closing price is maximum in Fiscal year 2064/65 (2007/08) and minimum in Fiscal year 2068/69(2011/012) and dividend means cash dividend only ignoring bonus share & right share.

Diagram 4.3

Market Price of Share and Dividend per Share of ACEDBL



Closing price is maximum in Fiscal year 2064/65 (2007/08) and minimum in Fiscal year 2068/69(2011/12)

) Rate of Return, Expected Rate of Return, Standard Deviation, Coefficient of Variation and Trend Line of Rate of Return of ACEDBL

Closing price and cash dividend amounts are used to calculate realized rate of return for each year. Table 4.5 shows the calculation of yearly-realized return, expected return, standard deviation and coefficient of variation of returns.

Table No. 4.5

Rate of Returns, Expected Return, SD and C.V. of the

Common Stock of ACEDBL

FY	Closing Price (P)	Dividend (D)	$R \text{ X} \frac{D_t \Gamma (Pt \text{ Z } p_{tZ1})}{P_{tZ1}}$	[R-E(R)]	$[R\text{-}E(R)]^2$
2063/64(2006/07)	459/-	5.26/-	0.3655	0.4	0.16
2064/65 (2007/08)	856/-	10.53/-	0.8879	0.927	0.8593
2065/66 (2008/09)	588/-	5.5/-	-0.3066	-0.2674	0.07150
2066/67 (2009/10)	280/-	8.5/-	-0.5093	-0.4701	0.2209
2067/68 (2010/11)	141/-	6.3/-	-0.4739	-0.43474	0.1889
2068/69 (2011/12)	113/-	0/-	-0.19858	-0.15942	0.025414
Total			**-0.23498**		**1.5260147**

We have,

Expected Return, $E(r) = \frac{R}{n} \text{ X } \frac{-0.23498}{6} = -0.03916 = -3.9163\%$

Standard Deviation ($\exists$) $= \sqrt{\frac{[R \text{ Z } E(r)^2}{n \text{ Z } 1}} = \sqrt{\frac{1.5260147}{6-1}} = 1.3231$

Coefficient of Various (C.V) $= \frac{\pm}{E(r)} = -\frac{0.55245}{0.03916} = -14.10$

Expected rate of return (Trend Value) for each year are calculate on the basis of rate of return on common stock of ACEDBL respective year by using least square method as follows in Table No.4.6

Table No. 4.6

ANALYSIS OF TIME SERIES of ACEDBL

FY	Rate of Return (Y)	Deviation from (FY 2009/10 (X)	XY	X^2	Trend Value (Yc)
2064/65 (2007/08)	0.8879	-2	1.7758	4	-0.289176
2065/66 (2008/09)	-0.3066	-1	0.3066	1	-0.168086
2066/67 (2009/10)	-0.5093	0	0	0	-0.046996
2067/68 (2010/11)	-0.4739	1	-0.4739	1	0.074094
2068/69(2011/12)	-0.19858	2	-0.3976	4	0.195184
2069/70 (2012/13)		3			0.316274
2070/71 (2013/14)		4			0.437364
2071/72 (2014/15)		5			0.558454
TOTAL	**∑y= -0.23498**	**∑x =0**	**∑XY = 1.2109**	**$\sum X^2$=10**	

We have,

The equation of trend line is $Y_c = a + bx$

As, $\sum x = 0$, $a = \frac{y}{n} = \frac{-0.2349}{5} = -0.046996$

$b = \frac{xy}{x^2} = \frac{1.2109}{10} = 0.12109$

Here,

Trend line Yc = -0.046996 + (0.12109) x

When, x = -2, Yc =-0.046996 + (0.12109) × (-2) = -0.289176

When, x = -1, Yc = -0.046996 + (0.12109) × (-1) = -0.168086

When, x = 0, Yc = -0.046996+ (0.12109) × 0 = -0.046996

When, x = 1, Yc = -0.046996 + (0.12109) × 1 = 0.074094

When, x = 2, Yc = -0.046996 + (0.12109) × 2 = 0.195184

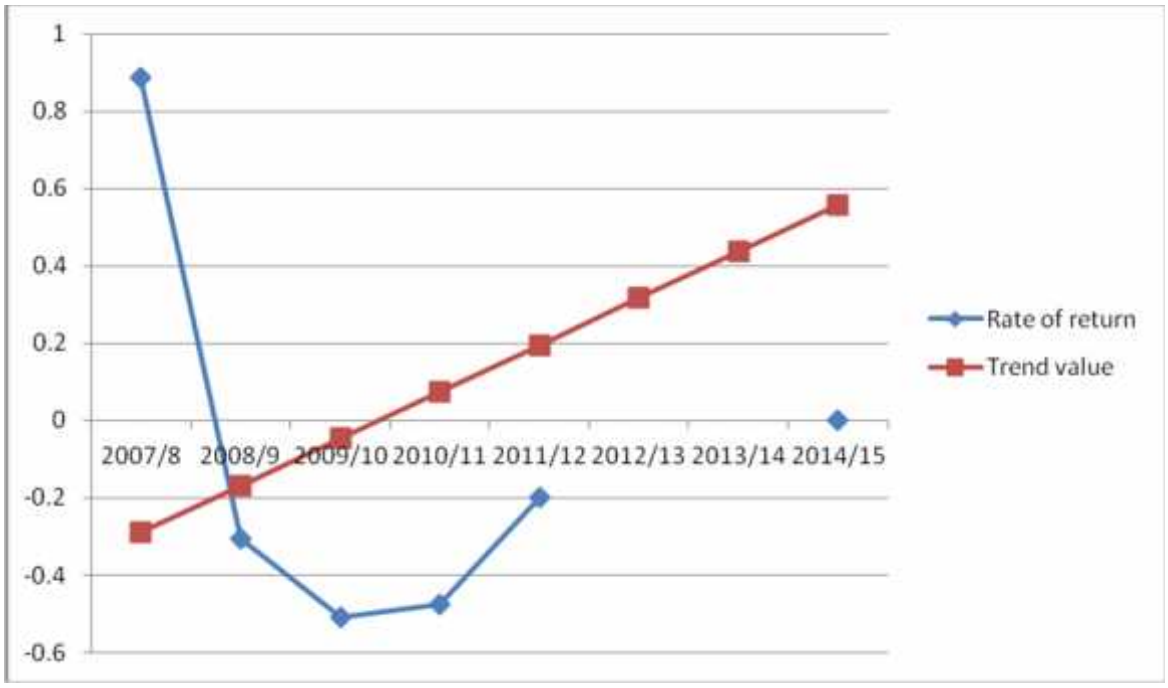
When, x =3, Yc = -0.046996 + (0.12109) × 3 = 0.316274

When, x =4, Yc =-0.046996 + (0.12109) × 4 = 0.437364

When, x =5, Yc = -0.046996 + (0.12109) × 5 = 0.558454

Diagram: 4.4

Movement of Stocks Rate of Return and Trend Line of ACEDBL



The above diagram shows the movement of common stock of ACEDBL in rate of return (R) and trend line. In the beginning (FY 2007/08) Rate of Return is 0.8879, then it decreases at high rate and reaches to the negative point in FY 2008/09 (i.e. -0.3066) after that it kept going with negative point throughout 2008/09 to 2011/12. Similarly the trend value is high in FY 2014/15 (i.e. 0.5584) and minimum in FY 2007/08.However,trend values gradually increases from FY 2010/11 to 2014/15 which is good signal for coming year.

4.2 Inter Bank Comparison

4.2.1 One the basis of Risk and Return Analysis

After analyzing the expected returns, standard deviation of returns, coefficient of variation of each bank for the FY 2006/07 to FY 2011/12 results are given in the following table 4.7.

Table No. 4.7

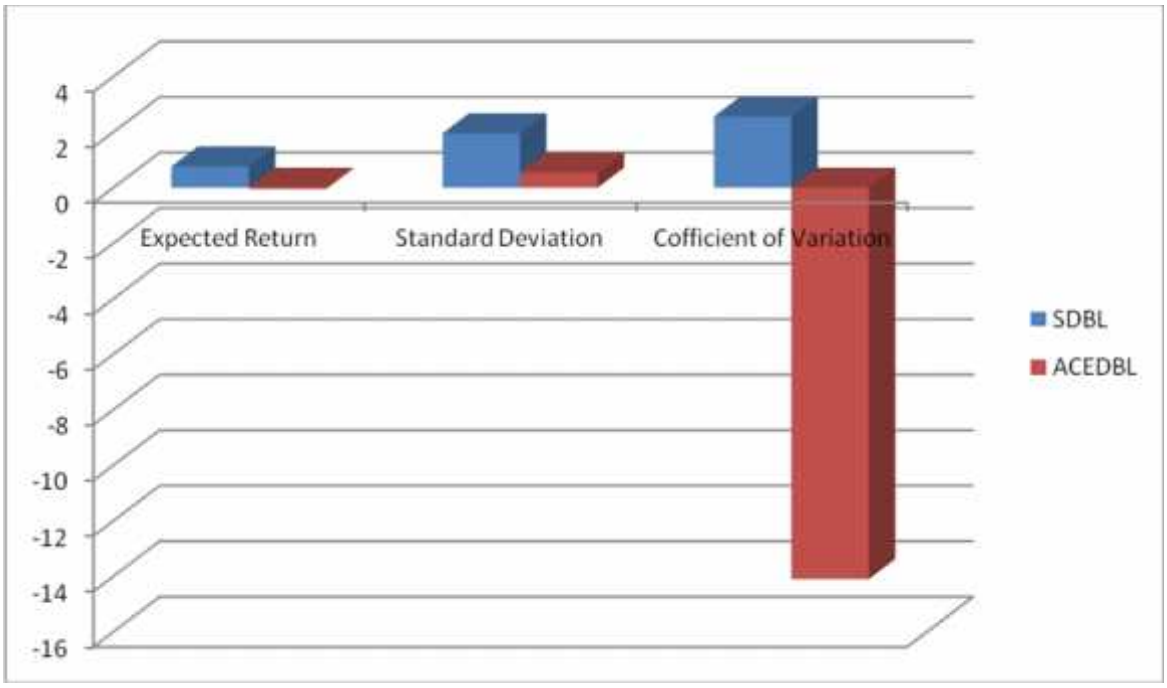
Expected return, Standard Deviation and CV of Sample Banks

S.N.	Sample Banks	Expected Return E(r)`	Standard Deviation (∃)	Coefficient of Variation (C.V.)	Remark		
					E (r)	∃	C.V.
1	SDBL	0.7637	1.960	2.56	Highest	Highest	Highest
2	ACEDBL	-0.03916	0.55245	-14.1	Lowest	Lowest	Lowest

The table shows that investors can get the highest return for investment in common stock of Siddhartha Development Bank Limited and lowest return from investment in common stock of Ace Development Bank Limited. Siddhartha Development Bank Limited has the highest and Ace Development Bank Limited has the lowest standard deviation. But coefficient of variation is best way to make investment decision in common stock when two or more investment opportunities have different return and different risk. Coefficient of variation measures the risk per unit. Siddhartha Development Bank limited has highest and Ace Development Limited has negative C.V(ie .negative CV does not give any meaning). To earn one unit of return, an investor have to bear 2.56 unit of risk by investing Siddhartha Development Bank Limited. To make the comparison easily understandable diagram 4.5 is presented below.

Diagram No. 4.5

Expected Return, Standard Deviation and CV of Sample Banks



4.2.2 On the Basis of Market Capitalization

Market Capitalization of Sample Development Bank at the end of FY 2011/12 are presented below in Table No. 4.8 Market Capitalization is the total market value at specific time period of the company.

Table No. 4.8

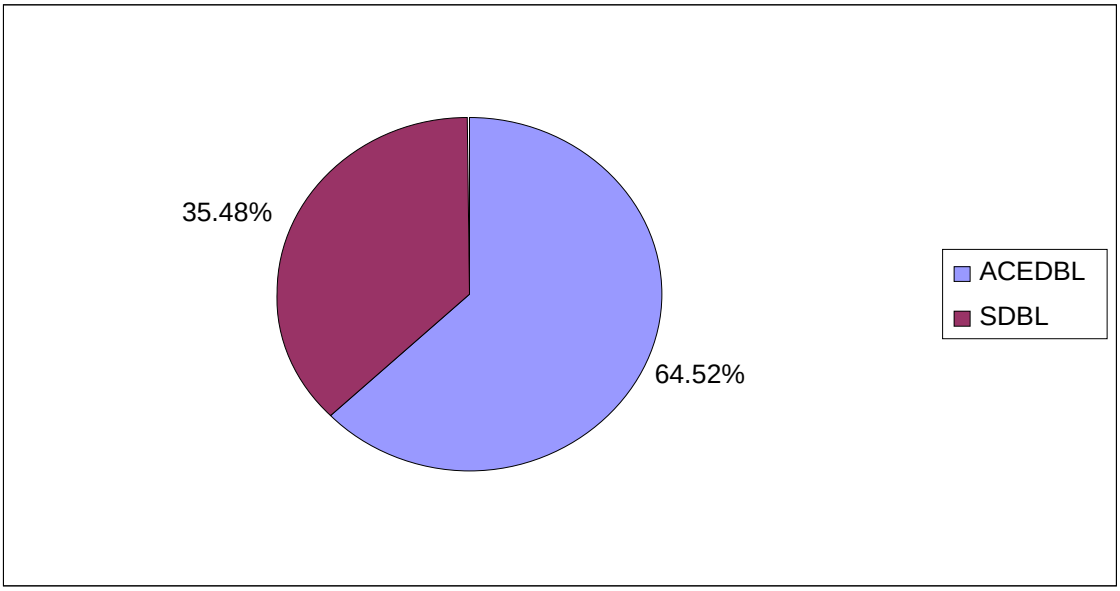
Market Capitalization of Selected Banks at 15th, July 2012

S.N.	Sample Bank	Market Capitalization (In Million) (Rs.)	Percentage
1	SDBL	625.650	35.48%
2	ACEDBL	1137.97	64.53%
	Total	**1763.362**	**100%**

Data Sources: NEPSE Index.

Diagram 4.6

Market Capitalization of Selected Banks



The comparison is made on the movement of market capitalization. Here only Two development banks are taken into consideration as their data covers the entire study period. On the basis of market capitalization ACEDBL is the biggest (i.e. 64.52%) and the SDBL is the smallest (i.e. 35.48%) sample banks.

Table 4.9

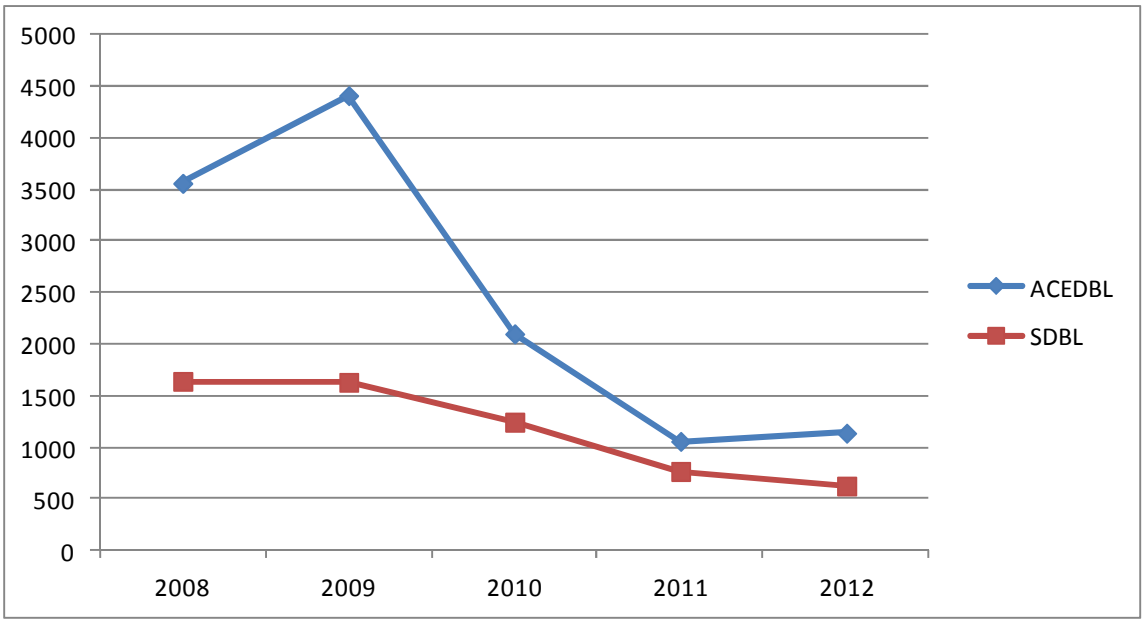
Year wise comparative movement of market capitalization (in Million)

Year → Banks ↓	**15 July 2008 (Rs.)**	**15 July 2009 (Rs.)**	**15 July 2010 (Rs.)**	**15 July 2011 (Rs.)**	**15 July 2012(Rs.)**
SDBL	1640.48	1631.85	1244.85	767.55	625.650
ACEDBL	3560.96	4412.7	2101.29	1058.15	1137.97

Source : Annual Report of NEPSE

Diagram 4.7

Year wise comparative movement of Market Capitalization(In million)



4.3 Analysis of market risk And Return

In Nepal this is only one stock market, namely Nepal Stock Exchange. Overall market movement is represented by NEPSE index. To calculate annual return, expected return on market, market standard deviation and coefficient of variation of overall market is presented below in table 4.10.

Table No. 4.10

Rate of Return, Expected Return, S.D. and C.V. of Market

FY	NEPSE Index (NI)	$Rm\ X\frac{NI_t\ Z\ NI_{tZ1}}{NI_{tZ1}}$	$[R_m\text{-}E(R_m)]$	$[R_m\text{-}E(R_m)]^2$
2005/06	386.83	-	-	-
2006/07	683.95	0.7681	0.68306	0.46657
2007/08	963.36	0.4085	0.47708	0.10458
2008/09	749.1	-0.2224	-0.15382	0.09449
2009/10	477.73	-0.3627	-0.29412	0.20
2010/11	362.85	-0.2404	-0.17350	0.1059
2011/12	389.74	0.07410	0.14268	0.000119
TOTAL		0.4252		0.97165

Data Source: Annual Report of NEPSE .

We have,

Expected Return, $E(R_m) = \frac{R_m}{N} = \frac{0.4252}{6}$

$= 0.07086$

Standard Deviation($\exists$m)$= \sqrt{\frac{[R_m \; Z E(R_m)]^2}{n \; Z1}}$ $= \sqrt{\frac{0.9708}{6-1}} = 0.4406$

Coefficient of Variation (C.V.) $= \frac{\pm_m}{E(R_m)}$

$= \frac{0.4406}{0.07086} = 6.21$

Expected rate of returns (Trend value) for each year are calculated on the return on the market index respective year by using least square method.

Table 4.11

Time series analysis of NEPSE Index

FY	Rate of Return (Y)	Deviation from (FY2009/10)(X)	XY	X^2	Trend Value (Y_c)
2006/07	0.7681	-3	-2.3043	9	0.54306
2007/08	0.4085	-2	-0.817	4	0.38566
2008/09	-0.2224	-1	0.2224	1	0.2282
2009/10	-0.3627	0	0	0	0.07086
2010/11	-0.2404	1	-0.2404	1	-0.08654
2011/12	0.07410	2	0.1482	4	-0.2439
2012/13	-	3			-0.40134
2013/14	-	4			-0.55874
2014/15	-	5			-0.7161
TOTAL	0.4252		-2.991	19	

We have,

The equation of trend line is Yc = a + bx

Here,

As, $\sum x = 0$, a $= \frac{y}{n} = \frac{0.4252}{6} = 0.07086$

b $= \frac{xy}{x^2} = \frac{-2.9911}{19} = -0.1574$

Trend line Yc = a + bx

= 0.07086 + (-0.1574) × X

When ,x =-3, Yc = 0.07086 + (-0.1574 x -3) = 0.54306

When, x = -2, Yc = 0.07086 + (-0.1574) × (-2) = 0.38566

When, x = -1,Yc= 0.07086 + (-0.1574) ×(-1) = 0.2282

When, x = 0,Yc= 0.07086 + (-0.1574) ×(0) = 0.07086

When, x = 1,Yc= 0.07086 + (-0.1574) ×1 = -0.08654

When, x = 2,Yc= ,0.07086 + (-0.1574) ×2 = -0.2439

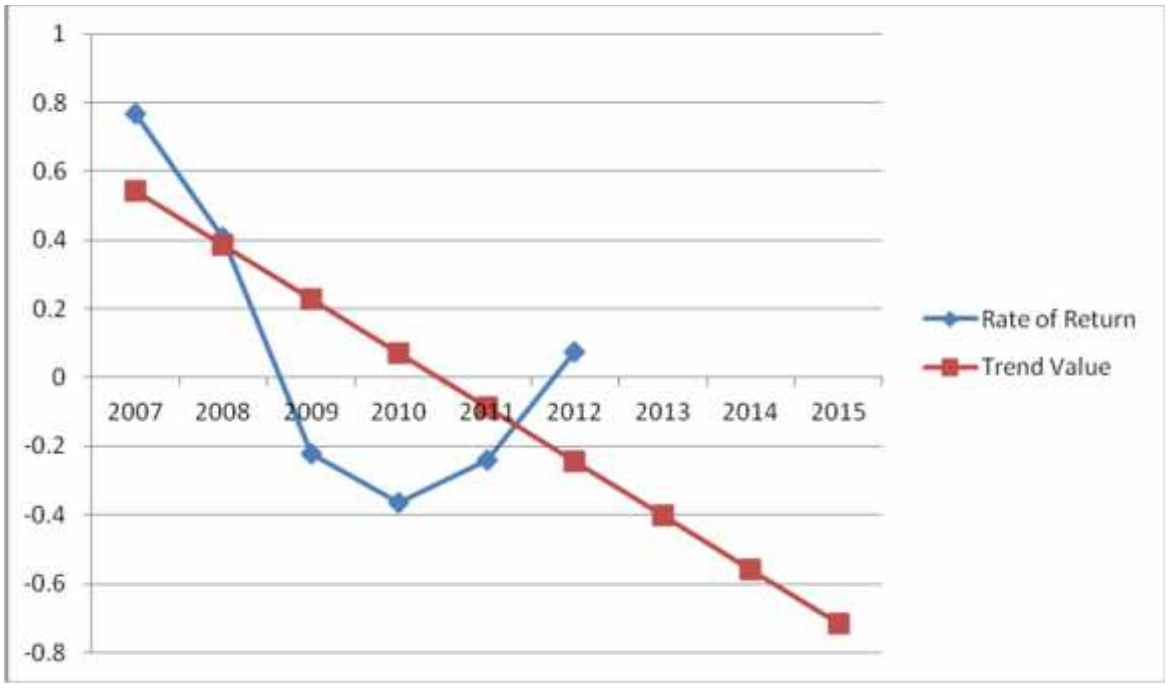
When, x = 3, Yc=, 0.07086 + (-0.1574) ×3 = -0.40134

When, x = 4, Yc=, 0.07086 + (-0.1574) ×4 = -0.55874

When, x = 5, Yc = , 0.07086 + (-0.1574) ×5 = -0.7161

Diagram: 4.8

Movement of Market Rate of Return and Trend Line of Market Return



The diagram 4.8 shows the movement of rate of returns and trend line of market. In the beginning FY 2006/07, Rate of Return of market is 0.7681 and it start to go down and reaches to 0.4085 in following year (ie FY 2007/08). Finally,it reaches to -0.2224 in FY 2008/09. Rate of return of market goes with negative figure through out 2009/10 and2010/11.In year 2011/12,market catched its lowest positive rate of return(0.07410) after long time period of pessimistic situation. Trend Value is negative since FY 2009/10.

4.4 Comparison of Sample Banks with Market

4.4.1 Siddhartha Development Bank Limited (SDBL)

Table No.4.12

Summary of Risk and Return for SDBL and Market

Statistics	SDBL	Market
Expected Return, E(R)	0.7637	0.07086
Variance ($\exists^2$)	3.8416	0.19412
Standard Deviation $\exists$)	1.960	0.4406
Coefficient of Variation (C.V.)	2.56	6.21
Systematic risk ($ß^2 \exists^2 m$)	2.21	.-
Unsystematic risk (e^2)	1.6316	-
Beta (ß) = Index of Systematic risk	3.38	1
Alpha (|ℑ) = Intercept	0.524	
Correlation with market (p_{jm})	0.76	
Proportion of Systematic Risk (∂^2)	0.5776	
Proportion of unsystematic risk (1- ∂^2)	0.4224	

Source: Appendix-II

Expected return of SDBL is higher than the market return. (i.e. 0.7637>-0.07086). Standard deviation of SDBL is higher than the market standard deviation (1.960>0.4406), which means SDBL return is high riskier than the market return on common stock.

Coefficient of variation is better measure of risk because it measures per unit risk. C.V. of SDBL'S is less than market (i.e.2.56 < 6.21) which means common stock of SDBL has lower risk per unit return than the market return.

Beta Coefficient of SDBL'S 3.38, based on the yearly returns during FY 2006/07 to 20011/12. A beta of 3.38 (1< ℘) means that return of SDBL'S more volatile than the market return so it is called a aggressive assets.

The intercept or ℑ is 0.524. It shows the return of nominal Risk free rate of SDBL when market return is zero. Expected return of SDBL according to CAPM model is -100**%.**

$$R_S = R_{f+}(R_M - R_f)\wp$$

= 0.524 + 3.38 × (0.07086-0.524)

= -1

= -100 %

Risk free rate plus risk premium (ie. Required rate of return) is in Negative which means current price of the stock is too high in the market relative to risk expose. The SDBL's stock is earning high risk free rate of return than market return. So it is under-priced stock in the market. The correlation with market is 0.76. The positive correlation indicates that the market return goes down; return of SDBL return also move down ward or direction of return of both the market and SDBL will be the same whether it is down ward or up ward. The coefficient of determination or proportion of systematic risk is 0.5776. It indicates that the percentage of the variance of SDBL'S return explained by the change in the market returns. It is called the systematic (Market) risk and therefore, it is un-diversifiable.

The 0.4224 ($1-\partial^2$) residual variances is specific risk of the firm. It is called unsystematic risk and it is diversifiable. It can be minimized through improving efficiency and productivity of management and managerial activities within the organization. SDBL have lot of field for internal improvement to reduce the existing Risk from the existing Return. The values of systematic risk and unsystematic risk are shown in above table.

4.4.2 Ace Development Bank Limited (ACEDBL)

Table 4.13

Summary of Risk and Return for ACEDBL and Market

Statistics	ACEDBL	**Market**
Expected Return, E(R)	-0.0391	0.07086
Variance (∂^2)	0.3052	0.1941
Standard Deviation (∃)	0.5524	0.4406
Coefficient of Variation (C.V.)	-14.10	6.21
Systematic risk ($ß^2 \exists^2 m$)	0.2111	.-
Unsystematic risk (e^2)	0.0940	-
Beta (ß) = Index of Systematic risk	1.0431	1
Alpha (ℑ) = Intercept	-0.1130	
Correlation with market (p)	0.8320	
Proportion of Systematic Risk (∂^2)	0.6929	
Proportion of unsystematic risk (1- (∂^2)	0.3071	

Source: Appendix-II

ACEDBL'S common stocks has the negative expected return (-0.03916) which is less than market return. ACEDBL'S common stocks standard deviation is higher than the market standard deviation (i.e. 0.55245> 0.4406)

Coefficient of Variation is better measure of risk because it measures per unit risk. But C.V of ACEDBL is in negative that means no meaning of ratio. Beta coefficient of ACEDBL is (1.5188) based on the yearly returns during FY 2006/07 to 2011/12. A beta of 1.043 (1 < ℘) means that ACEDBL'S return is more volatile than the market return so it is called a aggressive asset.

The intercept or ℑ is -0.11307. It shows that the ACEDBL'S nominal Risk- free return is negative when market return is zero. Expected return of ACEDBL'S is 7.87%. Calculation of expected return of ACEDBL is given below.

$R_A = R_{f+}(R_M - R_f)\beta$

= -0.1130 + 1.043× [0.07086-(- 0.1130)]

= 0.07876

= 7.87 %

Risk free rate plus risk premium (ie. Required rate of return) is more than expected return which means current price of the stock is Over-Valued in the market relative to risk expose. The correlation with market is 0.8320. The positive correlation indicates that the market (NEPSE) return goes down; return of ACEDBL also goes down or direction of return of both the market and ACEDBL will be the same whether it is down ward or up ward. . The coefficient of determination or proportion of systematic risk is 0.6939. It indicates the percentage of the variance of ACEDBL'S return explained by the change in the market return. So, it is called the systematic (Market) risk and therefore, it is un-diversifiable.

The 0.3068 (1 - ∂^2) residual variance is specific risk of the firm. It is called unsystematic risks and it is diversifiable. The value of systematic risk and unsystematic risk are shown above table no. 4.13.

4.5 Correlation between Banks

The correlation coefficient always lies between + 1 and -1. Returns of securities are very perfectly together when the correlation coefficient is +1 and in perfectly opposite direction when it is -1. A zero correlation coefficient implies that there is no relationship between the returns of securities. Correlation between the returns of the two securities plays a significant role in risk reduction by portfolio construction. The table no. 4.14 presented below shows the various consolations between each sample banks.

Table no. 4.14

Correlation Matrix of Risk-Return

Sample	ACEDBL	SDBL
SDBL	0.9720	1
ACEDBL	1	0.9720

Source: Appendix- **III**

Above table no. 4.14 shows that correlation between selected banks stocks. There is positive correlation between banks. If correlation between stocks is +1, any part of risk cannot be reduced by diversification. On the other hand, if correlations between stocks are -1, the proper combination of two stocks can reduces all the risk. So in conclusion it can be said that as long as correlation between securities return is positive, construction of portfolio is not much as much beneficial as in negative correlation. But here interbank correlation is 0.9720 so we cannot reduce risk from the portfolio construction because inter Bank Risk-Return correlation is near to 1 which means existence of perfect correlation.

4.6 Portfolio Analysis

The portfolio is the holding of securities and investment in financial assets i.e. bond, stock. A portfolio is a combination of investment assets. Portfolio management is related to efficient portfolio investment in financial assets. If portfolio is being constructed they can reduce unsystematic risk without losing considerable return. The portfolio analysis is performed to develop a portfolio that has the maximum return at whatever level of risk an investor thinks appropriate. Therefore, we need to extend our analysis risk and return to portfolio context.

The expected return on a portfolio is simply the weighted average of the expected returns on the individual assets in the portfolio with the weight being the fraction of the total portfolio invested in each asset. The weights are equal to the proportion of

total funds invested in each security (the sum of weight must be 1 to 100%). The analysis is based on two assets portfolio and the tools for analysis are presented in the chapter, research methodology.

Portfolio formation is the process of minimizing the risk of investment without hampering the return .As we know; portfolio between negative correlated securities is helpful to reduce the risk of investment. In our study between the two stock shows the positive correlation (0.9720 of ACEDBL and SDBL) which means formation of portfolio cannot reduce the risk. Calculation of correlation is presented in table no. 4.15 where ACEDBL is symbolized as A and SDBL is as S.

Table 4.15

Portfolio Analysis

Year	R_S-E(R_S) (SDBL)	R_A - E(R_A) (ACEDBL)	[R_A- E(R_A)] [R_S -E(R_S)]
2006/07	1.1443	0.4046	0.4629
2007/08	3.52	0.9270	3.26304
2008/09	-1.5944	-0.26774	0.42688
2009/10	-0.977	-0.47014	0.45932
2010/11	-1.14515	-0.43474	0.49784
2011/12	-0.9568	-0.15942	0.15253
			[R_A - E(R_A)][R_B -E(R_B)] = 5.26251

Cov_{AS} = $\sum$ [R_A - E(R_A)][R_S -E(R_S)] /6-1 = 1.05250

$\exists_A$ = 0.55245

$\exists_S$ = 1.960

$\partial = \frac{COV_{AS}}{\sigma_A \sigma_S} = \frac{1.05250}{0.55245 \times 1.960} = 0.972015$

Formula of optimal risky portfolio is given below:

$$W_A \text{ X} \frac{\pm_S^2 \text{ Z} COV_{A,S}}{\pm_A^2 \Gamma \pm_S^2 \text{ Z} 2COV_{A,S}}$$

Where,

W_A = Optimal weight to invest in stock of ACEDBL,

W_S = Optimal weight to invest in stock of SDBL

$\pm_A^2$ =Variance of ACEDBL

$\pm_S^2$ =Variance of SDBL

$COV_{A,S}$ = co-variance between ACEDBL and SDBL of Risk-Return.

$$W_A = \frac{1.96^2 \text{ Z} 1.05250}{0.5524^2 \Gamma 1.96^2 \text{ Z} 2 \mid 1.05250}$$

$$= \frac{2.7891}{2.04}$$

$$= 1.36$$

$W_B = 1 - W_A$

$= 1 - 1.36$

$= - 0.36$

Since, More than 100% of fund cannot be invested in ACEDBL'S Stock, the risk minimizing proportion consist of 100% of stock 'A' and no investment of stock SDBL, which means risk will be the same as single investment in ACEDBL (risk of portfolio will be 0.5524 which is equal to risk of ACEDBL)

4.7 Major Findings

The study made on risk return analysis of development banks, based on 2006/07 to 2011/12 and major findings are presented below.

1. Expected return is highest in SDBL and lowest in ACEDBL.
2. To invest in SDBL Bank is most risky and in ACEDBL is least risky according to Standard Deviation.
3. Per unit risk is lowest in SDBL than market.

4. The trend of return of ACE development Bank is found in decreasing order and seems to be increased from FY 2010/11 but trend of return of SDBL keeps decreasing continuously.
5. Both of the banks have the positive co-relation with market in their return .
6. Conducting the portfolio analysis between two sets of development banks having highest positive correlation is not as much expected beneficial so Portfolio combination of the ACEDBL and SDBL is found not helping to minimize the risk of investment.
7. Higher the specific risk of both Bank's shows that there is lot of chances to reduce risk with improvement within organization.
8. ACEDBL has the biggest market capitalization and has started to recover its continuously falling figure since 2009, in 2012. But SDBL is suffering from same condition regarding market capitalization since 2008.
9. Both Banks are having higher Beta Coefficient than Market Beta(i.e aggressive Stock)
10. According to CAPM, SDBL is under-priced stock and ACEDBL is over priced Stock.
11. Trend line of return of market keeps going down since 2010/11 but ACEDBL trend line of return maintains its positive figure from the FY 2010/11 ahead.

CHAPTER-V
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Common stock is a source of capital which is considered to be riskier and lifeblood of stock market. Therefore, investment in common stock is very sensitive on the ground of its uncertainty nature. Dividends to common stockholders are only paid if the firm makes profit after tax and preference shareholders dividend. The company can return the principal incase of its liquidation only to the extend of the residual assets after satisfying to all its debt holder and preference shareholders. Besides this, the investors have to sacrifice the return on their investment in common stock which would be earned investing elsewhere. Risk and return is getting considerable attention in financial management. The central focus of finance is trade off between risk and return. Development in the field of finance has led to the application of many new concepts and models to deal with various related to financial management.

The relationship between risk & return is described by investor's attitude about risk and their demand for compensation. No investor will like to invest risky asset unless he is assured of adequate compensation for the acceptance of risk. Hence, they invest in those opportunities which have certain degree of risk associated with it. Therefore, risk plays a vital role in the analysis of investment. It can be said that the rate of return on investment is a function of many factors including the real cost of money, inflation risk, fair business environment, fiscal and monetary policy of government etc. The investors willingly offer more capital at higher rate of return, whereas users of capital always show their readiness to use more capital of lower rate.

The main objective of the study is to analyze the risk and return of development banks. Up to 2012 only sixty one development banks are listed in NEPSE out of which two listed bank [Ace development bank ltd. (ACEDBL) and Siddhartha

development bank (SDBL)] are taken as reference to analyze the risk and return. The specific as follows.

1. To evaluate risk and return on common stock investment of development banks.
2. To see the trend of rate of return of development banks.
3. To analyze the correlation among the returns of development banks.
4. To analyze comparative risk and return position of this sector.

The major limitation of this research is, the generalization of the finding may not be appropriate in every condition and situation.

This research mainly review the related theories about this matter on Books such as 'Investment Management' of Bhatta, 'Financial Management and Policies' of Van Horn James & wachowizeh, Journals such as 'The Performance of Hedge funds Risk Returns & Incentives, 'The Theoretical Relationship between Systematic Risk & Financial Variables and Thesis such as 'Assessment of the Performance of the Listed Companies in Nepal' of Bhatta (1995), 'Risk and Return Analysis of Common Stock Investment' of Pandey (2000), 'A Case Study on Risk and Return Analysis of Common Stock Investment' of Kanshakar (2004) etc.

This research mainly uses the secondary data of two development banks from their respective annual reports, annual trade report of Nepal Stock Exchange from its website www. nepal stock.com.np, Security Board of Nepal from its website www.sebon.com.np, and Nepal Rastra Banks report from it's website www. nrb. org. np. and other interviews with related persons.

Those collected data were analyzed by calculating individually.

1. Return on Common Stock
2. Expected rate of return on common stock
3. Return on Market

4. Expected return on market
5. Standard Deviation
6. Coefficient of variation.
7. B. coefficient
8. Correlation Coefficient
9. Portfolio standard deviation.

From the above calculation, summary of the risk and return in presented below on the table

Table 5.1

Summary of Risk and Return for Sample

Statistic	ACEDBL	SDBL
E(R)	-0.03916	0.7637
$\exists$	0.55245	1.960
$\exists^2$	0.30520	3.8416
C.V.	-14.10	2.56
$\|\wp^2\exists_m{}^2$	0.2111	2.21
e^2	0.09342	1.6316
$\wp$	1.043	3.38
$\Im$	-0.1130	0.524
∂	0.8320	0.76
∂^2	0.6929	0.5776
$1-\partial^2$	0.3061	0.4224

The study made on risk return analysis of common stocks of listed development banks is based on secondary data from fiscal year 2006/07 to fiscal year 2011/12 In this study, expected rate of return of SDBL'S stock is highest i.e. 76.37% and ACEDBL'S stock has the lowest return i.e. -3.916%. Like wise in terms of standard deviation, SDBL'S has the highest risk i.e. 196% and ACEDBL'S has the lowest risk i.e. 55.245% But, generally standard deviation is not used to determining risk, as

there may be conflict between expected return and standard deviation in case of selecting the best investment. Therefore, the coefficient of variance is considered as the best mechanism to measure the risk. On the basis of C.V. SDBL'S stock seems to be the most risky with 2.56 whereas the least risky stock is of ACEDBL'S i.e.-14.1.

On the other hand, it is found that the required rates of return of SDBL is lower than the expected rate or return. It means Siddharth Development bank's stocks are under priced . Similarly, ACEDBL's stocks are over priced in market because of higher required rate of return than expected return. The study made to analyze the diversifiable and undiversifiable risk, ACEDBL has the lower unsystematic risk in comparison to SDBL. Thus, it is reflected from above study that both the Bank can still reduce its risk by minimizing the unsystematic risk. There is very less chances of reducing risk by construction of portfolio because of positive correlation between selected Banks.

5.2 Conclusion

The study made on risk return analysis of commercial banks, based on 2006/07 to 2011/12 conclusion the following findings.

1. Expected return is highest in SDBL and lowest in ACEDBL.
2. To invest in SDBL Bank is most risky and in ACEDBL is least risky according to Standard Deviation.
3. Per unit risk is lowest in SDBL than market.
4. The trend of return of ACE development Bank is found in decreasing order and seems to be increased from FY 2010/11 but trend of return of SDBL keeps decreasing continuously.
5. Both of the banks have the positive co-relation with market in their return .
6. Conducting the portfolio analysis between two sets of development banks having highest positive correlation is not as much expected beneficial so Portfolio combination of the ACEDBL and SDBL is found not helping to minimize the risk of investment.

5.3 Recommendations

Recommendations are the final output of the whole study. It helps to convey positive information and proper way of improvement to the concerned people and to other interested researcher in the upcoming days. Various analysis have been done till these steps. The following are the recommendations based on the above findings, conclusions and analysis of data.

1. Investors must focus on the risk factors before making an investment if they want to get maximum benefit from the investment. The coefficient of variation is considered the best tool for relative measurement of risk. On the basis of C.V, it is proved that SDBL's stock is the riskiest one for the investment i.e.2.56 whereas the ACEDBL's stock C.V is in negative that does not give any meaning. So SDBL'S C.V is comparatively lower than market. So Hence it is recommended that the stock of SDBL is the best for investment in stock,
2. 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 on that stock. Stock having beta coefficient less than 1 is less risky than the market. Risk averter investor can invest in that type of common stock. So, it is recommended that the investor with risk seeking nature, do investment in both the selected bank's stock because of their highly volatile nature of return than market(ie $\beta > 1$). Risk averter investor will not invest in this stock.
3. The stocks having more systematic risk have high sensitivity as such type of risk cannot be minimized. So, the investors have to consider the adequate compensation for the acceptance of risk. It is clear from the study that both bank's stocks have low proportion of unsystematic risk that can be minimized with the process of internal improvement in various sector of management of bank. Therefore, it is recommended that the investor must be ready to bear high level of systematic risk investing in given stock.

4. The investors have to buy those stocks during the time of under valuation and they have to sell the stocks at the time of overvaluation. It is found from the study that SDBL stock are under priced (as the required rate of return of banks lower than the expected rate of return).So it is recommended to the stock holder to hold the under priced stock until market reach up to the equilibrium position.
5. The investors do not have to invest in portfolio of two selected bank's stock, as the risk cannot be minimized properly. Therefore, the investors have to invest their fund in single stock or wait for until negative correlation between stocks for portfolio investment for minimizing risk.
6. Market risk premium is high for ACEDBL but its capacity to earn risk free return is negative or zero. So, it is recommended that investor must be clever to reap the risk free rate of return from their investment selected field which helps to reduce the risk premium.
7. Increased supply of ACEDBL'S Stock in the market brings the price of stock in decreasing order until market get equilibrium with respect to demand and supply.
8. Political instability, slow economic activities, weak demand of loan from private sector, tough competition within banking industries are the main reason for high systematic risk.(Source: Interaction with concerned person with subject matter).So before doing investment in banking sector, investor must consider Micro and Macro factor of investment.

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APPENDIX- I

Sample Companies Market price per Share (MPS) and Dividend per Share (DPS)

Company Name		Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Siddharth Development Bank Ltd. (SDBL)	M P S	High (Rs)	309/-	1795/-	1996/-	316/-	190/-	128/-
		Low (Rs)	130/-	290/-	240/-	162/-	198/-	73/-
		Closing(Rs)	290/-	1525/-	253/-	193/-	119/-	96/-
	Cash Dividend (Rs)		0.79/-	10/-	5/-	6/-	0.36/-	0/-
Ace Development Bank Limited (ACEDBL)	M P S	High (Rs)	525/-	1519/-	1476/-	585	290/-	175/-
		Low (Rs)	320/-	500/-	465/-	206/-	117/-	100/-
		Closing(Rs)	459/-	856/-	588/-	280/-	141/-	113/-
	Cash Dividend (Rs)		5.26/-	10.53/-	5.5/-	8.5/-	6.3/-	0/-

Source: NEPSE INDEX

APPENDIX- II

Statistical Calculation of Selected Banks

Statistical Calculation of SDBL						
R_S	E(R_S)	Rm	E(Rm)	R_S- E(R_S)	Rm- E(Rm)	[Rm-E(Rm)][R_S-E(R_S)]
1.9079	0.7636	0.7681	0.07086	1.443	0.69724	1
4.2939	0.7636	0.4085	0.07086	3.7582	0.376	1.2687
-0.8308	0.7636	-0.2224	0.07086	-1.3656	-0.29326	0.40
-0.2134	0.7636	-0.3627	0.07086	-0.7482	-0.43356	0.32438
-0.38155	0.7636	-0.2404	0.07086	-0.9163	-0.31126	0.2852
-0.19327	0.7636	0.07410	-0.06858	-0.7280	0.00324	-0.00235
					X|	3.2820
					Cov_{Sm}=(/5-1) =	0.6564
					℘= $Cov_{Sm}/\exists_m^2$ =	3.38
					ℑ = E(R_S)- ℘E(R_m) =	0.524
					℘X	11.42
					$\exists_m$=	0.4406
					Systematic Risk = (℘×$\exists_m^2$) =	2.21
					$\exists_S$ =	1.960
					∂_{jm} = $Cov_{Sm}/\exists_S \times \exists_m$	0.76
					unsystematic Risk = ($\exists_S^2$ - ℘×$\exists_m^2$) =	1.6316
					Portion of Systematic Risk(∂^2) = Systematic Risk/Total Risk =	0.5776
					Portion of Unsystematic Risk = 1- Portion of systematic Risk (1-∂^2) =	0.4224

Statistical Calculation of ACEDBL						
R_A	E(R_A)	Rm	E(Rm)	R_A-E(R_A)	Rm-E(Rm)	[Rm-E(Rm)][R_A - E(R_A)]
0.3655	-0.09916	0.7681	0.07086	0.40466	0.69724	0.2821
0.8879	-0.03916	0.4085	0.07086	0.927	0.33704	0.3124
-0.3066	-0.03916	-0.2224	0.07086	-0.2674	-0.29326	0.07841
-0.5093	-0.03916	-0.3627	0.07086	-0.4701	-0.43356	0.20381
-0.4739	-0.03916	-0.2404	0.07086	-0.4347	-0.31126	0.1353
-0.19858	-0.03916	0.0741	0.07086	-0.1594	0.000324	-0.000516
					X|	1.0125
					Cov_{Am}=(/6-1) =	0.2025
					℘= $Cov_{Am}/\exists_m^2$ =	1.0431
					ℑ = E(Rj)- ℘E(R_m) =	-0.11307
					℘X	1.08784
					$\exists_m$=	0.4406
					Systematic Risk = (℘×$\exists_m^2$) =	0.2111
					$\exists_A$ =	0.55245
					∂_{Am} = $Cov_{Am}/\exists_j \times \exists_m$	0.8320
					unsystematic Risk = ($\exists_j^2$ - ℘^{2}×$\exists_m^2$) =	0.094045
					Portion of Systematic Risk(∂^2) = Systematic Risk/Total Risk =	0.6929
					Portion of Unsystematic Risk = 1- Portion of systematic Risk (1-∂^2)	0.3061

APPENDIX- III

Statistical of Calculation for Co variation (I)

ACEDBL (A)		SDBL (S)	
R_A	$E(R_A)$	R_S	$E(R_S)$
0.3655	-0.03916	1.9079	0.7636
0.8879	-0.03916	4.2931	0.7636
-0.3066	-0.03916	-0.8308	0.7636
-0.5093	-0.03916	-0.2134	0.7636
-0.4739	-0.03916	-0.3815	0.7636
-0.19858	-0.03916	-0.19327	0.7636

Statistical of Calculation for Co variation (II)

$R_A - E(R_A)$	$R_S - E(R_S)$	$[R_A-E(R_A)][R_S-E(R_S)]$
0.40466	1.1443	0.4630
0.927	3.52	3.2630
-0.2677	-1.5944	0.4268
-0.4701	-0.977	0.4593
-0.4347	-1.14515	0.49784
-0.1594	-0.9568	0.15253
=		5.2625
Cov_{AS} = /(6-1) =		1.0525
$\exists_A$ =		0.55245
$\exists_S$ =		1.960
$\partial_{AB} = Cov_{AS}/\exists_A \times \exists_S$		0.9720

Appendix - IV
Portfolio calculation

$$\pm_P \mathrm{X}\sqrt{\pm_A^2 \mid W_A^2 \Gamma W_S^2 \mid \pm_S^2 \Gamma 2Cov_{A,S} \mid W_A \mid W_S}$$

$$= \sqrt{0.55245^2 \mid 1 \Gamma 0 \mid 1.96^2 \Gamma 2 \mid 1.05250 \mid 0.6452 \mid 0}$$

$$= 0.55245$$