CHAPTER - I
INTRODUCTION

1.1 Background of Study

Investment, in its broadest sense, means the sacrifice of current currencies and resources for the sake of future currencies and resources. An investment is one of the decisions of finance function that involves the decision of capital to establish commercial or industrial venture. In other words it involves commitment of funds into long-term assets that would yield benefits in coming future period. Two aspects of the investment decisions are:

- The evaluation of the prospective profitability of the investment.
- The measurement and comparison of cut-off rate against that the prospective return of the investment could be compared.

Investment is primary factor for economic development of any country. Investment refers to as using present money to get long term benefit. Investment in its broadest sense means the sacrifice of current money for future money. Two different attributes are generally involved time and risk. The sacrifice takes place in the present and is certain. The reward or result of sacrifice comes later and the magnitude is generally uncertain. Time and risk are predominates for investment. Such as Investment in government bonds time is predominates whereas in common stock time and risk both are important (Sharpe et al., 2000:1).

Investment also refers to the expenditure of funds for capital goods such as factories, farm, equipment, livestock and machinery. Capital goods are used to produce other goods or services.

The main source of investment is saving. A distinction is often made between investments and saving. Saving is defined as forgone consumption; investment is restricted to real investment of the sort that increases national output in the future. This definition classified investment as real and financial investments. Real investment generally involves some kind of tangible assets such as land, machinery, or factories. Financial investment involves contacts written on pieces of paper, such as

common stock and bonds. By and large, two forms of investments are complementary, not competitive.

Bank plays a very important role in investment by collecting saving from individual and providing loans to individuals and industries for economic activities. Bank itself invests in different securities of the company and industries. It helps to mobilize the idle saving in financial activities. Banking has played a very important part in the economic development of all the nations of the world therefore it is termed as the life blood of modern commerce. The study mainly focuses on the investment analysis of the commercial banks by comparing five main commercial banks of Nepal.

The term bank or banking can be referred to any person, firm or company accepting deposit of money subject to withdrawal by cheque, draft or order.

While talking about investment we cannot forget that saving is primary factor for investment. Had there been no saving none of the investment can be expected. So saving is the backbone of investment. Saving is needed to finance capital investment to increase and maintain the productive capacity of the country. It is commonly known fact that an investment is possible when there is adequate saving. If all the income and saving are consumed for basic needs; then there is no saving, neither existence of investment. Therefore, saving and investment are interrelated.

Financial institutions play an important role to develop the business activities by collecting the public money. Financial institutions involve commercial banks, saving and loan associations, credit unions pension fund and insurance companies. Especially commercial banks play significant role for development of financial activities. They render various services to their customers facilitating their economic and social life. They not only collect idle money from public but also provide loan to investors, who are in need of fund. In addition they invest money in different securities.

1.1.1 Features of a Sound Lending and Investment Policy

Sound lending and investment policy is not only prerequisite for banks profitability, but also crucially significant for the promotion of commercial savings of an underdeveloped country like Nepal

There are basically five features:

- Liquidity
- Profitability
- Suitability
- Safety and Security
- Diversification

1. Safety and Security

The bank must take care while investing funds. It should never invest its funds in those sectors, which are subject to too much fluctuation because a little difference may cause a great loss. Similarly, the businessman who is bankrupt at once or earns million in a minute should not be financed at all. Banks should accept that type of securities, which are commercial, durable, marketable and high market prices. For this purpose "MAST" should be applied for the investment.

Where,

M- Marketability
A- Ascertain ability
S- Stability
T- Transferability

Bank must take care of the belongings of public while investing and providing loan received in the form of deposits. The risk and return involved must be analyzed thoroughly so that depositor's money is advanced safely where the risk of loss does not exit (Annual report 2066).

2. Liquidity

Liquidity refers to that state of position of bank that shows its capacity to meet all of its obligations. In other words, it refers to the capacity of bank to pay cash against deposits. In simple sense, liquidity refers to the cash or any assets that can be converted into cash immediately. People deposit their money at the banks in different accounts with confidence that the bank will repay their money when they need. Once the confidence is lost in depositor's eye, they may withdraw all their money (deposits)

within a short period without giving any chance to the bank to manage. To maintain such confidence of the depositors, the bank must keep this point in mind while investing in different securities or at the time of lending. Hence, the liquidity position of a bank is such an important factor that it must be able to meet its cash requirement either by its cash in vault or by the help of converting its assets into cash in case of demand for such from its customers. There is no sense of the banks has adequate assets but not liquid (Annual report 2066).

3. Profitability

Commercial banks can maximize its wealth through maximization of return on their investment and lending. Therefore, these types of banks should invest their funds where they earn maximum profit. Generally the profit of commercial banks depends upon the interest rate of the bank, volume of loan provided, time period of loan and nature of investment on different securities. A good bank is one who invests most of its funds in different earning asset standing safely from the problem of liquidity i.e. keeping cash reserves to meet day to day requirements of the depositors (Annual report 2066).

4. Suitability

Bank should always try to know why a customer needs loan because if the borrower misuses the loan granted by bank he will never be able to repay loan. In order to avoid such circumstances, advances should be allowed to select the suitable borrowers (Annual report 2066).

5. Diversification

This thing should always be kept in mind while granting loan that the investment is made not only in one sector. The bank must not invest the funds in one specific sector but the various sectors so that when something goes wrong in one particular sector, others will recover. To minimize risk and maximize wealth, banks must diversify its investment in different sectors (Annual report 2066).

Capital market also plays a very important role in Investment. The shares issued by the company to raise capital for investment are traded in capital market. Since future is uncertain and investment decision involves risk, benefits of investment are difficult

to measure and cannot be predicted with certainty. But capital market provides a means for distributing risk among various parties. It provides and allocates funds to firms with profitable investment opportunities and offers an avenue of liquidity for individuals to invest current income or borrow against future income. Capital market brings together those who have surplus funds to lend and those who desire to borrow to finance the investment in industrial or commercial venture. Development of financial market and investment moves in similar cyclical patterns.

1.1.2 Concept of Commercials Banks

Commercial banks are those, which pool together the saving of the community and arrange them for the productive use. They accept deposits from the public and provide same deposits to the public as loan and advances. In fact, they circulate the money and create credit. The concept of the commercial banks made the economy strong. And now it's playing important role to make country economically strong. According to the Black's law Dictionary "Commercial Bank" means a bank authorized to receive both demand and time deposits, to engage in trust services, to issue letter of credit, to rent time-deposit boxes, and to provide similar services. Likewise section 2(a) of the Commercial Bank Act 2031 has defined that "Commercial Bank" means a bank which operates currency, exchanges transactions, accepts deposits, provides loan, perform, dealings, relating to commerce except the banks which have been specified for the co-operative, agricultural, industry of similar other specific object (Bhandari, 2003:5).

Hence, the term commercial bank is used taking meaning of all banking habits. That's why joint stock banks, member banks, and credit banks are frequently used interchangeably with the term commercial banks. But it is different than central bank. Central Bank cannot be interchangeable with other banks. In this way, a commercial bank is different from a central bank. While the primary objective of a commercial bank is the maximization of profit the central bank is primarily concerned with the effects of its operations on the functioning of the economy. Moreover, while there may certainly be many competing commercial banks, there exist only one central bank in a country. While the commercial banks compete against each other, the central bank comes out if any; ordinary banking business for the general public,

incomplete if confines itself mainly to controlling the operations of the banking system in country.

1.1.3 History of Banking in Nepal

Similar to other countries goldsmith and landlords were the ancient bankers in Nepal. Tejarath Adda established during the tenure of the then Prime Minister Rannodip Singh was the first step towards the institutional development of banking in Nepal though all the banking activities were carried out by it. Tejarath Adda did not collect deposits from the public but provided loans, government employees and public against billions.

Banking in true sense terms started with the inception of Nepal Bank Limited on 30th Kartik 1994 B.S. right from inception, it carried out functions of a commercial bank. Nepal Bank Limited had a Herculean responsibility of attracting people towards banking sectors from predominant non institutional transactions as well as introducing other banking services.

This is the main reason of establishing Nepal Rasta Bank as a central bank of Nepal in 2013 B.S. Since then it has been functioning as a government bank it has its own limitations and reluctances to go to the unprofitable sectors. To cope with these difficulties, government set up Rastriya Banijya Bank in 2033 B.S as a fully government owned commercial bank. Gradually, Agricultural Bank and Industrial bank came into existence. Deposit all these efforts of the government, financial sector was found sluggish. Banking service to the satisfaction of the customer's was a far cry.

However, the inception of Nepal Arab Bank Limited in 2041 B.S. as a first joint venture bank proved to be a milestone in the history of banking.

With evolution of globalization and liberal economic policies, Nepalese financial sector is also able to attract foreign investors as well as private investors within the country. The following is to-date list of major commercial banks operating in Nepal

Table: 1.1

List of Commercial Banks & their Date of Operation in B.S.

S.N.	Name of the Commercial Banks	Date of Operation in B.S.
1.	Nepal Bank Limited	1994/07/30
2.	Rastriya Banijya Bank	2022/10/10
3.	Agriculture Development Bank	2024/11/07
4.	Nabil Bank Ltd.	2041/03/29
5.	Nepal Investment Bank	2042/11/26
6.	Standard Chartered Bank	2043/10/16
7.	Himalayan Bank Ltd.	2049/10/05
8.	Nepal SBI Bank Ltd.	2050/03/23
9.	Nepal Bangladesh Bank Ltd.	2050/02/23
10.	Everest Bank Ltd.	2051/07/01
11.	Bank of Kathmandu Ltd.	2051/11/28
12.	Nepal credit and Commercial Bank Ltd.	2053/06/28
13.	Nepal Industrial and Commercial Bank Ltd.	2055/04/05
14.	Lumbini Bank Ltd.	2055/04/01
15.	Macchapuchhre Bank Ltd.	2057/06/17
16.	Kumari Bank Ltd.	2057/12/21
17.	Laxmi Bank Ltd.	2058/12/21
18.	Siddhartha Bank Ltd.	2059/09/09
19.	Global Bank Ltd.	2063/09/18
20.	Citizen Bank International Ltd.	2064/03/07
21.	Prime Bank Ltd.	2064/06/07
22.	Sunrise Bank Ltd.	2064/06/25
23.	Bank of Asia Nepal Ltd.	2064/06/25
24.	Development Credit Bank Ltd.	2057/10/10
25.	NMB Bank Ltd.	2053/08/11
26.	Kist Bank Ltd.	2066/01/24
27	Janata Bank Ltd.	2067/01/05
28	Mega Bank Ltd.	2067/03/15

Source: Banking and Financial Statistic, 2067

1.2 Focus of the Study

The establishment of the Joint Venture (Commercial) banks has given a new horizon to the financial sector of Nepal. The study is mainly focused on the investment policy of a joint-venture bank namely Nepal Investment Bank, Himalayan Bank, Nepal SBI Bank, Everest Bank and Bank of Kathmandu in the Five year period form 61/62 to 65/66. Investment analysis involves determining the investor's objectives and the amount of his or her investable wealth. Investor's objectives should be stated in terms of both risk and return. We must know how to quantify risk. Merely saying "risky" or "no risky" does not give any concrete idea to compare various financial assets and to reach to ideal decision.

A good investment analysis accepts both borrowers and lenders, which helps to increase the volume and quality of deposits, loan and investment. The loan provided by commercial banks is guided by several principles such as length of time, their purpose, perfectibility, safety etc. Those fundamental principles of commercial banks investment are fully considered while making investment analysis.

This study is expected to provide definitely a useful feedback to the policy makers of commercial banks of Nepal, and to the government and central bank in formulating strategies for the improvement in the performance of commercial banks.

Profiles of the Banks in Study

1. Nepal Investment Bank Limited

Nepal Investment Bank was established in 2042, under the company Act. It was a foreign joint venture bank and the foreign partner is Banque Indosuez of France, Paris. 50% of the Bank's share was, of Indosuez Bank, 15% is of Rastriya Banijya Bank, 15% is of Rastiya Bima Sansthan and remaining 20% is of the public the bank has 32 branches in the operation. Nepal Government gives the bank specific rights to manage for the 15 years. NIBL has been awarded the prestigious "Bank of the Year 2005" by the London–based Financial Times Group's. The Banker – making it the first Nepali Bank to win the award two times in three years. NIBL had also won the "Bank of the Year 2003" award. Bank was selected for this honor amongst the Nepali banks by meeting the stringent benchmark criteria set by The Banker. The Award is

based on the growth and performance in terms of capital, assets, and return on equity and management quality. Authorized capital and paid-up capital of Nepal Investment Bank Limited are Rs. 2000, 000,000 and Rs. 1203,915,400.

2. Himalayan Bank Limited

HBL was established in 1992, under the company act. It is also a foreigner joint venture bank and the foreigner partner is Habib Bank Limited of Pakistan. This is the first Joint venture Bank managed by Nepalese Chief Executives. There are 17 branches of HBL in operation. Authorized capital and paid-up capital are Rs.1000, 000,000 and Rs.1013, 512,500.

3. Nepal SBI Bank Limited

Nepal SBI Bank Limited was established in 1993, under the company Act. It is also a foreign joint venture bank and the foreign partner is State Bank of India, holding the 50% of equity share of Nepal SBI Bank Limited, is managing the Bank under joint venture and technical services agreement signed between it and Nepalese promoters. These are 17 branches of Nepal SBI Bank Limited in operation. Authorized capital and paid-up capital of Nepal SBI Bank Limited is Rs.1000, 000,000 and Rs.874, 527,840 respectively.

4. Everest Bank Limited

Everest Bank Limited was established in 1992, under the company Act. It is also foreign joint venture bank and the partner was United Bank of India and managed from very beginning till November 1996. Later on it handed over the management to the Punjab National Bank Ltd, India that holds 20% equity on the banks share capital. Altogether 26 branches of Everest bank are in operation. Authorized capital and paid-up capital of Everest Bank Limited are Rs.10 00,000,000 and Rs.831, 400,000 respectively.

5. Bank of Kathmandu Limited

Bank of Kathmandu Limited was established in 2050 B.S. in collaboration with the Siam commercial Bank PLC, Thailand under the company Act. The Siam commercial Bank has diluted and reduced its equity to 25% by selling 25% of Nepalese citizen in 1998 of its initial holding. The bank has 22 branches in operation. Authorized capital

and paid-up capital of Bank of Kathmandu Limited are Rs.1000, 000,000 and Rs.603, 141,300 respectively.

The present study will make a modest attempt to analyze investment policy of Commercial Banks.

1.3 Statement of the Problem

The main economic goal of developing countries is to accelerate the growth rate. Although most of the developing countries are predominantly agricultural, Industrial development is crying need of these countries for their economic development and investment is the dominant factor for industrial development. But rate of investment in Nepal is very low. The main cause behind it is political instability, low investor confidences, lack of knowledge on Investment management, lack of improved prospectus to investors, restriction on foreign portfolio investment of Nepal, lack of efficient capital market and slow privatization process.

Investment greatly depends on saving behavior of citizens but the saving rate of Nepalese is very low because most of the citizens are below poverty level. They don't have enough income for daily consumption. Some people hardly save some money but they want to save for future. Only few people invest in industries. People must be motivated to use their saving and mobilize their excess fund in economic activities.

Due to tough competition and lack of peace and political instability, Nepalese banks are facing problem to invest their funds in different sectors. So the banks have been facing low liquidity transaction. In other side the demand of loan is very low.

Nepal is considered much liberal as banks and finance institution are opened for foreign investment for quite a long time. As a result, the country now has 28 commercial banks which is a lot of improvement in the banking sectors.

Most of the commercial banks in Nepal are joint venture with a foreign bank. But some of the new banks were opened during last 7/8 years without foreign collaboration and some foreign banks have withdrawn their investment from Nepal.

According to some analyst the withdrawal of foreigners as the result of some anomalies in the Nepali banking sector irrespective of what the withdrawing foreign bank would say officially to the Nepali authorities of the general public.

With some 28 commercial banks, 78 development banks and 79 financial companies operating in Nepal, the market seems overcrowded and the banks are now finding a tough competition among themselves. Since the entry barriers are not so high due to the governments liberal policy, this competition is expected to be more intense in the near future, as there is always the possibility of a new player entering this sector (Banking and Financial Statistic, 2066).

Nepalese commercial banks have not formulated their investment policy in an organized manner. They mainly rely upon the instruction and guidelines of Nepal Rastra Bank. They don't have clear view towards Investment policy. There is a lack of sound investment policy of commercial bank. Furthermore, the implementation of policy is not in an effective way.

Commercial banks have to face tough competition due to limited and narrow capital market and investment opportunities. They are even discouraging depositors by offering very low interest and minimum threshold balance. This will definitely make bad impact on economy of a country. There is lack of knowledge on financial risk, interest rate risk, management risk business risk, liquidity risk, default risk, purchasing risk etc.

Commercial banks don't seem to invest their funds in more profitable sector. They are found to be more interested in investment in risky and highly liquid sector i.e. treasury bills development bonds and other securities. They keep high liquid position and flow lower funds to the productive sectors, this result into lower profitability to commercial banks and ignorance to the national economic growth process. This is the main reason for crisis in the commercial banks and in the whole national economy as well.
This study has tried to answer the following research questions:

- What is the position of commercial banks regarding investment policy.

- What is the trend and their projection regarding investment of sample banks.

- What is the sector of selected commercial banks.

- What is the impact of investment policy.

1.4 Objectives of the Study

Investment is necessary for economic development of the country. This study attempts to assess the role and impact of investment on economic development of the country.

The main objectives of this study are as follows:

- To analyze the present position of commercial banks regarding investment policy.

- To analyze investment trend and their projection of selected commercial banks.

- To identify investment sector of selected commercial banks.

- To assess the impact of investment policy on performance.

- To make the suggestion, recommendation of the study.

1.5 Significance of the Study

Need of the study is to explore the existing situation as well as future prospectus of marketing and financial returns. The collected fund is utilized in a good manner as investment then only good return and sustainability is possible. Return on investment first, sustains the institution and provides handful income to the investors. The better the investment analysis, the more valuable the company, the higher return the shareholders etc and vice versa. Since the different parties, shareholders, general public and government are directly affected by the investment analysis of the financial institutions, the researcher feels the need to study it.

As it is a well-known fact that the commercial banks can affect the economic condition of the whole country, the effort is made to highlight the investment analysis of commercial banks expecting that the study can bridge the gap between deposits and investment policies. Thus the present study will make a modest attempt to analyze investment analysis of Nepal Investment Bank, Himalayan Bank, Nepal SBI Bank, Everest Bank and Bank of Kathmandu.

1.6 Limitations of the Study

- This study is done for partial fulfillment for masters of Business studies (MBS).
- This Study has focused the year 2062 to 2066.
- This study is confined to five commercial banks. These banks are of average in nature. They are expected to depict the true picture of banking in Nepal.
- This study is mainly based on the primary as well as secondary data available and NRB and concerned banks.
- Validity of secondary data relies opens the source.
- This Study has focused primary limitations and other limitations.

1.7 Organization of the Study

The whole study has been divided into five chapters.

Chapter -I

This chapter has been dealt with introduction. This includes background, statement of problem, objectives of the study, significance of the study, limitation of the study and organization of the study.

Chapter-II

This chapter deals with the review of available literature. It includes review of books, journals, previous thesis and web sides, research gap etc.

Chapter -III

This chapter explains the research methodology used in the study, which includes research design, source of data, population and samples, method of data analysis etc.

Chapter- IV

The fourth, which is the important chapter of the study, has included presentation and analysis of data.

Chapter -V

The fifth chapter summarizes the main conclusion of the study and offers suggestions, recommendation and other supportive document has also been incorporated for further improvement and conclusion of the study.

A bibliography and appendices has also been attached at the end of the study.

CHAPTER-II
REVIEW OF LITERATURE

2.1 Concept

Investment is a present sacrifice for the sake of future benefits. Therefore, investment always involves risk. Present decision about selecting the best alternatives should always take the future risk into consideration. The few alternatives of investment in the past have now expanded into hundreds. Hence, the complexity of investment has also been increasing day by day. To select the best alternative and to construct an efficient portfolio, a wise analysis and decision is required. Before making any decision on investment we must be well informed about the factors, which affect investment. Investment decision related with saving, capital formation, capital market, risk involve with it, return, inflation etc.

2.1.1 Principle of Sound Investment Policy

It is universally known fact that the most important problem in banking administration is that of investing its deposits and paid up capital in various forms of earning assets. This is also known as portfolio policy. The bank's portfolio being nothing but an arranged and digested scheme of its assets.

The funds of banks are generally invested either in those assets, which are non-profitable, or those, which are profitable. Non-profitable assets include cash reserve and the dead stock and profitable assets includes call money, investment, advances and loan, cash credits, overdrafts, discounting of bills and acceptances etc.
The guiding principle of sound investment is as follows:

1. Safety

Safety would be the first guiding principle of a bank, so far as its advances and investment are concerned, because the very existence of a bank depends on the safety of its outstanding, which should never therefore be sacrifice to the profit-earning capacity of its advances. This has led people to believe that a bank will never advance any loan, unless it is fully secured. Such is no doubt the ideal conception of banking, but as a result of its competition from other banks, every bank has to grant a certain number of loans to its customers against their personal security. In such cases, the

bank uses direction and never lends a sum obviously beyond its customer's resources. Consequently, to maintain a banking concern in sound condition should be above suspicion. Scrupulous care should be taken that the funds lent out are not subject to any risk of being lost (Annual report 2066).

2. Liquidity

While making advances and investments, the bank must see that the money it is lending is not going to be locked up for a long time, which would make its loans and advances less liquid and more difficult to realize in cases of emergency. A bank can afford to lend funds only for a short period, as its liabilities are either payable on demand or at short notice. If it makes advances for long term there is no likelihood of it being able to recall such loans in time to meet the demands of its depositors (Annual report 2066).

3. Diversification of Risk

It is also necessary to remember that a prudent bank must avoid investing all its funds in meeting the needs of any one industry or any one group of industries for considerations of self-interest as well as the larger public good. The imprudence on putting one's own eggs into one basket cannot be too often reiterated. Therefore bank should invest their funds in different field than investing in same field or sector (Annual report 2066).

4. Return

Another important factor that it determines the decision of the bank whether or not to grant loan or to make an Investment will depend upon the answer to the question whether or not it will get a fair return on its investment. A bank always aims at securing maximum profits for its share-holders. The difference between borrowings and lending rate constitutes the gross profit and no bank ordinarily will think of an advance without a satisfaction margin of profit (Annual report 2066).

5. Marketability

The investments of the bank should be such as can be easily sold and realized in cash readily. Loans given against commercial paper representing goods in transit or against stocks and shares of well-known companies are easily realizable while loans given

against immovable property cannot be easily realized. The bank must make sure that the securities, in which he invests his funds, are easily saleable without appreciable loss (Annual report 2066).

6. Stability of Price

The primary object of a bank in buying securities is not to gain by a possible rise in their prices, which is the aim of a speculating dabbler. Therefore the price of the securities should be liable to wide fluctuations (Annual report 2066).

7. Stock Exchange Securities

This consists of government securities as well as securities of the joint stock companies. These securities are easily and quickly realizable. As they are quoted on the stock exchanges so their values can be easily ascertained. In case of need, a bank can either sell them or pledge them without any hesitation. But before accepting them, the bankers should see that the shares of the companies are not partly paid, that sufficient margin has been kept and they are negotiable. Speculative shares should not be accepted (Mali, 1965:18).

2.1.2 Some Important Terms

The study in this section comprises of some important banking terms for which efforts have been made to clarify the meaning, which are frequently used in this study, which are given below.

a. Loan and Advances

Loan, advances and overdraft are the main sources of income for a bank. Bank deposits can cross beyond a desired level but the level of loans, advances and overdraft will never cross it. The facilities of granting loan, advances and overdrafts are the main service in which customers of the bank can enjoy.

Funds borrowed from the banks are much cheaper than those borrowed from unorganized money lenders. The demand for loan has excessively increased due to cheaper interest rate. Furthermore, an increase in an economic and business activity always increases the demand for funds. Due to limited resources and increasing loans, there is some fear that commercial banks and other financial institutions too may take

more preferential collateral while granting loans causing unnecessary botheration to the general customers. Such loans from their institutions would be available on special request only and there is a chance of utilization of resources in economically less productive fields. There lies the undesirable effect, of low interest rate (Annual report 2066).

In additional to this, some portion of loan, advances and overdraft includes that amount which is given to staff of the bank for house loan, vehicle loan, personal loan and others, in mobilization of commercial banks fund, loan, advances and overdrafts have occupied a large portion.

b. Investment on Government Securities, Share and Debenture

Though a **c**ommercial bank can earn some interest and dividend from the investment on government securities, share and debentures, it is not the major portion of income, but it is treated as a second source of banking business. A commercial bank may extend credit by purchasing government securities bond and share for several reasons.

Some of them are given as

- It may want to space it's maturating so that the inflow of cash coincide with expected withdrawals by depositors or large loan demands of its customers.
- It may wish to have high-grade marketable securities to liquidate if its primary reserve becomes inadequate.
- It may also be forced to invest because the demand for loans has decreased or is not sufficient to absorb its excess reserves.

However, investment portfolio of commercial bank is established and maintained primarily with a view of nature of banks liabilities that is since depositors' may demand funds in great volume without previous notice to banks. The investment must be of a type that can be marketed quickly with little or no shrinkage in volume (Annual report 2066).

c. Investment on Other Company's Share and Debenture

Due to excess funds and least opportunity to invest their funds in much more profitable sector and to meet the requirement of Nepal Rastra Bank's directives many

commercial banks have to utilize their funds to purchase shares and debentures of many other financial and non-financial companies. Nowadays most of the commercial banks have purchased regional development banks and other development bank's shares (Annual report 2066).

d. Deposits

For a commercial bank, deposit is the most important source of the liquidity. For bank's financial strength, it is treated as a barometer. In the word of Eugene, "a bank's deposits are the amount that it owes to its customers." Deposit is the lifeblood of the commercial bank. Though, they constitute the great bulk liabilities, the success of a bank greatly depends upon the extent to which it may attract more and more deposits, for accounting and analyzing purpose, deposits are categorized in three headings. They are:

    Current Deposits

    Saving Deposits

    Fixed Deposits

    (Annual report 2066)

2.2 Review of Books and Articles

Investment, in its broadest sense, means the sacrifice of current rupees (dollars) and resources to the sake of future rupees (dollars) and resources. In other words, it is a commitment of money and other resources that are expected to generate additional money and resources in the future. Such a commitment takes place in the present and is certain to occur but the reward comes in the future and always remains uncertain. Therefore, every investment entails some degree of risk.

Investments are made in assets. Assets generally are two types: real assets (Land, Building, Factories etc) and financial assets (Stock, Bonds, T-Bills etc). These two types of investment are not competitive but complementary, highly developed institution for financial investment greatly facilitating real investment (Bhattari, 2005).

Country's growth rate is largely depending on investment and commercial banks are key for investing funds in productive works as they deal with money. They collect funds and utilize it in a good Investment, which is not an easy task for them. Therefore an investment of funds may be the question of life and death for the bank. They must have effective and good investment policy to exist in this world of competition.

The problem of the investor is to select the funds whose objectives and degree of risk taking most closely match its own situation. The one that will accomplish for him what he would wish to do for himself if he could diversify and manage his own holding (Bhalla, 1983:13).

Investment is the value of that part of economics output for any time period that takes the form of new structure, new producers' durable equipment and change in inventories (Joshi, 2057:7).

According to Sunity Shrestha (1998) bank portfolio (loans and investments) of commercial banks has been influenced by the variable securities rates Investment planning of commercial banks in Nepal is directly traced to fiscal policy of government and heavy regulatory procedure of NRB. So the investments are not made in professional manner. Investments planning of the commercial banks in are not made in professional manner. Investment planning of the commercial banks in Nepal has not been found satisfactory in terms of profitability, safety, liquidity, productivity and Social responsibility. To overcome this problem, she has suggested, commercial banks should take their investment function with proper business attitude and should perform lending and investment operation efficiently with proper analysis of the projects (Shrestha, 1998:19).

Total risk of security can be divided into systematic and unsystematic components. Systematic risk is risk that cannot be diversified away for it affects all securities in the market. Unsystematic risk is unique to the particular securities and can be eliminated with efficient diversification. If the assumption of the CAPM or APT factor model holds this risk does not matter to investors. As a result, diversification of assets by a company in an effort to reduce volatility would not be a thing of value.

Investment is done usually to get some return from it in future. There is no use of investment if there is not return. Even the parents invest on their children education with a hope that their children will earn money in future with that education they received. Therefore, there must be return from Investment made on capital goods or financial goods. It's another thing that the return may be positive and negative.

Internal Rate of Return (IRR) and Net Present Value (NPV) are the only appropriate means by which to judge the economic contribution of investment proposal. The important distinctions between the internal-rate of return method and the present-value method involve the implied internal rate of return.

Inflation is a major concern for investors. But and large, people have come to fear significant inflation, particulars when it is unpredictable. Capital rationing is likely to result in investment because depreciation charges do not reflect replacement cost and firm's taxes grown at a faster rate than inflation. In estimating cash flows one should take account of anticipated inflation. Otherwise a bias arises in using an inflation-adjusted required return and non-inflation-adjusted cash flows and there is a tendency to reject some projects that should be accepted.

There is no completely satisfactory way to summarize the prices changes that have occurred over a given time period for a large number of goods and services available. Nevertheless, the government has attempted to do so measuring the cost of a specific mix of major items at various points in time. The 'overall' price level computed for this representative combination of items is termed a cost-of-living index. The percentage changed in this index over a given time period can then be viewed as a measure of the inflation (or deflation) that took place from the beginning of the period to the end period. This measure of inflation may not be relevant as the price of the goods might change according to the quality also.

The simplest view of investor's attitude towards inflation is that they are concerned with real returns, not nominal returns and that a single price index is adequate to characterize the difference. Looking to the future, investors do not know what the rate of inflation will be, nor do they know what the nominal return on investment will be. However in both cases they have expectation about what these figures will be which

are denoted as EIR (Expected inflation rate) and ENR (Expected nominal returns), respectively. Thus the Fisher Model implies that ERR (Expected real return) on an Investment can be approximated by.

ERR=ENR-EIR

Or, ENR=ERR+EIR

If Investors concerned with real returns, their securities will be priced in the market place so that expected nominal returns incorporate the expected rate of inflation.

At the start of given Investment holding period nominal interest rate for securities having no risk of default should cover both a requisite, expected real return and the expected rate of inflation. At the end of the period, the real return actually received will be the difference between the nominal return and the rate of inflation actually experienced. Only when actual inflation equals expected inflation will the actual real return equal the expected real return on such securities. Although deviations of actual inflation from expected inflation may have relatively little effect on the real return on investments in general, they have a significant effect on specific Investment.

There is risk associated with Investment, as alas, there is risk associated with most elements of our lives. In the eyes of investors and creditors, a company's business risk complexion may change as a result of the investment it chooses. Because Investment proposals entail differing degrees of business risk, we must analyze not only their expected profit but also the possible deviation from that expectation. Risk is expressed in terms of the dispersion of the probability distribution of possible net present values or possible internal rates of return and is measured by the standard deviation. Risk can be measured under the assumption of serial independence of cash flows over time or when cash flows from one period to the next are dependent over time. For dealing with situation of moderate correlation of cash flows over time, probability trees are useful. Simulation techniques often can be applied to analyze risk Investment (Vanhorn, 2003:67).

Most people store their money with bank, which keeps an account of how much money is costumer deposit. People gain access to their money through cash machine, counter transaction or by writing cheques. Banks may provide interest when a certain

amount of money is kept in the account, but will charge customers who borrow money. Banks also provide financial services, such as pensions and insurance policies (The World Bank Encyclopedia, 2000).

According to World Bank, "Banks are financial institutions that accept funds in the form of deposit repayable on demand or in short notice" (Joshi, 1990:31).

In brief, bank is an institution, which accepts deposits in different accounts, provides loans of different types and creates credit.

In general, the term bank is used to mean commercial bank. The commercial bank is the oldest type of bank. The profit maximization is the main objective of this bank. The modern commercial banks collect deposits in current, saving and fixed account from general public and the institution. It provides loans to individuals and institution from the deposits. In this way banks mobilize saving for productive works and thus for industrial development. The modern commercial banks provide loan not only to traders but also to agriculture, industry and service. Although this bank concentrates itself on short-term loan, it has started to provide even medium and long-term loans to some extent. The difference between the rate of investment on deposits and loan is the main source of its income. The function of a commercial bank is not unique in all countries.

The banks that collect deposits and advance loans are called commercial banks. According to these definitions commercial bank accepts deposit and provide loans but other financial institutions also collect deposits. To differentiate commercial bank from other institution Dr. Shyam Joshi had defined it as a great institution that conducts the payment mechanism of a country. The individuals and institution make payment to each other through the mechanism of commercial bank. The commercial bank plays a leading role in the smooth operation of an economy. It makes available all financial services to individuals and institutions (Joshi, 1990:56)

In World Bank (2000), it states that investment promotes economic growth and contributes to a nation's wealth. When people deposit money in a saving account in bank. For example, the bank may invest by lending the fund of various business

companies. These firms, in return, may invent the money in new factories and equipment to increase their production. In addition to borrowing from the banks, most companies issue stocks and bonds that they sell to investors to raise capital needed for business expansion. Government also issues bonds to obtain funds to invest in such projects as the construction of dams, roads and schools. All such investment by individuals, business and govt. involves a present sacrifice of income to get an expected future benefits. As a result, investment raises a nation's standard of living (The World Bank Encyclopedia, 2000).

The above statement clearly specifies the importance of investment and the role of banks for the development of the country. Bank is the major financial need for the various developments. The banks can play the vital role for the financing activities in the business. The saving and investment is most necessary for the developing country, which can be managed by banks. Capital accumulation also play vital to accelerate the economic marginal propensity of consumption. As a result, such countries are badly entrapped into the vicious circle of poverty. Therefore the basic problem of the developing countries is to raise the level of saving and thus investment and the problem can be solved through well-established banks.

In general, bank means an institution that accepts deposits in different accounts and provides loans of different types. Bank can be defined according to the functions of a bank or the service it provides such as commercial bank, central bank and industrial bank. In the words of leaf a bank is a person or corporation which holds it out to receive from the public, deposits payable on demand by cheque.

With the title of 'Banking the future on competition' Mr. Sharma wrote in Business age that the commercial banks are establishing and operating mostly in urban areas. From his studies he found that:

- Commercial banks are establishing and providing their service in urban area only. They don't have interest to establish in rural areas. Only the branch of Nepal Bank Ltd and Rastriya Banijya Bank Ltd. are running in those sectors.
- They have maximum tax concession.
- They don't properly analyze the credit system.

He found that due to the lack of investment avenues, banks are tempted to invest without proper credit appraisal and personal guarantee, whose negatives side effects would show colors only after four or five years (Shrama, 2000:52)

According to Pradhan and Yadav (2002), saving is income not consumed. It is one the important and perhaps the chief sources of investment. In developing countries about 45% of the incremental saving is invested domestically, while in developed countries about 75% of the incremental saving is invested domestically. This suggests that capital is more mobile in developing countries than in developed countries. Saving are of great significance in a country's development. While saving results in high economic growth rate, rapid development leads in turn high savings. Nepal's saving rate is lower as to other developing countries, however, even to achieve 5 to 6 percent economic growth rate, more than 25 percent annual Investment of GDP is considered necessary. As the country's current domestic saving are about 14% the economic resources are short by nearly 11% in proportion of the GDP.

The situation is such that huge portion of investment has still to be made with external resources. The amount of saving of a typical household in Nepal is small because the people have limited opportunities for Investment. They prefer to spend saving on commodities rather than on financial assets. This restricts the process of financial intermediation, which might otherwise bring benefits such as reduction of investment risk and increase in liquidity. When capital is highly mobile international, saving from aboard can also finance the investment needed at home. When capital is not mobile internationally, saving form abroad will limit investment at home.

Wherever there is investment there must be Capital formation. The development of an economy requires expansion of productive activities, which in turn is the result of the capital formation, which is the capital stock of the country. The change in the capital stock of the country is known as investment. Therefore Capital formation is closely related to investment. Investment generally takes two forms:
- Financial Investment and
- Physical Investment

Physical Investment related to real investment in the economy or industry, which is known as capital formation. Capital formation shows the change in gross fixed assets of productive units of manufacturing industries.

Capital formation refers to the creation of physical productive facilities such as building tools, equipment and roads. The process of adding to the amount of stock of the real assets produces growth in the economy. It means increasing a country's stock of real capital. It implies addition to the existing supply of capital goods in a country. It represents an additional new capital stock to existing stock after deducting depreciation, damage and other physical deterioration of the existing capital stock. Economic progress in country depends upon its rate of capital formation. Hence, a key factor in the development of an economy is the mobilization of domestic resources. In the process of capital formation, the capacity to save by certain classes of people and institution becomes quite important. These people have varied asset-preferences, which change from time to time. The need of entrepreneurs who actually use savings for productive purpose also varies over time (Pradhan and Yadav: 2002).

Yadav Pant (2003), a bank is a service-oriented institution, which provides many kinds of services for its customer, all of which are equally important. Moreover, the quality of services should be up to the mark to meet the customer's requirement. Customers are the key players for a service organization, without whom such organization can never exist.

2.3 Review of Legislative Provision

Legislative environment has significant impact on the commercial banks established, their mobilization and utilization of resources. All the commercial banks have to conform to the legislative provisions specified in the commercial bank act 2031 and the rules and regulation formulated to facilitate the smooth running of commercial banks.

Compulsory Cash Reserve Ratio (CRR) and Refinancing

Under the provision in Nepal Rastra Bank, (NRB) Act 2002, the NRB has formulated and implemented five annual monetary policies so far. The focus of monetary policy

has been to insure price, external and financial sector stability so as to create the environment supportive for high and sustainable economic growth.

NRB issues new monetary policy on 2008. The provision under this policy as follows:

- The compulsory cash reserve ratio (CRR) has been kept unchanged at minimum 5 percent on account.

- The bank rate has been kept unchanged at 6.25 percent. This rate has been used to impose penalty on the amount of shortfall if any commercial bank fails to maintain the CRR.

- The refinance rate on export credit in Nepalese currency has been lowered by 1 percentage point to 2.5 percent from 3.5 percent. The refinance rate to rural development banks however has been kept unchanged at 3.5 percent.

- The sick industries refinance rate has been kept unchanged at 1.5percent.

- The sick industry refinance facility of Rs. 2.0 billion has been continuing for 2008/09 as well. The sick industry refinance facility has been put in place since 2002/03.

- NRB will continue the refinance facility of Rs. 500milliion, similar to sick industry refinance, on the loans used by dalits, indigenous, backward, madeshi, and marginalized group as defined by the GON and on the loans used for foreign employment with objectives of providing relief to these sections of society and promoting foreign employment.

- In the context of commercial banks providing substantial amount of short -term credit to the development banks and finance companies, the penal rate has been increased from 1.5 percent to 2 percent to check the misused of standing liquidity facility (Monetary Policy for Fiscal Year 2008/09 NRB).

Policy Guidelines on the Establishment of the Commercial Banks

Under the act of bank and financial institution 2063 NRB issue new policy to establishment of bank and financial institution on 2063/03/29 and timely changed on 2063/12/13 as follows:

1. **Paid up Capital:** To establish a commercial bank of national level the paid up capital must be at Rs. 2000 million.

2. **Share Capital:** In general, the share of commercial banks will be available for the promotes (70 percent) and general public (30 percent). To operation joint venture of the foreign banks and financial institution could have a maximum of 85 percent to minimum 20 percent share investment on the commercial banks of national level. In order to provide adequate opportunity for investment to the Nepali promoters in national level banks, only 15 percent of total share capital will be made available to general public on the condition that the foreign bank and financial institutions are going to acquire more than 50 percent of the total share. Within 15 percent the bank and financial institution put off provision 5 percent for its staff.

3. **Banks Already in Operation:** Banks those are already in operation and have already acquired letter of intent before the enforcement of these provisions have to bring their capital level within seven years, i.e. by 30Ashad 2070, as per the recently declared provision

4. **Legal Procedure:** Banks to be established with foreign promoters' participation have also to be registered fulfilling all the legal processes prescribed by the prevalent Nepal laws.

5. **Promoter's Share Payment Procedures:** Of the total committed share capital, the promoters have to deposit in NRB an amount equal to 5 percent along with the application and another 45 percent at the time of receiving the letter of intent on a interest fee basis. The bank should put into operation within one year of receiving the letter of intent. The promoters have to pay fully the remaining balance of committed total share capital before the bank comes into operation. Normally, within 4 months from the date of filling of the application, NRB should give its decision on the establishment of the bank whether it is in favor or against it. If it declines to issue license, it has to inform in writing with reasons to the concerned body.

6. **Promoters' Qualification and Experience:** Action on the application from promoters will not be initiated if it is proved that their collateral has been put on auction by the bank and financial institution as a result of non-payment of loans in the past, who have not cleared such loans or those in the black list of the Credit Information Bureau and 3 years have not elapsed from the date of the removal of their name from such list. The application will be deemed automatically cancelled irrespective of it being on any stage of process for license issuance if the above events are proved. Of the total promoters, one - third should be at least a graduate of Tribhuvan University or recognized institutions with major in economics or accountancy, finance, law, banking or statistics. Likewise, one-fourth promoters should have the work experience of bank or financial institution or similar nature.

7. **Promoters' Share:** Promoter Group's share can be disposed or transferred only on the condition that the bank has been brought in operation, the share allotted to the general public has been floated in the market and after completion of 3 years from the date it has been registered in the Stock Exchange. But before the disposal of such shares it is mandatory to get approval from NRB. The share allotted to general public has to be issued and sold within 3 years from the date the bank cannot issue bonus shares or declare and distribute dividends, shareholders of the promoters group and their family members cannot have access to loans or facilities from the same institution.

8. **Disqualify from Becoming Director:** An individual who is already serving as a director in one of the bank or financial institutions licensed by NRB cannot be considered eligible to become the director in other banks or financial institutions. Also, stock brokers, market makers and also an individual and institution involved as an auditor of the bank and institutions carrying on financial transactions cannot be a director.

9. **Investment:** One person, family, firm, invest maximum 15 percent of a firm and 1 percent of another firm.

10. **Promoter:** No more than one promoter from one family in one firm.

Source: Banking Khabar Patra 60, 2008

While reviewing the books and articles and past studies, it is found that banks are not just the storehouse of the country's wealth but are the reservoirs of resources necessary for economic development and employment generation. There are still different obstacles in the effective operation of the commercial banks in Nepal. Therefore these obstacles should be eradicated for the economic development of Nepal.

The review of above relevant literature helps me to better understand the Investment policy of Commercial banks and its main drawbacks and problems. On the basis of feedback derived from the literature review further analysis of my study had been under track.

2.4 Review of Previous Research Works

There are a lot of research have been performed on Investment policy of Commercial banks. The findings of some of the studies are presented below.

Thapa (2005), has a research on the topic of a comparative study on Investment policy of Nepal Bangladesh Bank Limited and other joint venture banks.

Her Main Objectives:
- To analyze the relationship between loan and advance and total investment with other financial variable of NB bank and compare them with NABIL and NBL.
- To evaluate the liquidity, asset management efficiency, profitability and risk position of NB bank in comparison to NABIL and NBL.
- To study the various risks in investment of NB bank in comparison to NABIL and NBL.

Her Major Findings:
- NB bank has good deposit collections, it has better liquidity position.
- It has made enough loan and advances but it has the negligible amount of investment in government securities.

- Credit risk ratio;, interest risk ratio, capital risk ratio and profitability position of NB bank is comparatively worse than NABIL and NBL.
- There is significant relationship between deposit and loan and advance, outside assets and net profit of NB bank.

Her Major Recommendations:
- NB bank to invest more in government securities.
- To implement sound credit collection policy.
- To implement sound and liberal lending policy to make more implement in loan and advances.

Dhungana (2006), his research, "A Comparative Study on Investment Policy of Nepal, Bangladesh Bank and Other Joint Venture Banks", tries to compare the Investment policy of NBBL with HBL and NSBL.

His Main Objectives:
- To study the growth ratios of loan and advance and investment to total deposit and net profit of NBBL on comparison with HBL and NSBL.
- To analyze the relationship between loan and advance and total investment with other financial variable of NBBL and compare with HBL and NSBL.
- To examine the profitability position and credit risk ratios and interest risk ratios.

His Majors Findings:
- NBBL has not good deposit collection, it hasn't made enough cash and bank balance and it has made negligible amount of investment in government securities.
- The Asset management ratios were highly variable which reveals NBBL has not followed stable policy.
- NBBL's ratio of OBS operation to loan and Advances lower than that of HBL but its ratio is greater than that of NSBL.
- The profitability position on NBBL is comparatively not better than that of HBL but better than that of NSBL

- The credit risk ratios and interest risk ratios of NBBL is higher than that of HBL and NSBL Banks profitability is solely depends on Interest charged by a bank but the high interest rate risk of NBBL shows that bank is failure to maintain this.

- Trend of deposit collection, lending, Investment and net profit were not better than HBL but better than NSBI.

His Majors Recommendations:

- To increasing liquidity position of NBBL and making more investment in government securities.

- To implement a sound collection policy nd more mobilization of interest bearing assets.

- To have effective portfolio management, to have liberal lending policy and to upgrade the banking facility

Loudari (2007), conducted a study on "A study on investment policy of Nepal Indosuez Bank Ltd. in comparison to Nepal SBI Bank Ltd."

His Main Objectives:

- To examine the liquidity asset management and profitability position and investment policy of NIBL in comparison to Nepal SBI Bank Ltd.

- To study the growth ratios of loans and advances and investment to total deposit and net profit of NIBL on comparison to Nepal SBI Bank Ltd.

- To analyze relationship between deposit and investment, deposit and loans and advances, net profit and outside assets of Nepal Indosuez Bank Ltd. in comparison to Nepal SBI Bank Ltd.

His Majors Findings:

- Current ratios for both the Banks is satisfactory.

- Although cash reserve ratio (CRR) is managed by both banks as per Nepal Rastra Bank directives, both banks have not paid sufficient insight toward cash management. Their cash reserves have fluctuated in a high degree.

- Nepal SBI Bank Ltd. has increased investment in government securities where as Nepal Indosuez Bank Ltd. has decreased.

- .The analysis of growth ratios shows that growth ratios of total deposits, loans and advances, total investment and net profit of Nepal Indosuez Bank Ltd. are less than that of Nepal SBI Bank Ltd.

- The trend value of loans and advances to total deposit ratio is decreasing in case of both the banks. The trend value of total investment to total deposits ratio is also decreasing in case of both the banks.

His Majors Recommendations:
- NIBL to invest more in government securities.

- Their cash reserves have fluctuated in a high degree so both bank has toward sufficient cash management.

- NIBL utilization their deposit effectively.

Raya (2008), in his thesis, "Investment Policy and Analysis of Commercial Banks in Nepal" made a comparative study of SCBL. With NIBL and NBBL.

His Main Objectives:
- To discuss fund mobilization and Investment policy of SCBL in respect to its fee based off-balance sheet transaction and fund based on balance sheet transaction.

- To evaluate the quality, efficiency and profitability and risk position.

- To evaluate trend of deposit, investment, loan and advances and projection for next years.

His Majors Findings:
- Mean current ratio of SCBL is slightly higher than NBBL and NIBL

- Mean ratio of cash and bank balance to total deposit of SCBL is lower than NIBL and NBBL.

- Liquidity position of SCBL is comparatively better than NIBL and NBBL. It has the lowest cash and bank balance to total deposit and cash and bank balance to current ratio. SCBL has a good deposit collection. It has made enough

Investment on government securities but it has maintained low investment policy on loan and advances.

- SCBL is comparatively average successful in it's on balance sheet operation. But off balance sheet operation activities in compared to NIBL and NBBL has maintained the strong position.

- SCBL is comparatively higher position than that of other banks, as well as its use to provide interest to the customers for different activities.

- There is significant relationship between deposit of loan and advances and between asset and net profit of SCBL.

His Majors Recommendation:
- To increase in investment policy on loan and advance.
- To effective portfolio management and for project oriented approach.
- To enhancing the Off Balance Sheet operation.

Joshi (2009), has conducted a study on "Investment Policy of Commercial Bank of Nepal" a comparative study of EBL with NABIL Bank and BOK.

Her Main Objectives:
- To examine the liquidity assets management and profitability position and investment policy of EBL in comparison to NABIL and BOKL.

- To analyze the relationship between loan and advance and total investment with other financial variable of EBL and compare with NABIL and BOKL.

- To study the various risks in investment of EBL in comparison to NABIL and BOKL.

Her Majors Findings:
- EBL has higher idle cash and bank balance. It may decrease profit of bank.
- It is good to invest more on share & debentures as it encourage financial and economic development of the country. A commercial bank must mobilize its fund in different sector such as to purchase share & debentures of other financial and non financial companies out of total working fund. EBL has invested its more of the funds i.e. total investment on total deposit ratio, in comparison to

other commercial banks but percentage of investment on share and debenture in very nominal.

- Portfolio condition of a bank should be regularly revised from the time to time. It should always try to maintain the equilibrium in the portfolio condition of the bank. So it can be said "all eggs should not be kept in the same basket". The bank should make continuous effort to explore new, competitive and high yielding investment opportunities to optimize their investment portfolio.

- EBL has to make way for small depositors and entrepreneurs for the promotion and mobilization of small investor's fund.

- On the basis of above facts, it is seen that EBL has invested much of its fund in total outside assets but it has not achieved the desired result.

- The risk taken by EBL, from the angle of credit and capital are in an average whereas the consistencies of the same are highly volatile which may result higher loss. The bank should not test those risks on an experiment basis as seen from the consistency angle.

His Majors Recommendations:
- To mobilize its idle cash and bank balance in profitable sector as loan and advance.

- To invest more its fund in share and debentures of different companies.

- The bank should fix minimum level of bank balance and the amount needed to open an account should also be affordable for such small depositor's.

- To investing its funds keeping in mind the interest rates so as to be earns high returns from the investment.

2.5 Research Gap

Since so many years the study has been done on the topic investment analysis. Most of the studies were related with secondary data. They mainly focus on the data available. However, such special study related to awareness regarding investment analysis has been limited. In this study, the researcher has attempted to evaluate the Primary as well as Secondary data by conducting field survey, in order to know somehow about the practical experience of investment analysis. So this study will be

fruitful to those interested persons, students, scholars ,stakeholder ,Civil Society, teachers, businessmen and government for academically as well as policy perspective.

CHAPTER- III
RESEARCH METHODOLOGY

3.1 Introduction

Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objectives in view. Research methodology describes the methods and process applied in the entire subject of the study. This chapter attempts to have an insight into the investment policy adopted by HBL, NIBL, EBL, BOK and Nepal SBI bank.

3.1.1 Research Design

A research design is the arrangement of conditions for collection and analysis of data that aims to combine relevance to the research purpose. Research design is the plan, structure and strategy of investigations conceived so as to obtain answers to research questions and to control variances.

A research design we mean an overall framework or plan for the collection and analysis of data (Wolff and Pant, 2003: 74).

To achieve the objectives of this study, descriptive and analytical research design has and descriptive techniques have been adopted to evaluate investment performance of HBL, NIBL, EBL, BOK and Nepal SBI bank.

3.1.2 Sources of Data

Mainly, the study is conducted on the basis of the secondary data. The data required for the analysis are directly obtained from the balance sheet and the P/L account of the concerned bank's annual reports. Supplementary data and information are collected from the number of institutions and regulating authorities like NRB, Economic Survey and national planning commission etc. All the secondary data are compiled, processed and tabulated in the time series as per the need and objectives. Formal and informal talks with the concerned authorities of the banks were also helpful to obtain the additional information of the related problem.

Likewise, various data and information are collected from the economic journals, periodicals, bulletins, magazines and other published and unpublished reports and documents from various sources.

3.1.3 Population and Sample

The limitation of time and unavailability of the relevant data has forced me to make research on the HBL, NIBL, EBL, BOK and Nepal SBI only even though there are 28 commercial banks established in Nepal which is selected from the population. The population as follows:

- Nepal Bank Ltd.
- Rastriya Banijya Bank.
- Agricultural Development Bank.
- Nabil Bank Ltd.
- Nepal Investment Bank Ltd.
- Standard Charter Bank Ltd.
- Himalayan Bank Ltd.
- Nepal SBI Bank Ltd.
- Nepal Bangladesh Bank Ltd.
- Everest Bank Ltd.
- Bank of Kathmandu Ltd.
- Nepal Credit and Commerce Bank Ltd.
- Nepal Industrial and Commercial Bank Ltd.
- Lumbini Bank Ltd.
- Machauchhre Bank Ltd.
- Kumari Bank Ltd.
- Laxmi Bank Ltd.
- Siddhartha Bank Ltd.
- Global Bank Ltd.
- Citizen Bank International Ltd.
- Prime Bank Ltd.
- Sunrise Bank Ltd.
- Bank of Asia Nepal Ltd.
- Development Credit Bank Ltd.

- NMB Bank Ltd.

- NIC Bank Ltd.

- KIST Bank Ltd.

- Janata Bank Ltd.

- Mega Bank Ltd.

Source: Banking and Financial Statistics 59, 2010

From these samples, Nepal Investment Bank, Himalayan Bank, Nepal SBI Bank, Everest Bank and Bank of Kathmandu have been selected and their investment performances are comparatively studied.

3.2 Methods of Data Analysis

In the study, various financial, accounting and statistical tools have been used to achieve the objective of the study. The analysis of data will be done according to the pattern of data available. Due to limited time and resources, simple analytical statistical tools such as percentage graph, Karl Pearson's Coefficient of correlation are used in the study.

Likewise, some financial tools such as ratio analysis and trend analysis have also been used for financial analysis. The various tools applied in this study, have been briefly presented as under.

3.2.1 Ratio of Commercial Banks Investment to Sample Bank Investment

Total commercial banks investment to sample banks investment ratio is used to analysis how much investment has cover by the sample bank investment. It is derived by following equation.

Total commercial banks investment to sample banks investment Ratio =

$$\frac{\text{Sample Bank Investment}}{\text{Total Com. Banks}}$$

3.2.2. Segregation of Total Investment of Sample Banks

It is used to analyze how the sample banks have invested its collected funds. Banks generally invest in government securities, share and debentures of other companies and NRB bond. An attempt is made to analyze how much percentage is invested by the banks in different sectors. The following equation is used for this purpose.

i. Total Investment to govt. sec. Investment $= \dfrac{\text{Investment on Gov. Sec}}{\text{Total Investment}}$

ii. Total Investment to share & Debentures $= \dfrac{\text{Investment on Share \& Deb.}}{\text{Total Investment}}$

iii. Total Investment to NRB bond $\quad = \dfrac{\text{Investment on NRB bond}}{\text{Total Investment}}$

iv. Total Investment to Other $\quad = \dfrac{\text{Investment on other sector}}{\text{Total Investment}}$

3.3 Financial Tools

Financial tools are used to examine the financial strength and weakness of bank. In this study financial tools like ratio analysis and financial statement analysis have been used.

3.3.1. Ratio Analysis

Ratio analysis is a part of the whole process of analysis of financial statements of any business or industrial concern especially to take output and credit decision. Thus ratio analysis is used to compare a firm's financial performance and status to that of other firm's or to itself. The qualitative financial performance of a firm can be done with help of ratio analysis. Even though, there are many ratios, only those ratios have been covered in this study, which are related to the Investment operation of the bank. This study contains following ratios.

3.3.2 Asset Management Ratio

Asset management ratio measures how efficiently the bank manages the resources at its command. The following ratios are used under this assets management ratio.

a. Investment to Total Deposit Ratio

Investment is one of the major forms of credit created to earn income. This implies the utilization of firm's deposit on investment in government securities and shares debentures of other companies and bank. The ratio can be calculated by dividing total

Investment by total deposit. It can be expressed as follows:

$$\text{Total Investment to total deposit ratio} = \frac{\text{Total Investment}}{\text{Total Deposits}}$$

Total Investment consists of Investment on government securities, Investment on share and debentures, bond of other companies and other Investment.

b. Investment Plus Loan and Advances to Total Deposit Ratio

Investment as well as loan and advances both are done to generate income for the bank. Investment plus loan and advances to Total deposit ratio is calculated out, how successfully the banks are utilizing their total deposits on loan and advances for profit generating purpose. Greater ratio implies the better utilizing of total deposits. This ratio can be obtained by dividing Investment plus loan and advances by Total deposits, which can be states as,

Investment plus loan & advances to total deposit ratio =

$$\frac{\text{Investment} + \text{loan \& Adv}}{\text{Total Deposit}}$$

c. Total Investment to Total Asset Ratio

Investment is major component in the total working fund which indicates the ability of bank to channelize its deposits in the form of loan and Investment to earn high return. Investment and loan and advances are the only income generating source of bank. This ratio can be computed by dividing total of Investment, Loan and advances by total Assets. Which can be stated as follows:

$$\text{Total Investment to Total Assets ratio} = \frac{\text{Total Investment}}{\text{Total Assets}}$$

Here, total Investment includes Investment on government securities, share and debentures of other company, other Investment and loan and advances. And total assets includes all assets of balance sheet, in other words, this includes current assets,

net fixed assets, loans and development banks and other miscellaneous assets but exclude off balance sheet items like letter of credit, letter of guarantee etc.

d. Investment on Government Securities to Total Assets Ratio

Government securities are the safest place to invest the collected fund. Most of the commercial banks invest on securities issued by the government. Some banks do not invest sufficient funds in government securities. Others borrow frequently and thus lower the liquidity ratio.

Investment on government securities to total assets is calculated to find out the percentage of assets invested in government securities. This ratio is calculated by dividing Investment on government securities by Total assets.
 This is presented as,

Investment on government securities to total assets ratio=

$$\frac{\text{Investment on Gov. Securities}}{\text{Total Assets}}$$

e. Investment on Shares and Debentures to Total Assets Ratio

Commercial banks hold shares of the other companies also. This ratio   shows the banks Investment in shares and debentures of the subsidiary and other companies. This ratio can be derived by dividing Investment on shares debentures by total Assets. It can expressed as,

Investment on shares and debentures to Total Assets ratio =

$$\frac{\text{Investment on Sh. \& Deb}}{\text{Total Assets}}$$

Growth Ratios

To examine and analyze the expansion and growth of the bank's business, following growth ratios are calculated in this study.

a. Growth ratio of total investment
b. Growth ratio of total deposits.
c. Growth ratio of loan and advances.

3.4 Statistical Tools

Some important tools are used to achieve the objectives of his study. In this study statistical tools such as coefficient of correlation between different variable, trends analyses of important variables have been used which are as follows,

3.4.1 Multiple Regression Analysis

Multiple Regression equation is the algebraic relationship between one dependent variable and two or more independent variables. This relationship between one dependent variable and two or more independent variables. This relationship is used to estimate the value of dependent variable for the given values of independent variables. In this regression one dependent variable y and two independent variables x and x1 so that the multiple regression equation for the observed data is given by

$$y = a + bx + b_1x_1 \ldots\ldots\ldots\ldots\ldots.i$$

Where a = Point of intercept on Y- axis + the value of y when x= x1 =0
b= Slope of y with variable x holding variable x1 constant = corresponding change in y for each unit change in x while x1 is held constant = the partial regression coefficient of x on x1 constant.

B1=Slope of y with variable x1 holding variables x constant = corresponding change in y for each unit change in x1 while x is held constant = the partial regression coefficient of y on x1 keeping x constant.

Where a, b, and b1 are regression parameters whose values are to be determined. To find the values of a, b, and b1 we have to solve the following normal equations.

$$\sum y = na + b\sum x + b_1\sum x_1 \ldots\ldots\ldots\ldots\ldots\ldots\ldots..ii$$
$$\sum xy = a\sum x + b\sum x^2 + b_1\sum xx_1 \ldots\ldots\ldots\ldots\ldots..iii$$
$$\sum x_1y = a\sum x_1 + b\sum xx_1 + b_1\sum x^2{}_1 \ldots\ldots\ldots\ldots..iv$$

3.4.2. Co-efficient of Correlation Analysis

The correlation coefficient determines the relationship between two properties. This analysis identifies and interprets the relationship between the two or more variables. In the case of highly correlated variables, the effect on one variable may have effect

on other correlated variable. When two elements have zero correlation with other they are unrelated in anyway and have zero variance. Positive correlation implies positive covariance.

Symbolically,

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

Where, n= number of Observation in series X and Y.

$\sum X$ = sum of observation in series X.

$\sum Y$ = sum of observation in series Y.

$\sum X^2$ = sum of square observation in series X.

Y^2 = sum of square observation in series Y.

$\sum XY$ = sum of the product of observation in series X and Y.

The value of correlation of coefficient (r) lies between -1 to +10, i.e. $-1 \leq r \leq 1$.

Karl-Pearson's co-efficient of correlation has been used to find out the relationship between the deposit and loan and advances plus Investment made by the banks.

3.4.3. Coefficient of Determination (R²)

The coefficient of determination is a measure of the degree of linear association or correlation between two variables one of which happens to be independent and other being dependent variable. In other words coefficient of determination measures the percentage total variation independent variables explained by independent variables. Zero to one is the ranging measurement of this coefficient of multiple determinations. If R² is equal to 0.75, which indicates that the independent variables used in, regression model explained 75% of the total variation in the dependent variable. If the regression line is a perfect estimator R² will be equal to +1, when there is no correlation the value of R² is zero.

3.4.4. Probable Error of Coefficient. of Correlation

The probable error is a measure of as certainty the reliability of the value of a Pearson's coeff. of correlation. If the probable error is added to and subtract from the

coeff. of correlation, it would gives two such limits within which we can reasonably accept the value of coeff. of correlation to vary. The formulae for finding out the probable error of the Karl Pearson's coeff. of correlation is:

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

Where,

P.E(r)= probable error of coeff. of correlation.

r = Coefficient of correlation.

n = No. of pairs observation.

If r < 6 P.E(r), the value of 'r' is not significant no matter how high r value.

i.e. there is no evidence of correlation between the variables.

If r > 6 P.E(r), the value of r is significant, i.e. correlation is significant.

3.4.5 Trend Analysis (The Least-Square Method)

Trend analysis describes the average relationship between two series where the one series relates to time and other series to the value of a variable. It generally shows that the line of best-fit or straight line is obtained or not. The line of the best fir describes the change in a given series accompanying a unit change in time. In other words, it gives that best possible mean value of dependent variable for a given value of independent variable.

For the calculation of the "line of best fit" following equations should be kept in mind.

$$Yc = a + bx$$

Where,

Yc =The estimated value of 'Y' for given value of x obtained from the line of regression of Y on x.

a= "Y-intercept" or mean of 'Y' value.

b= Slope of trend line or rate of change.

x= The variable in times series analysis represents time.

There are two normal equations estimating for 'a' and 'b' are;

$\sum Y = na + b\sum x$.......... (i)

$\sum XY = a\sum x + b\sum x^2$.......... (ii)

Since, $\sum x = 0$

Then the above equation becomes,

a = Y / n

and $b = \dfrac{\sum XY}{\sum X^2}$

The term best fit interpreted in accordance with the principle of least square which consists in minimizing the sum of the square residual or errors of estimate i.e. the deviations between the given observed value of the variables and their corresponding estimated values as given by the line of best fit.

The trend value of investment of NIBL, HBL, NSBL, EBL and BoKL from FY 2061 to 2065 and makes the forecast for the next five years till FY 2070.

3.4.6. Arithmetic Mean

Arithmetic mean is the sum of all observations divided by the number of observations. The arithmetic mean is denoted by ($\overline{X}$). It is computed as:

Arithmetic Mean ($\overline{X}$) = $\dfrac{\sum f}{n}$

Arithmetic Mean is calculated to find the mean of the financial ratio.

3.4.7. Standard Deviation

Standard Deviation is calculated to measures dispersion. It is computed as

S.D. (σ) = $\sqrt{\dfrac{\sum (X - \overline{X})^2}{N}}$

3.4.8. Co-Variance (C.V.)

Co-Variance is calculated to find variance from the mean. It is computed as:

$$C\,V. = \frac{\sigma}{\overline{X}}$$

Research Methodology and the various financial and statistical tools discussed above have been used in the next chapter to analyze and interpret the HBL, NIBL, NSBIBL, EBL and BoKL for the study from FY 2062 to 2066.

CHAPTER- IV
DATA PRESENTATION AND ANALYSIS

This chapter is concerned with financial analysis and statistical analysis that is concerned about comparative analysis and interpretation of available data. Various financial and statistic tools have been used in this part. Necessary figures and tables are also presented in this part to describe about the Investment mechanism of the banks.

4.1 Presentation and Analysis of Secondary Data

This section provides interpretation and analysis of secondary data. The main purpose of this chapter is to study, evaluate and analyze those major financial performances, which are mainly related to the investment management and fund mobilization. It is notable that all types of financial ratios are not studied under this chapter.

4.1.1 Ratio of Commercial Banks Investment to Sample Banks Investment
4.1.1.1 Ratio of NIBL Investment to Total Commercial Banks Investment

This ratio indicates the portion of investment made by Nepal Investment Bank to total investment made by commercial banks of Nepal. It shows how much Himalayan bank is directly involved in investment. And the ratio is derived by dividing investment made by NIBL by Total Investment made by commercial banks.

Table: 4.1

Total Commercial Banks Investment to NIBL Investment Ratio

(Rs. in million)

Year	Total Investment of Commercial Banks	NIBL Investment	Ratio (%)
2062	49669	4172	8.40
2063	60181	4074	6.77
2064	82172	5673	6.90
2065	92581	6581	7.04
2066	108955	7399	6.79
Mean			7.18
S.D			0.62
C.V.			0.09

Source: Banking and Financial Statistics, NRB

The above table shows the investment made by all commercial banks and by NIBL bank alone. From the above table it shows that portion of investment made by NIBL is increasing every year. In the FY 2062 the ratio is almost 8.40%, which is optimum. The mean ratio is 7.18 during the study period.

4.1.1.2. Ratio of HBL Investment to Total Commercial Banks Investment

This ratio indicates the portion of investment made by Himalayan bank to total investment made by commercial banks of Nepal. It shows how much Himalayan bank is directly involved in investment. And the ratio is derived by dividing investment made by HBL by Total Investment made by commercial banks.

Table: 4.2

Total Commercial Banks Investment to HBL Investment Ratio

(Rs in million)

Year	Total Investment of commercial banks	HBL Investment	Ratio (%)
2062	49669	2878	5.79
2063	60181	5510	9.16
2064	82172	10891	13.25
2065	92581	11822	12.77
2066	108955	13340	12.24
Mean			10.64
S.D			2.81
C.V.			0.26

Source: Banking and Financial Statistics, NRB

The above table shows the investment made by all commercial banks and by HBL bank alone. From the above table it shows that portion of investment made by HBL is increasing every year except in 2062. In the FY 2064 the ratio is almost 13.25%, which is optimum in comparison with total 28 commercial banks of the country. The mean ratio is 10.64 during the study period.

4.1.1.3 Ratio of NSBL Investment to Total Commercial Banks Investment

This ratio indicates the portion of investment made by Nepal SBI bank to total investment made by commercial banks of Nepal. It shows how much Nepal SBI bank

has invested. The ratio is derived by dividing investment made by Nepal SBI bank by Total Investment made by commercial banks.

Table: 4.3

Total Commercial Banks Investment to NSBL Investment Ratio

(Rs in million)

Year	Total Investment of Commercial Banks	NSBL Investment	Ratio (%)
2062	49669	1890	3.80
2063	60181	2608	4.33
2064	82172	3700	4.50
2065	92581	2378	2.57
2066	108955	3088	2.83
Mean			3.61
S.D			0.78
C.V.			0.22

Source: Banking and Financial Statistics, NRB

The above table shows the total investment of commercial banks and Nepal SBI bank alone. From the above table it shows that only few portion of investment is cover by Nepal SBI bank in comparison to total investment of commercial bank. In the FY 2065 only 2.57% is covers by Investment of Nepal SBI bank in total investment made by commercial banks. The mean ratio is 3.61 during the study period.

4.1.1.4 Ratio of EBL Investment to Total Commercial Banks Investment

This ratio indicates the portion of investment made by EBL to total investment made by commercial banks of Nepal. It shows how much EBL has invested. The ratio is derived by dividing investment made by EBL by Total Investment made by commercial banks.

Table: 4.4

Total Commercial Banks Investment to EBL Investment Ratio

(Rs in million)

Year	Total Investment of Commercial Banks	EBL Investment	Ratio (%)
2062	49669	2483	5.00
2063	60181	2120	3.52
2064	82172	4201	5.11
2065	92581	4985	5.38
2066	108955	5059	4.64
Mean			4.73
S.D			0.65
C.V.			0.14

Source: Banking and Financial Statistics, NRB

The above table shows the investment made by all commercial banks and by EBL alone. From the above table it shows that portion of investment made by EBL is increasing every year except in 2063. The mean ratio is 4.73 during the study period.

4.1.1.5. Ratio of BoKL Investment to Total Commercial Banks Investment

This ratio indicates the portion of investment made by BoKL to total investment made by commercial banks of Nepal. It shows how much BoKL has invested. The ratio is derived by dividing investment made by BoKL by Total Investment made by commercial banks.

Table: 4.5

Total Commercial Banks Investment to BoKL Investment Ratio

(Rs in million)

Year	Total Investment of Commercial Banks	BoKL Investment	Ratio (%)
2062	49669	2395	4.82
2063	60181	2236	3.72
2064	82172	2748	3.34
2065	92581	2995	3.24
2066	108955	3204	2.94
Mean			3.61
S.D			0.65
C.V.			0.18

Source: Banking and Financial Statistics, NRB

The above table shows the investment made by all commercial banks and by BoKL alone. From the above table it shows that portion of investment made by BoKL is increasing every year except in 2063. The mean ratio is 3.61 during the study period.

The above Table No. 4.1 to 4.5 shows that HBL covers more percentage than other 4 banks and NSBL bank covers less percentage than other banks on investment made by total commercial banks. Mean of the ratios of HBL Investment is also higher than that of other banks. Similarly the standard deviation and coefficient of variation between the ratio of HBL Investment to total commercial bank is comparatively higher than of other banks. It means there is more variability in Investment in HBL than others. It is due to higher rate of increment of investment pattern in HBL.

It can be concluded that the investment made HBL is increasing and NSBL bank covers less percentage than other 4 banks.

Figure: 4.1

Total Commercial Banks Investment to Total Investment Ratio

(in million)
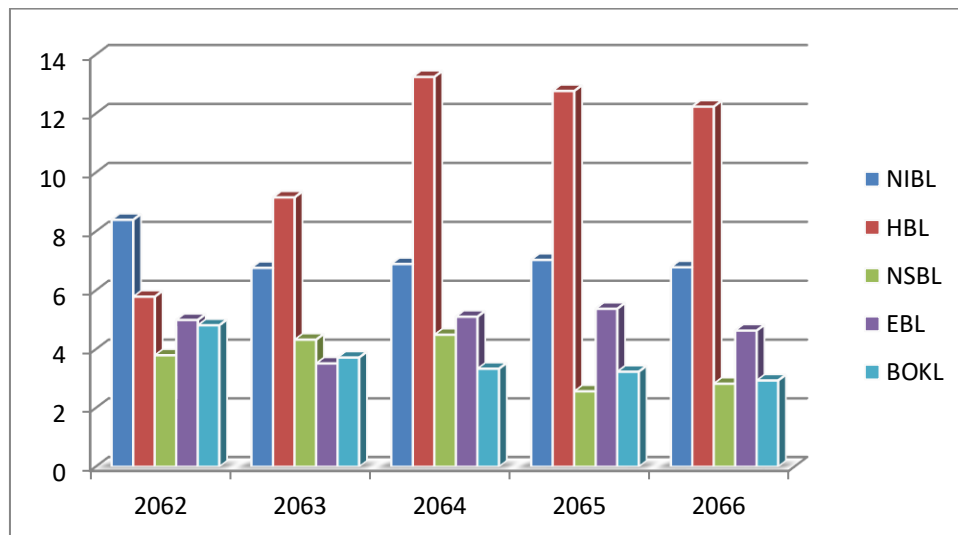
4.1.2 Segregation of Investment

4.1.2.1 Segregation of Investment of NIBL Bank

NIBL invest its collected funds in different sectors. Mostly commercial banks are found to invest in government securities, share and debentures of other companies and NRB bonds. Here an attempt is made to segregate the investment made by NIBL.

Table: 4.6

Segregation of Investment of NIBL

(Rs in million)

Year	Investment	Gov. sec	%	Shares and Deben.	%	NRB Bond	%	Others	%
2062	4172	2001	47.96	2171	52.04	-		-	
2063	4074	1948	47.81	204	5.01	-		1922	47.18
2064	5673	2522	44.46	108	1.90	-		3043	53.64
2065	6581	3256	49.95	55	0.84	-		3207	49.20
2066	7399	3155	42.64	60	0.81	-		3665	49.53

Source: Banking and Financial Statistics, NRB

The above table show the investment made by NIBL in different sectors. NIBL is found to invest its fund in Government securities, shares and debenture of other industries, NRB bond and others. From the FY 2062 to 2066 investment in Government Securities increases and investment in share and debentures of other companies decreasing but from the FY 2063 investment in other sector increasing. It can be concluded that NIBL is increasing its investment in different sectors but still less investment in share and debentures.

4.1.2.2 Segregation of Investment of HBL Bank

HBL invest its collected funds in different sectors. Mostly commercial banks are found to invest in government securities, share and debentures of other companies, NRB bonds and other sector. Here an attempt is made to segregate the Investment made by HBL.

Table: 4.7

Segregation of Investment of HBL

(Rs in million)

Year	Investment	Gov. sec	%	Shares and Deben.	%	NRB Bond	%	Others	%
2062	2878	2782	96.67	96	3.33	-		-	
2063	5510	5470	99.27	40	0.73	-		-	
2064	10891	5145	47.24	40	0.37	-		5706	52.39
2065	11822	6455	54.60	72	0.61	-		5295	44.79
2066	13340	7472	56.01	90	0.67	-		5191	38.91

Source: Banking and Financial Statistics, NRB

The above table show the investment made by HBL in different sectors. HBL is found to invest its fund in Government securities, shares and debenture of other industries, NRB bond and others. From the FY 2062 to 2064 the most of investment in Government Securities and least of investment in share and debentures of other companies but from the FY 2064 its investment in other sector. It can be concluded that HBL is increasing its investment in different sectors.

4.1.2.3. Segregation of Investment of NSBL

NSBI bank invests its collected funds in different sectors. Mostly commercial banks are found to invest in government securities, share and debentures of other companies, NRB bonds and other sector. Here an attempt is made to segregate the investment made by NSBL bank.

Table: 4.8

Segregation of Investment of NSBL

(Rs in million)

Year	Investment	Gov. sec	%	Shares and Deben.	%	NRB Bond	%	Others	%
2062	1890	1872	99.05	18	0.95	-		-	
2063	2608	2588	99.23	20	0.77	-		-	
2064	3700	3680	99.46	20	0.54	-		-	
2065	2378	2346	98.65	20	0.84	-		-	
2066	3088	3094	100.1	53	1.71	-		-	

Source: Banking and Financial Statistics, NRB

The above table show the investment made by NSBL in different sectors. NSBL is found to invest its fund in Government securities, shares and debenture of other industries. The most of its fund investment in government securities and less in share debenture of other industries. It can be concluded that NSBL is increasing its investment in government sector as well as in share and debenture but still needs to investment other sector too.

4.1.2.4 Segregation of Investment of EBL Bank

EBL invests its collected funds in different sectors. Mostly commercial banks are found to invest in government securities, share and debentures of other companies,

NRB bonds and other sector. Here an attempt is made to segregate the investment made by EBL.

Table: 4.9

Segregation of Investment of EBL

(Rs in million)

Year	Investment	Gov. sec	%	Shares and Deben.	%	NRB Bond	%	Others	%
2062	2483	2466	99.32	17	0.68	-		-	
2063	2120	2100	99.06	20	0.94	-		-	
2064	4201	3549	84.48	20	0.47	-		632	15.05
2065	4985	4705	94.38	20	0.40	-		260	5.22
2066	5059	4906	96.98	16	0.32	-		138	2.73

Source: Banking and Financial Statistics, NRB

The above table show the investment made by EBL in different sectors. EBL is found to invest its fund in Government securities, shares and debenture of other industries. The most of its fund investment in government securities and less in share debenture of other industries. From the FY 2064 it's invested in other sector. It can be concluded that EBL has started to increase and investment in other sector too but still less investment in share and debentures.

4.1.2.5. Segregation of Investment of BoKL

BokL invests its collected funds in different sectors. Mostly commercial banks are found to invest in government securities, share and debentures of other companies, NRB bonds and other sector. Here an attempt is made to segregate the investment made by BoKL.

Table: 4.10

Segregation of Investment of BoKL

(Rs in million)

Year	Investment	Gov. sec	%	Shares and Deben.	%	NRB Bond	%	Others	%
2062	2395	2372	99.03	23	0.97	-		-	
2063	2236	2147	96.02	19	3.98	-		-	
2064	2748	2654	96.58	94	3.42	-		-	
2065	2995	2332	77.86	663	22.14	-		-	
2066	3204	2113	65.95	1091	34.05	-		-	

Source: Banking and Financial Statistics, NRB

The above table shows the investment made by BoKL in different sectors. BoKL is found to invest its fund in Government securities, shares and debenture of other industries. The most of its fund investment in government securities and less in share debenture of other industries. It can be concluded that BoKL is increasing its investment in government securities and share and debenture only but still needs to invest in other sector too.

It can be concluded that the investment made by the commercial banks in different sectors are increasing. It is found that mostly commercial banks are investing its fund in Government securities, share and debenture of other industries, NRB bond and other sectors.

4.1.3 Asset Management Ratio

A commercial bank must be able to manage its assets very well to earn high profit, to satisfy its customers and for its own existence. Asset management ratio measures how efficiently, the bank manages the resources at its commands.

4.1.3.1 Ratio of Total Investment to Total Deposit

A commercial bank may finance its deposit fund to small industries building up of bank credit depends upon mutual connections and relationship between the banks and the customers. Banks needs to satisfy themselves regarding the technical knowledge and capacity for hard and sustained work on the part of borrows and the quality and marketability of the goods produced by them. Therefore commercial banks may mobilize its bank deposit by investing its fund in different securities issued by government and other financial or non-financial companies. Now effort has been made to measure the extent to which the banks are successful in mobilizing the total deposits on Investment.

In the process of portfolio management of bank assets, various factors such as availability of fund, liquidity requirement, central bank's norms etc. are to be considered in general. A high ratio is the indicator of high success to mobilize the banking fund as investment and vise versa. This ratio is calculated by dividing total Investment by total deposit.

Table: 4.11

Total Investment to Total Deposit Ratio of NIBL

(Rs in million)

Year	Investment	Deposit	Ratio (%)
2062	4172	11706	35.64
2063	4074	14255	28.58
2064	5673	18927	29.97
2065	6581	24489	26.62
2066	7399	34452	21.47
Mean			28.46
S.D.			4.61
C.V.			0.16

Source: Banking and Financial Statistics, NRB

The table shows the investment and deposit ratio of NIBL. From the FY 2062 to 2066 the investment and deposit are in increasing trend except in FY 2063 the investment decrease. The average ratio of total investment to total deposit is 28.46, standard deviation is 4.61 and co-efficient variation is 0.16 percent.

Table: 4.12

Total Investment to Total Deposit Ratio of HBL

(Rs in million)

Year	Investment	Deposit	Ratio (%)
2062	2878	22761	12.64
2063	5510	24831	22.19
2064	10891	26456	41.71
2065	11822	29906	39.53
2066	13340	31805	41.94
Mean			31.60
S.D.			12.00
C.V.			0.38

Source: Banking and Financial Statistics, NRB

The table shows the investment and deposit ratio of HBL. From the FY 2062 to 2066 the investment and deposit are in increasing trend except in FY 2062 the investment decrease. The average ratio of total investment to total deposit is 31.60, standard deviation is 12.00 and co-efficient variation is 0.38 percent.

Table: 4.13

Total Investment to Total Deposit Ratio of NSBL

(Rs in million)

Year	Investment	Deposit	Ratio (%)
2062	1890	7232	26.13
2063	2608	8646	30.16
2064	3700	10853	34.09
2065	2378	11445	20.78
2066	3088	13715	22.51
Mean			26.73
S.D.			4.89
C.V.			0.18

Source: Banking and Financial Statistics, NRB

The table shows the investment and deposit ratio of NSBL. From the FY 2062 to 2066 the investment and deposit are in increasing trend except in FY 2065 the investment decrease. The average ratio of total investment to total deposit is 26.73, standard deviation is 4.89 and co-efficient variation is 0.18 percent.

Table: 4.14

Total Investment to Total Deposit Ratio of EBL

(Rs in million)

Year	Investment	Deposit	Ratio (%)
2062	2483	8064	30.79
2063	2120	10098	20.99
2064	4201	13802	30.44
2065	4985	19098	26.10
2066	5059	23976	21.10
Mean			25.88
S.D.			4.28
C.V.			0.17

Source: Banking and Financial Statistics, NRB

The table shows the investment and deposit ratio of EBL. From the FY 2062 to 2066 the investment and deposit are in increasing trend except in FY 2063 the investment decrease. The average ratio of total investment to total deposit is 25.88, standard deviation is 4.28 and co-efficient variation is 0.17 percent.

Table: 4.15

Total Investment to Total Deposit Ratio of BoKL

(Rs in million)

Year	Investment	Deposit	Ratio (%)
2062	2395	7742	30.93
2063	2236	8943	25.00
2064	2748	10429	26.35
2065	2995	12359	24.23
2066	3204	15833	20.24
Mean			25.35
S.D.			3.45
C.V.			0.14

Source: Banking and Financial Statistics, NRB

The table shows the investment and deposit ratio of BoKL. From the FY 2062 to 2066 the investment and deposit are in increasing trend except in FY 2063 the investment decrease. The average ratio of total investment to total deposit is 25.35, standard deviation is 3.45 and co-efficient variation is 0.14 percent.

The above tables 4.11 to 4.15 reveal that HBL has lower Investment to deposit ratio on FY 2056 and it has increased its ratio up to 49.18 percent in the FY 2059. Whereas Nepal SBI bank has lower ratio on FY 2057 and higher ratio on FY 2055.

Mean ratio of HBL is higher than that of BoKL bank. Therefore, it is clear that HBL's capacity to mobilize its deposits on Investment is better than that of BoKL. On the other hand, observing the C.V. of ratios, we can further conclude that ratio of HBL less consistent then that of BoKL because of its higher C.V. i.e. 0.72>0.60. But it can be said that HBL is successful in utilizing its resources on Investment than that of BoKL.

It can be concluded that the investment to total deposit ratio of HBL is higher than other banks but the investment to total deposit ratio of BoKL is in decreasing ratio.

Figure: 4.2

Total Investment to Total Deposit Ratio

(in million)
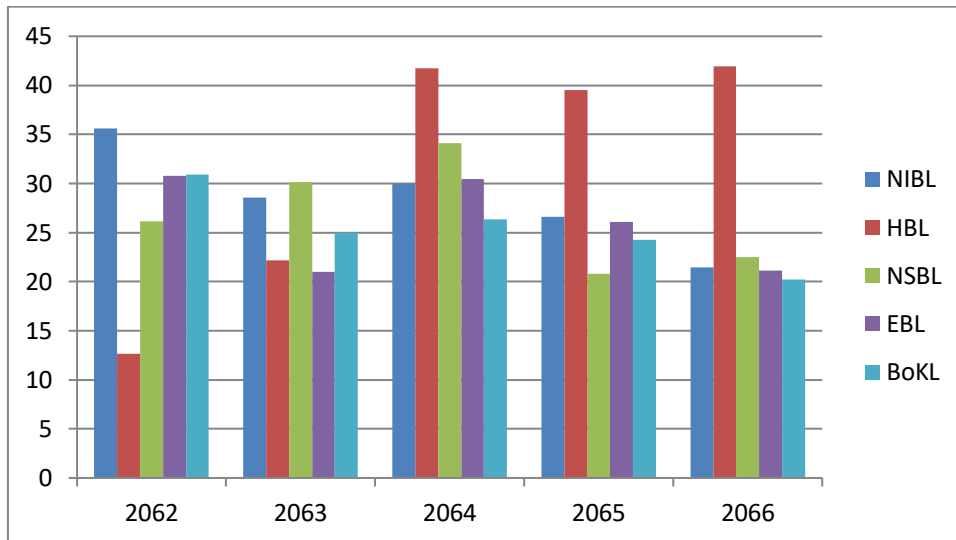
4.1.3.2 Ratio of Total Investment Plus Loan and Advance with Deposits

Loan and Advancement is also another type of investment of banks. Since the major functions of commercial banks are of deposits collection and lending, it is very important to have a look at the credit to deposit ration. Lending is a high risk Investment for a bank and the main income source of the bank is also the interest earned from loan and advances. This ratio actually measures the extent to which the banks are successful to mobilize the total deposits on Investment plus loan and advances for the purpose of profit generation. A high ratio of investment plus loan and advancement indicates better mobilization of collected deposits and vise-versa. But it should be noted that too high ratio may not be better from its liquidity point view. This ratio is calculated by dividing total Investment plus loan & advances by total deposits. The following table exhibits the ratio of total investment plus loan and advancement to total deposits of HBL and NIBL.

Table: 4.16

Total Investment Plus Loan and Advancement to Deposits Ratio of NIBL

(Rs in million)

Year	Investment + Loan & Advances	Deposits	Ratio (%)
2062	11347	11706	96.93
2063	14370	14255	100.8
2064	18680	18927	98.69
2065	24001	24489	98.00
2066	34545	34452	100.3
Mean			98.94
S.D.			1.43
C.V.			0.01

Source: Banking and Financial Statistics, NRB

The table shows the investment plus loan and advancement to deposit of NIBL. From FY 2062 to 2066 the investment plus loan and advancement to deposit are in increasing. The average ratio of total investment plus loan and advancement to deposit is 98.94, standard deviation is 1.43 and coefficient variation is 0.01.

Table: 4.17

Total Investment Plus Loan and Advancement to Deposits Ratio of HBL

(Rs in million)

Year	Investment + Loan & Advances	Deposits	Ratio (%)
2062	15960	22761	70.12
2063	18755	24831	75.53
2064	26406	26456	99.81
2065	29494	29906	98.62
2066	33325	31805	104.8
Mean			89.78
S.D.			14.09
C.V.			0.16

Source: Banking and Financial Statistics, NRB

The table shows the investment plus loan and advancement to deposit of HBL. From FY 2062 to 2066 the investment plus loan and advancement to deposit are in increasing. The average ratio of total investment plus loan and advancement to deposit is 89.78, standard deviation is 14.09 and coefficient variation is 0.16.

Table: 4.18

Total Investment Plus Loan and Advancement to Deposits Ratio of NSBL

(Rs in million)

Year	Investment + Loan & Advances	Deposits	Ratio (%)
2062	7380	7232	102.04
2063	9227	8646	106.72
2064	11760	10853	108.36
2065	12224	11445	106.81
2066	15663	13715	114.20
Mean			107.63
S.D.			3.91
C.V.			0.04

Source: Banking and Financial Statistics, NRB

The table shows the investment plus loan and advancement to deposit of NSBL. From FY 2062 to 2066 the investment plus loan and advancement to deposit are in increasing. The average ratio of total investment plus loan and advancement to deposit is 107.63, standard deviation is 3.91 and coefficient variation is 0.04.

Table: 4.19

Total Investment Plus Loan and Advancement to Deposits Ratio of EBL

(Rs in million)

Year	Investment + Loan & Advances	Deposits	Ratio (%)
2062	8600	8064	106.48
2063	10034	10098	99.36
2064	14326	13802	103.79
2065	19044	19098	99.72
2066	23873	23976	99.57
Mean			101.78
S.D.			2.87
C.V.			0.03

Source: Banking and Financial Statistics, NRB

The table shows the investment plus loan and advancement to deposit of EBL. From FY 2062 to 2066 the investment plus loan and advancement to deposit are in increasing. The average ratio of total investment plus loan and advancement to deposit is 101.78, standard deviation is 2.87 and coefficient variation is 0.03.

<div align="center">

Table: 4.20

Total Investment plus Loan and Advancement to Deposits Ratio of BoKL

</div>

(Rs in million)

Year	Investment + Loan & Advances	Deposits	Ratio (%)
2062	8444	7742	109.07
2063	8403	8943	93.96
2064	10274	10429	98.51
2065	12659	12359	102.43
2066	15897	15833	100.40
Mean			100.87
S.D.			4.97
C.V.			0.05

Source: Banking and Financial Statistics, NRB

The table shows the investment plus loan and advancement to deposit of BoKL. From FY 2062 to 2066 the investment plus loan and advancement to deposit are in increasing. The average ratio of total investment plus loan and advancement to deposit is 100.87, standard deviation is 4.97 and coefficient variation is 0.05.

The above table 4.16 to 4.20 shows that the ratio of total investment plus loan and advances to deposit. NSBL is higher ratio than other banks likewise BoKL, EBL, HBL and NIBL have got less ratio. That means the liquidity of NSBL is too low than other banks likewise BoKL, EBL, HBL and NIBL. C.V of HBL is higher than other banks which means that ratio of HBL is more variable than other banks.

It can be concluded that the ratio of total investment plus loan and advances to deposit of NSBL is higher and of HBL is lower than other banks.

Figure: 4.3

Total Investment Plus Loan and Advancement to Deposits Ratio

(in million)
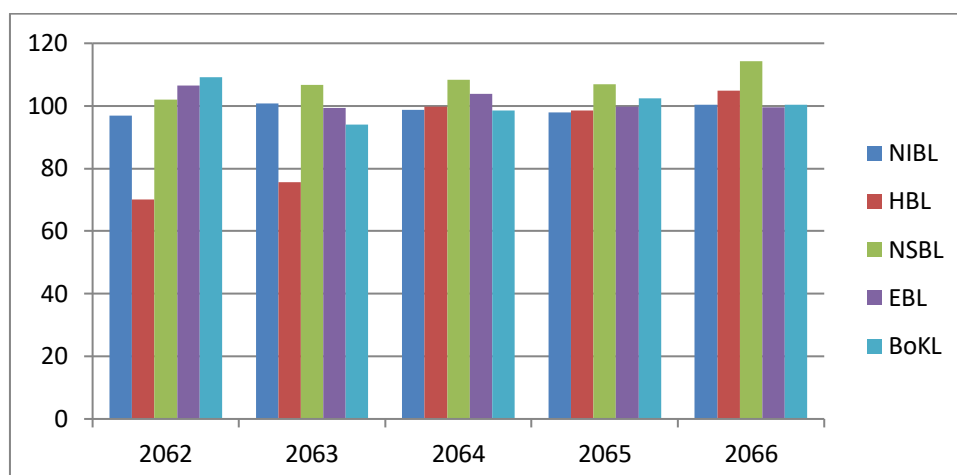
4.1.3.3 Ratio of Investment and Total Assets

A commercial bank's working fund should play very active role in profit generation through fund mobilization. This ratio reflects the extent to which the banks are successful in mobilizing their total assets on investment for the purpose of income generation. A high ratio indicates a better mobilization of fund as Investment and vice-versa. This ratio is calculated by dividing total investment by total assets i.e. total working fund. The following table exhibits the ratio of investment to total assets of NIBL, HBL, NSBL, EBL and BoKL.

Table: 4.21

Total Investment to Total Assets Ratio of NIBL

(Rs in million)

Year	Investment	Total Assets	Ratio (%)
2062	4172	13565	30.75
2063	4074	16638	24.45
2064	5673	22007	25.78
2065	6581	28573	23.03
2066	7399	40206	18.40
Mean			24.48
S.D.			4.00
C.V.			0.16

Source: Banking and Financial Statistics, NRB

The table shows the total investment to total assets of NIBL. From FY 2062 to 2066 the total investment to total assets are in increasing. The average ratio of total investment to total assets is 24.48, standard deviation is 4.00 and coefficient variation is 0.16.

Table: 4.22

Total Investment to Total Assets Ratio of HBL

(Rs in million)

Year	Investment	Total Assets	Ratio (%)
2062	2878	26751	10.76
2063	5510	29103	18.93
2064	10891	31065	35.06
2065	11822	34646	34.12
2066	13340	37527	35.55
Mean			26.88
S.D.			10.17
C.V.			0.38

Source: Banking and Financial Statistics, NRB

The table shows the total investment to total assets of HBL. From FY 2062 to 2066 the total investment to total assets are in increasing. The average ratio of total investment to total assets is 26.88, standard deviation is 10.17 and coefficient variation is 0.38.

Table: 4.23

Total Investment to Total Assets Ratio of NSBL

(Rs in million)

Year	Investment	Total Assets	Ratio (%)
20612	1890	8933	21.15
2063	2608	10617	24.56
2064	3700	13736	26.94
2065	2378	15397	15.44
2066	3088	18594	16.61
Mean			20.94
S.D.			4.43
C.V.			0.21

Source: Banking and Financial Statistics, NRB

The table shows the total investment to total assets of NSBL. From FY 2062 to 2066 the total investment to total assets are in increasing. The average ratio of total investment to total assets is 20.94, standard deviation is 4.43 and coefficient variation is 0.21.

Table: 4.24

Total Investment to Total Assets Ratio of EBL

(Rs in million)

Year	Investment	Total Assets	Ratio (%)
2062	2483	9953	24.95
2063	2120	15059	14.07
2064	4201	16715	25.13
2065	4985	23335	21.36
2066	5059	28566	17.71
Mean			20.64
S.D.			4.26
C.V.			0.20

Source: Banking and Financial Statistics, NRB

The table shows the total investment to total assets of EBL. From FY 2062 to 2066 the total investment to total assets are in increasing. The average ratio of total investment to total assets is 20.64, standard deviation is 4.26 and coefficient variation is 0.20.

Table: 4.25

Total Investment to Total Assets Ratio of BoKL

(Rs in million)

Year	Investment	Total Assets	Ratio (%)
2062	2395	9963	24.04
2063	2236	10256	21.80
2064	2743	12661	21.70
2065	2995	14998	19.97
2066	3204	18159	17.64
Mean			21.03
S.D.			2.13
C.V.			0.10

Source: Banking and Financial Statistics, NRB

The table shows the total investment to total assets of BoKL. From FY 2062 to 2066 the total investment to total assets are in increasing. The average ratio of total

investment to total assets is 21.03, standard deviation is 2.13 and coefficient variation is 0.10.

The above tables 4.21 to 4.25 shows that the ratio of total investment to total asset. The average ratio of HBL is higher than other banks likewise NIBL, EBL, NSBL and BoKL. It means HBL has used more assets for investment and EBL has used fewer assets for investment than other banks. C.V of HBL ratio is higher and BOKL is lower than other banks which means that ratio of HBL is more variable than other banks. Similarly S.D of HBL's ratio is also greater than other banks which show that HBL is operating in higher risk than other banks.

It can be concluded that the ratio of total investment to total asset of HBL is higher t and the ratio of EBL is lower than other banks.

Figure: 4.4

Total Investment to Total Assets Ratio

(in million)
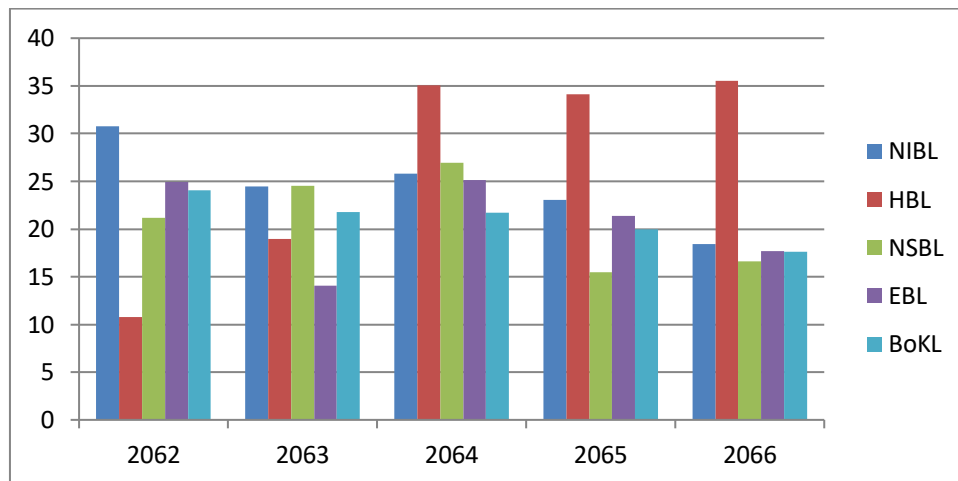
4.1.3.4. Investment on Government Securities to Total Assets Ratio

The commercial banks mostly invest its funds collected in various government securities issued by government because they consider them most liquid, that is, they can realize cash at short notice and without mush loss in capital invested. And also such securities would serve as the basis for loan from the central bank at the bank rate. The government securities are the safest place to invest the funds. They can be

67

easily sold in the market or they can be converted into the cash in other ways. But they are not so much liquid as cash and bank balance.

Here an effort is made to examine the position of a bank's total assets that is invested on different government securities. This ratio is very important to know the extent of which the banks are successful in mobilizing their total working fund on different types of government securities to maximize the income. All the deposits of the bank should not be utilized in loan and advances and other credit from security and liquidity point of view. Therefore, to some extent, commercial banks seem to be interested to utilize their deposits by purchasing government securities. A high ratio indicates better mobilization of fund as Investment on government securities and vice-versa.

This ratio is calculated by dividing investment on government securities by total assets. The following table shows the ratios of investment on government securities to total working fund of NIBL, HBL, NSBL, EBL and BoKL.

Table: 4.26

Investment on Government Securities to Total Assets Ratio of NIBL

(Rs in million)

Year	Investment on Government Securities	Total Assets	Ratio (%)
2062	2001	13565	14.75
2063	1949	16638	11.75
2064	2522	22007	11.46
2065	3256	28573	11.39
2066	3155	40206	7.85
Mean			11.44
S.D.			2.19
C.V.			0.19

Source: Banking and Financial Statistics, NRB

The table shows the investment on government securities to total assets of NIBL. From FY 2062 to 2066 the investment on government securities to total assets are in increasing. The average ratio of the investment on government securities to total assets is 11.44, standard deviation is 2.19 and coefficient variation is 0.19.

Table: 4.27

Investment on Government Securities to Total Assets Ratio of HBL

(Rs in million)

Year	Investment on Government Securities	Total Assets	Ratio (%)
2062	2782	26751	10.39
2063	5470	29103	18.79
2064	5144	31065	16.59
2065	6455	34646	18.63
2066	7472	37527	19.91
Mean			16.86
S.D.			3.41
C.V.			0.20

Source: Banking and Financial Statistics, NRB

The table shows the investment on government securities to total assets of HBL. From FY 2062 to 2066 the investment on government securities to total assets are in increasing. The average ratio of the investment on government securities to total assets is 16.86, standard deviation is 3.41 and coefficient variation is 0.20.

Table: 4.28

Investment on Government Securities to Total Assets Ratio of NSBL

(Rs in million)

Year	Investment on Government Securities	Total Assets	Ratio (%)
2062	1872	8933	20.96
2063	2588	10617	24.38
2064	3680	13736	26.79
2065	2346	15397	15.24
2066	3094	18594	16.64
Mean			20.80
S.D.			4.40
C.V.			0.21

Source: Banking and Financial Statistics, NRB

The table shows the total investment on government securities to total assets of NSBL. From FY 2062 to 2066 the investment on government securities to total assets

are in increasing. The average ratio of the investment on government securities to assets deposit is 20.80, standard deviation is 4.40 and coefficient variation is 0.21.

Table: 4.29

Investment on Government Securities to Total Assets Ratio of EBL

(Rs in million)

Year	Investment on Government Securities	Total Assets	Ratio (%)
2062	2466	9953	24.79
2063	2100	15069	13.93
2064	3549	16715	21.23
2065	4705	23335	20.16
2066	4906	28566	17.17
Mean			19.46
S.D.			3.68
C.V.			0.19

Source: Banking and Financial Statistics, NRB

The table shows the investment on government securities to total assets of EBL. From FY 2062 to 2066 the investment on government securities to total assets are in increasing. The average ratio of the investment on government securities to total assets is 19.46, standard deviation is 3.68 and coefficient variation is 0.19.

Table: 4.30

Investment on Government Securities to Total Assets Ratio of BoKL

(Rs in million)

Year	Investment on government securities	Total Assets	Ratio (%)
2062	2372	9963	23.81
2063	2147	10256	20.93
2064	2655	12661	20.97
2065	2332	14998	15.55
2066	2113	18159	11.64
Mean			18.58
S.D.			4.38
C.V.			0.23

Source: Banking and Financial Statistics, NRB

The table shows the investment on government securities to total assets of BoKL. From FY 2062 to 2066 the investment on government securities to total assets are in

increasing. The average ratio of the investment on government securities to total assets is 18.58, standard deviation is 4.38 and coefficient variation is 0.23.

The above table 4.26 to 4.30 Shows that the ratio of investment on government securities to total assets. The average ratio of NSBL is higher than other banks. Likewise BoKL, EBL, HBL and NIBL, it means NSBL has mobilized their assets as investment in government securities more than other banks. C.V of BOKL is higher than other banks. Likewise NSBL, HBL, EBL and NIBL, it shows that BOKL ratio is more variable than other banks. EBL ratio is less variable than other banks.

Therefore it can be said that, NSBL has been able to mobilize its more assets by investing on government securities whereas BOKL has mobilized less assets on investing on government securities.

Figure: 4.5

Investment on Government Securities to Total Assets Ratio

(in million)
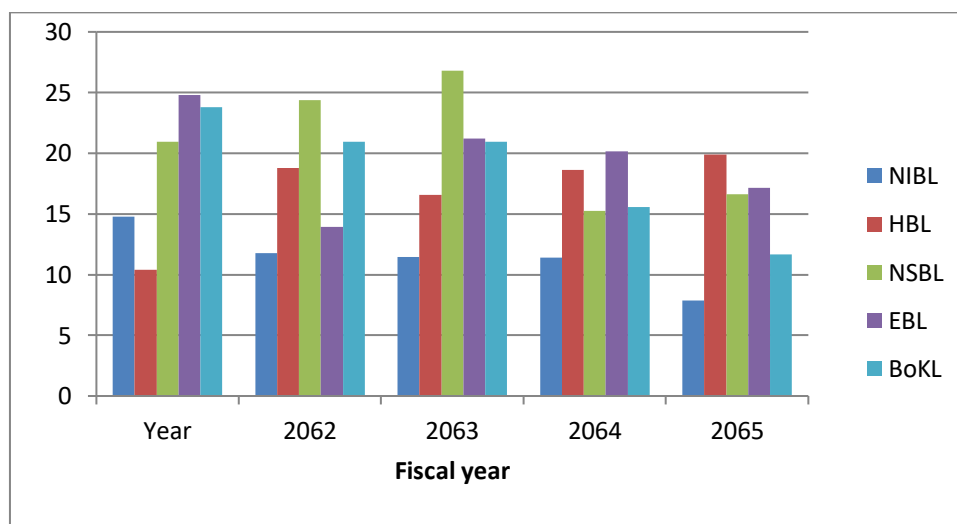
4.1.3.5 Investment on Shares and Debentures to Total Assets Ratio

To study the investment management of NIBL, HBL, NSBL, EBL and BoKL total investment has been separated into two parts i.e. Investment on government securities and Investment on shares and debentures. Nowadays, a commercial bank is interested to invest its fund not only on government securities but also in shares and debenture of other different types of companies. During the study period, most of the commercial banks of Nepal have found to purchase the share of other companies too.

71

Investment on shares and debentures to total assets ratio reflects the extent to which the banks are successful to mobilize their assets on purchase of shares and debentures of other companies to generate incomes and utilize their excess fund. A high ratio indicates more portion of investment on shares and debentures out to total assets and vice-versa. This ratio is calculated by dividing investment on share and debentures by total assets.

The following table shows the ratios of investment on shares and debentures to total assets ratio of NIBL, HBL, NSBL, EBL and BoKL.

Table: 4.31

Investment on Share and Debentures to Total Assets Ratio of NIBL

(Rs in million)

Year	Investment on Share and Debentures	Total Assets	Ratio (%)
2062	2171	13566	1.6
2063	204	16638	1.23
2064	108	22007	0.49
2065	55	28573	0.19
2066	60	40203	0.15
Mean			0.72
S.D.			4.59
C.V.			6.34

Source: Banking and Financial Statistics, NRB

The table shows the investment on share and debentures to total assets of NIBL. From FY 2062 to 2066 the investment on share and debentures to total assets are in increasing except in 2064 and 2065. The average ratio of the investment on government securities to total assets is 0.72, standard deviation is 4.59 and coefficient variation is 6.34.

Table: 4.32

Investment on Share and Debentures to Total Assets Ratio of HBL

(Rs in million)

Year	Investment on Share and Debentures	Total Assets	Ratio (%)
2062	96	26751	0.36
20623	40	29103	0.14
2064	40	31065	0.13
2065	72	34646	0.21
2066	90	37527	0.24
Mean			0.22
S.D.			0.08
C.V.			0.38

Source: Banking and Financial Statistics, NRB

The table shows the investment on share and debentures to total assets of HBL. From FY 2062 to 2066 the investment on share and debentures to total assets are in increasing. The average ratio of the investment on government securities to total assets is 0.22, standard deviation is 0.08 and coefficient variation is 0.38.

Table: 4.33

Investment on Share and Debentures to Total Assets Ratio of NSBL

(Rs in million)

Year	Investment on Share and Debentures	Total Assets	Ratio (%)
2062	18	8933	0.20
2063	20	10617	0.19
2064	20	13736	0.14
2065	20	15397	0.13
2066	53	18594	0.29
Mean			0.19
S.D.			0.06
C.V.			0.29

Source: Banking and Financial Statistics, NRB

The table shows the investment on share and debentures to total assets of NSBL. From FY 2062 to 2066 the investment on share and debentures to total assets are in increasing. The average ratio of the investment on government securities to total assets is 0.19, standard deviation is 0.06 and coefficient variation is 0.29.

Table: 4.34

Investment on Share and Debentures to Total Assets Ratio of EBL

(Rs in million)

Year	Investment on Share and Debentures	Total Assets	Ratio (%)
2062	17	9953	0.17
2063	20	15069	0.13
2064	20	16715	0.12
2065	20	23335	0.08
2066	16	28566	0.06
Mean			0.11
S.D.			0.04
C.V.			0.35

Source: Banking and Financial Statistics, NRB

The table shows the investment on share and debentures to total assets of EBL. From FY 2062 to 2066 the investment on share and debentures to total assets are in increasing except in 2065. The average ratio of the investment on government securities to total assets is 0.11, standard deviation is 0.04 and coefficient variation is 0.35.

Table: 4.35

Investment on Share and Debentures to Total Assets Ratio of BOKL

(Rs in million)

Year	Investment on Share and Debentures	Total Assets	Ratio (%)
2062	23	9963	0.23
2063	19	10256	0.18
2064	94	12661	0.74
2065	663	14998	4.42
2066	1091	18159	6.00
Mean			2.31
S.D.			2.42
C.V.			1.05

Source: Banking and Financial Statistics, NRB

The table shows the investment on share and debentures to total assets of BoKL. From FY 2062 to 2066 the investment on share and debentures to total assets are in

increasing. The average ratio of the investment on government securities to total assets is 2.31, standard deviation is 2.42 and coefficient variation is 1.05.

The above table 4.31 to 4.35 shows that the ratio of investment on share debenture to total assets. The average ratio of NIBL is higher than other banks likewise BoKL, HBL, NSBL and EBL. On the basis of mean ratios, it can be stated that NIBL has invested higher amount in shares and debentures in comparison to other banks. But it shows that all banks invest fewer funds in share and debentures of other companies. Similarly C.V. of NIBL is also higher than that of other banks likewise HBL, EBL, NSBL and BOKL. It means that ratio of NIBL is more variable than other banks. NIBL is increasing its investment on share and debentures than other banks are decreasing its investment on share and debenture.

From the above it can be concluded that all the banks doesn't invest much on share and debenture of other company. It may be because of higher risk involved with it. But commercial bank should invest in other company's shares also to develop the industry and to develop the country.

Figure: 4.6

Investment on Shares and Debentures to Total Assets Ratio

(in million)
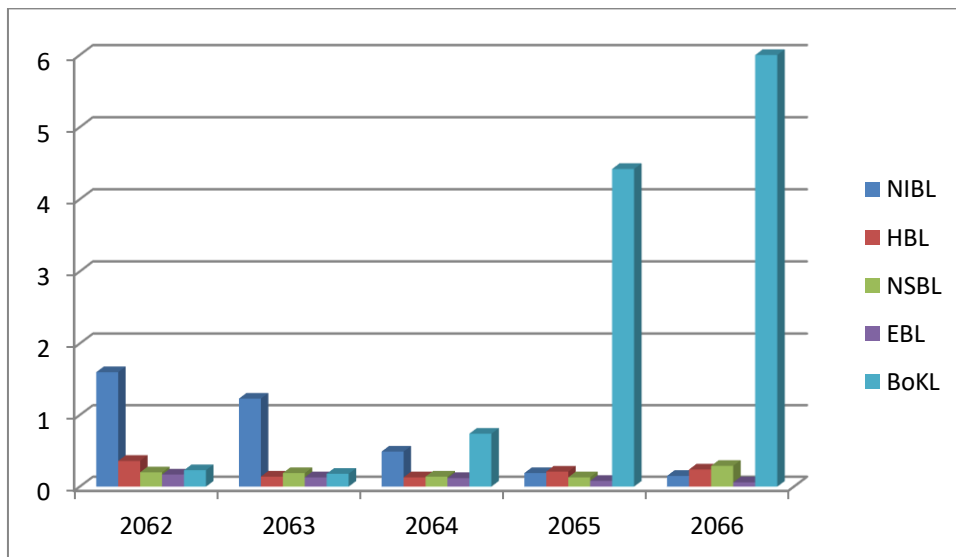
4.1.4 Growth Ratios

Growth Ratios represent how well the Commercial banks are maintaining their economic and financial position. Here those growth ratios are analyzed and interpreted which are directly related to the fund mobilization and investment management of a commercial bank. The high ratio generally indicated better performance of a bank and vice-versa.

4.1.4.1 Growth Ratio of Total Investment

This ratio shows whether the sample bank had increased the total investment or decreased the investment. The following table shows the growth ratio of HBL and Nepal SBI banks.

Table: 4.36

Growth Ratio of Investment

(Rs in million)

Year	NIBL	HBL	NSBL	EBL	BoKL
2062	4172	2878	1890	2483	2395
2063	4072	5510	2608	2120	2236
2064	5673	10891	3700	4201	2748
2065	6518	11822	2378	4985	2995
2066	7399	13340	3088	5059	3204
Growth Ratio %	15.18	46.73	13.06	19.47	7.55

Source: Banking and Financial Statistics, NRB

Figure: . 4.7

Growth Ratio of Investment

(in million)
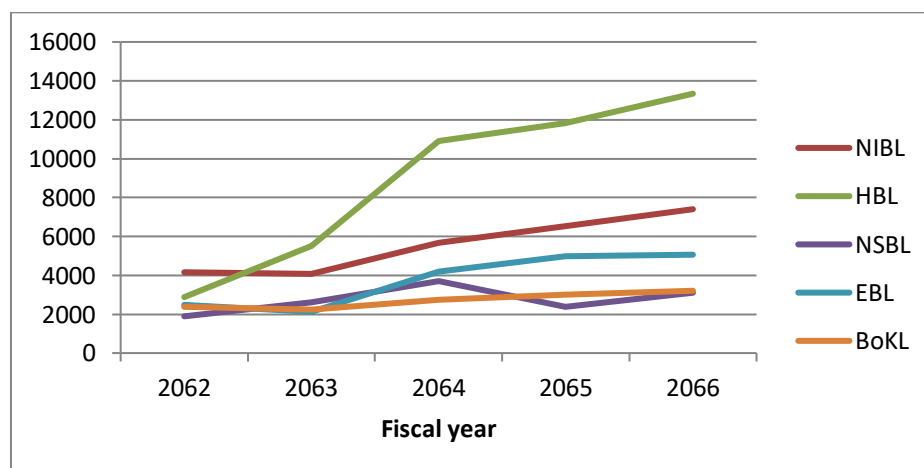
The above table and graph shows that the growth rate of investment of sample bank. All banks increasing their investment in different sectors. HBL has higher growth rate of investment than other banks. Likewise NIBL, EBL, NSBL and BoKL. HBL has higher investment than other banks likewise NIBL, EBL, BoKL and NSBL. The calculation method of growth ratios is shown in appendix no.1.

4.1.4.2 Growth Ratios of Deposits

The bank collects its deposit from public. The growth ratio of deposits represent whether the banks had been able to increase its deposit collection or not. The following table represents the growth ratios of deposits of NIBL, HBL, NSBL, EBL and BoKL.

Table: 4.37

Growth Ratio of Deposit

(Rs in million)

Year	NIBL	HBL	NSBL	EBL	BoKL
2062	11706	22761	7232	8064	7742
2063	14255	24831	8646	10098	8943
2064	18927	26456	10853	13802	10429
2065	24489	29906	11445	19098	12359
2066	34452	31805	13715	23976	15833
Growth Ratio %	**30.98**	**8.72**	**17.35**	**31.31**	**19.59**

Source: Banking and Financial Statistics, NRB

Figure: 4.8

Growth Ratios of Deposits

(in million)

77
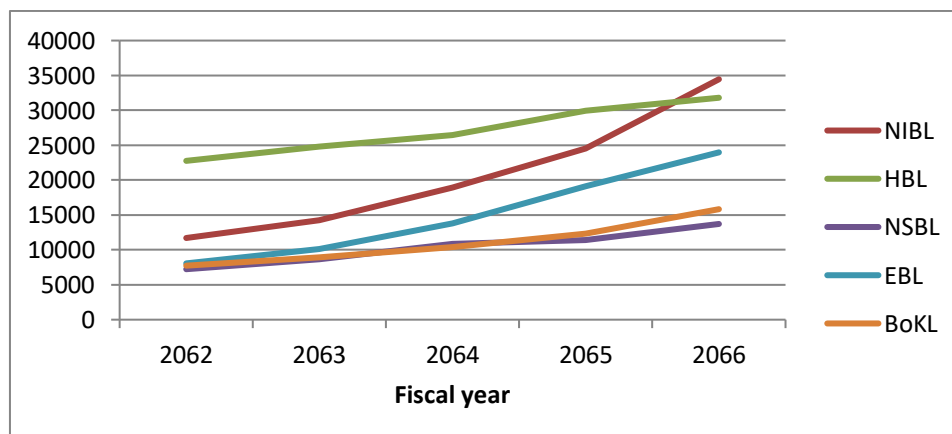
The above table and graph shows that the deposit collection of banks. All the banks are increasing their deposits. EBL has higher growth ratio of deposit than other bank. Likewise NIBL, BoKL, NSBL and HBL. NIBL has collected higher deposit than other banks likewise HBL, EBL, BoKL and NSBL. The calculation method of growth ratios is shown in appendix no.2.

4.1.4.3 Growth Ratio of Loan and Advances

Loan and Advances growth ratio shows whether the banks are increasing its loan and advances or decreasing. The following table shows the position of loan and advances of HBL and Nepal SBI bank.

Table: 4.39

Growth Ratio of Loan and Advance

(Rs in million)

Year	NIBL	HBL	NSBL	EBL	BoKL
2062	7174	13082	5491	6117	6050
2063	10295	13245	6619	7914	6167
2064	13007	15516	8060	10124	7225
2065	17482	17972	9848	14059	9664
2066	27146	19985	12575	18814	12692
Growth Ratio %	39.47	11.18	23.02	32.43	20.35

Source: Banking and Financial Statistics, NRB

Figure: 4.9

Growth Ratios of Loan and Advances

(in million)
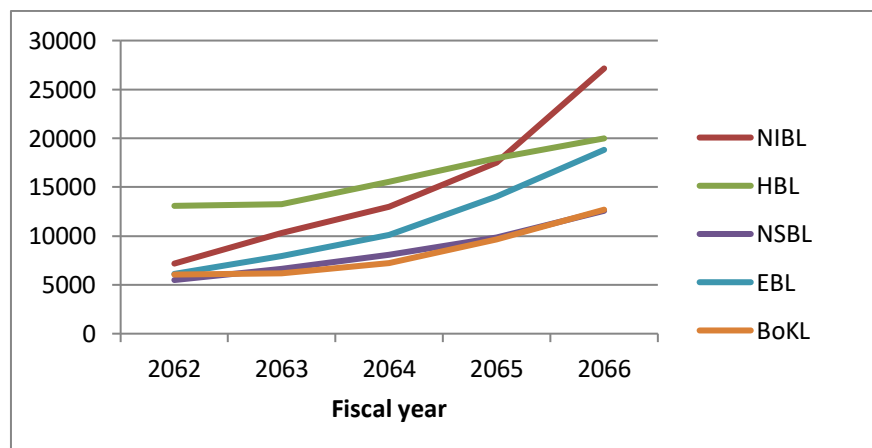
The above table and graph shows growth ratio of loan and advances. All the banks are increasing its loan and advances. NIBL has higher growth ratio than other banks likewise EBL, NSBL, BoKL and HBL. NIBL has higher loan and advances than other banks likewise HBL, EBL, NSBL and BoKL. The calculation method of growth ratios is shown in appendix no .3.

4.1.5 Statistical Analysis

Here, statistical tools such as co-efficient of correlation analysis between different variables, trend analysis of Investment, loan and advances are used to achieve the objectives of the study.

4.1.5.1 Testing of Hypothesis

Hypothesis means the presumption as quantitative statement of the population parameter which may be true or false. In order to make proper decision about the quantitative statement of the population, testing hypothesis technique is used. The testing of hypothesis is carried out by using sample information. Hence in statistics, hypothesis is a statistical statement about the values of one or more parameters of the population. After setting the hypothesis, it is necessary to test the reliability of such statistical statements.

For this purpose, an experiment is conducted by using sample information and the hypothesis is rejected if the results obtained are improbable under this hypothesis. If the results are not improbable, the hypothesis is accepted. The procedure of drawing such conclusion based on sample information is known as testing of hypothesis.

In this topic, an effort has been made to test the significance regarding the parameter of the population on the basis of sample drawn from the population. The various steps in test of hypothesis can be used which are as follows:

Step 1: Setting of hypothesis
- Null Hypothesis
- Alternative hypothesis

Step 2: Selecting suitable and proper test statistic
Step 3: Selecting the level of significance

Step 4: Finding the critical region

Step 5: Making decision

Test of Hypothesis on Investment plus Loan & Advance on Total Deposit Ratio of NIBL, HBL, NSBL, EBL and BoKL.

a. Test of Significance difference between HBL and NIBL

NIBL	HBL
$\bar{x}_1 = 98.94$	$\bar{x}_2 = 89.78$
$n_1 = 1$	$n_2 = 2$
$\sum x_1^2 = 10.29$	$\sum x_2^2 = 993.93$

Null Hypothesis (H_0): $\mu = \mu$ i.e. there is no significant different between two mean ratio of loan and advances to total deposit of HBL and NIBL

Alternative Hypothesis (H_1): $\mu_1 = \mu_2$ (two tailed test) i.e. there is significant difference between two mean ratio of loan and advances to total deposit of HBL and NIBL.

We have,

$$S^2{}_p = \frac{1}{n_1 + n_2 - 2}\left(\sum x^2{}_1 + \sum x^2{}_2\right)$$

$$= \frac{1}{5+5-2}(10.29 + 993.93)$$

$$= 120.20$$

Test Statistic,

$$T = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{s^2{}_p\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Where,

$\bar{x}_1$ = mean ratio of HBL

$\bar{x}_2$ = mean ratio of NSBI

80

$S^2{}_p$= an unbiased estimate of the common population variance σ^2. Using actual mean method.

$$= \frac{98.94 - 89.78}{\sqrt{120.50\left(\frac{1}{5}+\frac{1}{5}\right)}}$$

$$/t/ = 1.31$$

Degree of freedom (d.f) = $n_1 + n_2 - 2 = 5+5-2 = 8$

Level of significance = 5%

Critical value: The tabulated value of t at α 5% for two tailed test of for 8 d.f is 2.306. Decision: Since calculated value of t is more than tabulated value the null hypothesis. H_0 is rejected and hence alternative hypothesis H_1 is accepted. It means there is significant difference between mean ratios i.e. investment and deposit of HBL and NIBL

b. Test of significance difference between NSBL and EBL

NSBL	EBL
$\bar{x}_3$= 107.63	$\bar{x}_4$= 101.78
n_3= 3	n_4= 4
$\sum x_3^2$= 76.44	$\sum x_4^2$= 41.11

Null Hypothesis (H_0): $\mu = \mu$ i.e. there is no significant different between two mean rations of loan and advances to total deposit of HBL and NIBL

Alternative Hypothesis (H_1): $\mu_1 = \mu_2$ (two tailed test) i.e. there is significant difference between two mean ratio of loan and advances to total deposit of NSBL and EBL.

We have,

$$S^2{}_p = \frac{1}{n_3+n_4-2}\left(\sum x^2{}_3 + \sum x^2{}_4\right)$$

$$= \frac{1}{5+5-2}(76.44+41.11)$$

$$= 14.10$$

81

Test Statistic,

$$T = \frac{\overline{x_3} - \overline{x_4}}{\sqrt{s^2{}_p(\frac{1}{n_3} + \frac{1}{n_4})}}$$

Where,

$\overline{x_1}$ = mean ratio of HBL

$\overline{x_2}$ = mean ratio of NSBL

$S^2{}_p$ = an unbiased estimate of the common population variance σ^2. Using actual mean method.

$$= \frac{107.63 - 101.78}{\sqrt{14.10\left(\frac{1}{5} + \frac{1}{5}\right)}}$$

/t/ = 2.46

Degree of freedom (d.f) = $n_1 + n_2 - 2 = 5 + 5 - 2 = 8$

Level of significance = 5%

Critical Value: The tabulated value of t at α 5% for two tailed test of for 8 d.f is 2.306.

Decision: Since calculated value of t is less than tabulated value the null hypothesis.

H₀ is Accepted. Therefore we conclude that there is no significant difference between mean ratios i.e. investment and deposit of EBL and NSBL.

c. Test of significance difference between EBL and BOKL

EBL	BOKL
$\bar{x}_4$ = 101.78	$\bar{x}_5$ = 100.87
n_4 = 4	n_5 = 5
$\sum x_4^2$ = 41.11	$\sum x_5^2$ = 123.19

Null Hypothesis (H₀): $\mu = \mu$ i.e. there is no significant different between two mean rations of loan and advances to total deposit of HBL and NIBL

Alternative Hypothesis (H_1): $\mu_1 = \mu_2$ (two tailed test) i.e. there is significant difference between two mean ratio of loan and advances to total deposit of NSBL and EBL.

We have

$$S^2_p = \frac{1}{n_1+n_2-2}\left(\sum x^2_4 + \sum x^2_5\right)$$

$$= \frac{1}{5+5-2}(41.11+123.19)$$

$$= 19.71$$

Test Statistic,

$$T = \frac{\overline{x_3} - \overline{x_4}}{\sqrt{s^2_p\left(\frac{1}{n_3}+\frac{1}{n_4}\right)}}$$

Where,

$\overline{x_4}$ = mean ratio of HBL

$\overline{x_5}$ = mean ratio of NSBL

S^2_p = an unbiased estimate of the common population variance σ^2. Using actual mean method.

$$= \frac{101.78-100.87}{\sqrt{19.71\left(\frac{1}{5}+\frac{1}{5}\right)}}$$

/t/=0.11

Degree of freedom (d.f) = n_1+n_2-2 = 5+5-2=8

Level of significance = 5%

Critical value: The tabulated value of t at α 5% for two tailed test of for 8 d.f is 2.306.

Decision: Since calculated value of t is more than tabulated value the null hypothesis. H_0 is rejected and hence alternative hypothesis H_1 is accepted. It means there is significant difference between mean ratios i.e. investment and deposit of EBL and BOKL.

4.1.5.2 Multiple Regression Analysis

Multiple regression is defined as the statistical device which is used to estimate (or predict) the value of one dependent variable when the values of two or more independent variable are known or given. In multiple regression analysis, two or more independent variables are used to predict the valued of a dependent variable. It is a statistical technique for investigating the relationship between one dependent variable and a set of two or more independent variables. Thus this multiple regression analysis is used to predict (or control) relationship between profit (dependent variable) with two independent variable (Investment plus loan and advance) and deposit. In this analysis y, x, x_1 and denote profit, investment plus and advance and deposit respectively. Clearly profit depends on investment plus loan and advances and deposit. So, the multiple regression equation y on x and x_1i.e.

$$y = a + bx + b_1x_1\ldots\ldots\ldots\ldots\ldots\ldots.i$$

Where a, b, and b_1 are regression parameters whose values are to be determined. To find the values of a, b, and b_1 we have to solve the following normal equations.

$$\sum y = na + b\sum x + b_1\sum x_1\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.ii$$
$$\sum xy = a\sum x + b\sum x^2 + b_1\sum xx_1\ldots\ldots\ldots\ldots\ldots\ldots\ldots.iii$$
$$\sum x_1y = a\sum x_1 + b\sum xx_1 + b_1\sum x^2_1\ldots\ldots\ldots\ldots\ldots.iv$$

HBL

To find out the profit in future, let's assume x and x_1 as 300 Then,

$y = a + bx + b_1x_1$

$\quad = -2.512 + 0.014 \times 300 + 0.0105 \times 300$

$\quad = 4.84$

The profit is $4.84 \times 100000000 = 484000000$

Keeping the value of x as constant and changing the value of x_1 as 350.

$\quad y = a + bx + b_1x_1$

$\quad\quad = -2.512 + 0.014 \times 300 + 0.0105 \times 350$

$\quad\quad = 5.363$

The profit is $5.36 \times 100000000 = 536000000$

Again Keeping the value of x_1 is as constant and changing the value of x as 350.

$$y = a + bx + b_1x_1$$
$$= -2.512 + 0.014 \times 350 + 0.0105 \times 300$$
$$= 5.54$$

The profit is $5.54 \times 100000000 = 554000000$.

Interpretation

When we assume the investment plus loan & advance and deposit is 300 each, the profit is Rs 484000000. In next step investment plus loan & advance is constant and deposit is change with 50, the profit is 536000000. Similarly investment plus loan & advance is change and deposit is constant, that time profit is 554000000 which is more profit than other.

NIBL

To find out the profit in future, let's assume x and x_1 as 300. Then,

$$y = a + bx + b_1x_1$$
$$= 0.55 + 0.017 \times 300 - 0.0002 \times 300$$
$$= 5.59$$

The profit is $5.59 \times 100000000 = 559000000$

Keeping the value of x as constant and changing the value of x_1 as 350

$$y = a + bx + b_1x_1$$
$$= 0.55 + 0.017 \times 300 - 0.0002 \times 350$$
$$= 5.58$$

The profit is $5.58 \times 100000000 = 558000000$

Again keeping the value of x_1 as constant and changing the value of x as 350

$$y = a + bx + b_1x_1$$
$$= 0.55 + 0.017 \times 350 - 0.0002 \times 300$$
$$= 6.44$$

The profit is $6.44 \times 100000000 = 644000000$.

Interpretation

When we assume the investment plus loan & advance and deposit is 300 each, the profit is Rs 559000000. In next step investment plus loan & advance is constant and deposit is change with 50, the profit is 558000000. Similarly investment plus loan & advance is change and deposit is constant, that time profit is 644000000, Which is more profit than other.

EBL

To find out the profit in future, let's assume x and x_1 as 200. Then

$y = a + bx + b_1x_1$

$= -1.15 + 0.08 \times 200 + (-0.06 \times 200)$

$= 2.85$

The profit is $2.85 \times 100000000 = 285000000$

Keeping the value of x as constant and changing the value of x_1 as 250

$y = a + bx + b_1x_1$

$= -1.15 + 0.08 \times 200 + (-0.06 \times 250)$

$= -0.15$

The profit is $-0.15 \times 100000000 = -15000000$

Again keeping the value of x_1 as constant and changing the value of x as 250

$y = a + bx + b_1x_1$

$= -1.15 + 0.08 \times 250 + (-0.06 \times 200)$

$= 6.85$

The profit is $6.85 \times 100000000 = 685000000$.

Interpretation

When we assume the investment plus loan & advance and deposit is 200 each, the profit is Rs 285000000. In next step investment plus loan & advance is constant and deposit is change with 50, the profit is -15000000. Similarly investment plus loan & advance is change and deposit is constant, that time profit is 685000000, which is more profit than other.

BoKL

To findout the profit in future, let's assume x and x_1 as 250. Then,

$y = a + bx + b_1x_1$

   = -0.96 + 0.006 $\times$250 +(0.019 $\times$250)

   = 5.29

The profit is 5.29 $\times$ 100000000 = 529000000

Keeping the value of x as constant and changing the value of x_1 as 300

   $y = a + bx + b_1x_1$

    = -0.96 + 0.006 $\times$ 250 + (0.019 $\times$300)

   = 6.24

The profit is 6.24$\times$ 100000000 = 624000000

Again keeping the value of x_1 as constant and changing the value of x as 300

    $y = a + bx + b_1x_1$

     = -0.96 + 0.006 $\times$ 300 + (0.019 $\times$250)

     = 5.59

The profit is 5.59 $\times$100000000 = 559000000.

Interpretation

When we assume the investment plus loan & advance and deposit is 250 each, the profit is Rs 529000000. In next step investment plus loan & advance is constant and deposit is change with 50, the profit is 624000000. Similarly investment plus loan & advance is change and deposit is constant, that time profit is 559000000.

NSBL

To find out the profit in future, let's assume x and x_1 as 200 then

$y = a + bx + b_1x_1$

   = -0.1163 + 0.014 $\times$200 -(0.0005 $\times$200)

   = 2.58

  The profit is 2. 58 $\times$ 100000000 = 258000000

Keeping the value of x as constant and changing the value of x_1 as 250

$y = a + bx + b_1x_1$

$= -0.1163 + 0.014 \times 200 - (0.0005 \times 250)$

$= 2.56$

The profit is $2.56 \times 100000000 = 256000000$

Again keeping the value of x_1 as constant and changing the value of x_1 as 250

$y = a + bx + b_1x_1$

$= -0.1163 + (0.014 \times 250 - 0.005 \times 200)$

$= 3.28$

The profit is $3.28 \times 100000000 = 328000000$.

Interpretation

When we assume the investment plus loan & advance and deposit is 200 each, the profit is Rs 258000000. In next step investment plus loan & advance is constant and deposit is change with 50, the profit is 256000000. Similarly investment plus loan & advance is change and deposit is constant, that time profit is 328000000.

The calculation method of required value of HBL, NIBL, EBL, NSBL and BOKL are shown in appendix no 4.

4.1.5.3. Co-efficient of Correlation Analysis between Investment and Deposits

Under this topic, Karl Pearson's coefficient of correlation has been used to find out the relationship between Investment plus loan and advances and deposit. It is already mentioned that Investment is dependent upon saving i.e. deposit. Longer the duration of deposit, higher the banker's ability to acquire long term asset. In the other words banker can't invest more on long asset if duration of deposit is short. In this sense it can be said that Investment is the function of deposit. Theoretically it is assumed that long-term asset yield higher return. It means longer the duration of deposit, higher would be the profitability of the bank. But Investment may not be the function of deposit only. Sometimes investment is made from the funds raised from the sources. In such situation investment is not dependent upon deposit only co-efficient of correlation between deposit and loan and advances measures the degree of

relationship between these two variables. In this analysis deposits is independent variable (Y) and Investment plus Loan and Advances is dependent variable (X).

The detail calculations in this regard are done in Appendix- 5 and the following table show the value of rxy, r² and P.Er and 6 P.E between those variables of HBL and Nepal SBI during the study period.

Table: 4.40

Correlation Between Investment and Deposits

S. No	Banks	r	r²	P.E.	6 P.E.
1.	NIBL	0.9996	0.9992	0.0002	0.0012
2.	HBL	0.3527	0.1244	0.0264	0.1584
3.	NSBL	0.9973	0.9964	0.0016	0.0094
4.	EBL	0.2166	0.0469	0.2751	1.6507
5.	BoKL	0.9892	0.9785	0.0065	0.0039

From the above table, NIBL has higher co-efficient of relation than other banks. Similarly EBL, NSBL, BoKL and HBL. It shows positive relationship between these two variables. And the value of co-efficient of determination (r²) is also higher of NIBL, which means 99.92% of Investment decision is dependent upon deposit and only 0.08% Investment is depend upon other variables. Similarly Probable Error (P.E.) is 0.0002 and 6P.E. is 0.0012 which shows that 'r' is highly greater than 6P.E. Therefore it reveals that relationship between deposit and investment is significant.

Likewise in the case of HBL, coefficient of correlation between investment and deposit is 0.3527 which shows that there is a positive correlation between deposit and investment and the value of co-efficient of determination (r²) is 0.1244. Which means 12.44% Investment is depend on deposit and 87.56% Investment decision depends on other variables. And its Probable Error (P.E.) is 0.0264 and similarly 6P.E. is 0.1584 which is less than coefficient of correlation (r). It means correlation of coefficient between deposit and investment of HBL is also significant though there is positive relation between them.

Likewise in the case on NSBL, coefficient of correlation between Investment and deposit is 0.9973 which shows that there is a positive correlation between deposit and investment and the value of co-efficient of determination (r²) is 0.9964. Which means

99.64% Investment is depend on deposit and 0.36% Investment decision depends on other variables. And Probable Error (P.E.) is 0.0016 and similarly 6P.E. is 0.0094 which is less than coefficient of correlation (r). Therefore it reveals that relationship between deposit and investment is significant.

Likewise in the case on EBL, coefficient of correlation between Investment and deposit is 0.2166 which shows that there is a positive correlation between deposit and investment and the value of co-efficient of determination (r²) is 0.0469. Which means 4.69% Investment is depend on deposit and 95.31% Investment decision depends on other variables. And Probable Error (P.E.) is 0.2751 and similarly 6P.E. is 1.6507 which is more than coefficient of correlation (r). Therefore it reveals that relationship between deposit and investment is insignificant.

Likewise in the case of BoKL, coefficient of correlation between Investment and deposit is 0.9892 which shows that there is a positive correlation between deposit and Investment and the value of co-efficient of determination (r²) is 0.9785. Which means 97.85% Investment is depend on deposit and 2.15% Investment decision depends on other variables. And Probable Error (P.E.) is 0.0065 and similarly 6P.E. is 0.0039 which is less than coefficient of correlation (r). Therefore it reveals that relationship between deposit and investment is significant. Calculation of co-relation between investment and deposit is shown in appendix No. 5.

4.1.5.4. Trend Analysis and Projection for Next 5 Years

The objective of this topic is to analysis trend of investment of NIBL, HBL, NSBL, EBL and BoKL. To utilize investment of a commercial bank may grant loan and advances and invest in government securities and shares and debentures of other companies. Under this topic an attempt is made to analyze trend of investment of NIBL, HBL, NSBL, EBL and BoKL and also forecast their trend for next five years. The projections are based on the following assumptions:

- The main assumption is that other things will remain unchanged.
- The bank will run in present position.
- The economy will remain in the present stage.
- Nepal Rastra Bank will not change its guidelines to commercial banks.

4.1.5.4.1 Trend Analysis of Total Investment

Under this topic an attempt is made to analyze the trend of Investment of NIBL, HBL, NSBL, EBL and BoKL and forecast the trend for next 5 years. Here, Investment includes investment on government securities and investment in share and debenture of other companies plus loan and advances. Since loan and advances are also the investment of the bank, it is also included with total investment. The following table shows the trend values of 10 years from 2062B.S. to 2071B.S. of NIBL, HBL, NSBL, EBL and BoKL.

**Table: 4.41**

Trend Values of Investment

(Rs in million)

Year	NIBL	HBL	NSBL	EBL	BoKL
2062	11347	15960	7380	8600	8444
2063	14370	18755	9227	10034	8403
2064	18680	26406	11760	14326	10274
2065	24001	29494	12224	19044	12659
2066	27233	33325	15663	23873	15897
2067	37397	38429	17119	27042	16884
2068	42999	42976	19076	30998	18800
2069	48602	47523	21032	34953	20716
2070	54205	52069	22989	38909	22633
2071	59808	56616	24945	42865	24549

From the above table it is found that investment trend of commercial banks is in increasing trend. Other things remaining the same, the investment of NIBL will be higher than the other banks. Similarly HBL, EBL, NSBL and BoKL. From the above investment trend it is clear that NIBL run far ahead than other banks.

In conclusion, we can say that all the commercial banks have followed the policy of maximizing the investment. Calculation of trend of Investment is shown in appendix No. 6

Figure: 4.10

Trend Value Investment

(in Million)
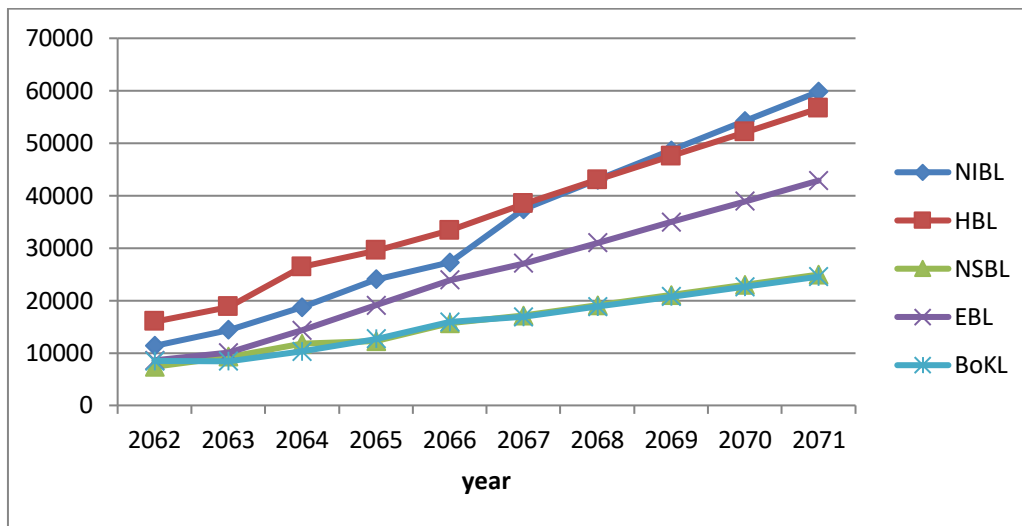
4.2 Presentation and Analysis of Primary Data

Under the presentation and analysis of primary data, here includes the first hand data to justify the study on the topic of primary questionnaire methods.

4.2.1 Questionnaire Analysis

Here, we used another tools to analyze investor awareness. A number of questions were put up by means of copies of questionnaire. The questionnaire so collected is thus related to find out the opinion of investor. Their response have been analyze as follows:

(i) Sector of Investment Analysis

Table: 4.42

Sector-Wise Preference for Investment

S.N.	Research Variable	No. of Persons	% of Persons
1.	Yes	35	70
2.	No	10	20
3.	Cannot say	5	10
	Total	50	100

Source: Field Survey, 2010

Regarding the sector of investment the investors are asked whether the banking is the sector most of the investors are like to invest, 70% of them said (Yes), 20% of them said (No), rest of them said (Cannot say). It is clear that most of the investor's i.e. 70% of them are attracting in banking sector. The data collected are formatted and presented in the above table.

(ii) Investors Awareness Analysis

Table: 4.43

Investors Awareness on the Stock Market

S. N.	Research Variable	No. of Persons	% of Persons
1.	Yes	12	24
2.	No	9	18
3.	Little know	29	58
	Total	50	100

Source: Field Survey, 2010

When question asked to the public do you think Nepalese investor are aware about stock market, most of them i.e. 58% of them said (Little know), 24% of them said (Yes), 18% of them said (No). Regarding the awareness most of the investors said they were not familiar with stock markets.

(iii) Financial Publication Analysis

Table: 4.44

Financial Publication Analysis

S.N.	Research Variable	No. of Persons	% of Persons
1.	Yes	25	50
2.	No	10	20
3.	Cannot say	15	30
	Total	50	100

Source: Field Survey, 2010

When question asked to the public are the banks duly publishing their financial statement, 50% of them said (Yes), 30% of them said (Cannot say) and rest of them said (No).

(iv) Political Environment Analysis

Table: 4.45

Political Environment Analysis

S.N.	Research Variable	No. of Persons	% of Persons
1.	Yes	40	80
2.	No	0	0
3.	Don't know	10	20
	Total	50	100

Source: Field Survey, 2010

When question asked to the public does the political environment affects the banks investment policy, 80% of them said (Yes), 20% of them said (Don't know) and none of them said (No). So, we can say that political environment mostly affects the banks investment policy.

(v) Factors Influencing Analysis

Table: 4.46

Factors Influencing Analysis

S.N.	Research Variable	No. of Persons	% of Persons
1.	Past performance	33	66
2.	History of Board of Director	10	20
3.	Excepted profit	7	14
	Total	50	100

Source: Field Survey, 2010

When question asked to the public, what are the most influencing factors that affect the bank's investment policy. 66% of them said (Past performance), 20% of them said (History of Board of Director) and rest of them said (Excepted profit).

(vi)Trend Analysis

Table: 4.47

Trend Analysis

S. N.	Research Variable	No. of Persons	% of Persons
1.	Consumers Banking	35	70
2.	Industrial Loan	10	20
3.	Wholesale Banking	5	10
	Total	50	100

Source: Field Survey, 2010

When question asked to public, now, which is the following trend is prevalent in bank. 70% of them said (Consumer banking), 20% of them said (Industrial loan) and rest 10% of them said (Wholesale banking).

(vii) Landing Process Analysis

Table: 4.48

Landing Process Analysis

S. N.	Research Variable	No. of Persons	% of Persons
1.	Above all	23	46
2.	Income	10	20
3.	Social status	9	18
4.	Marketing	8	16
	Total	50	100

Source: Field Survey, 2010

When question asked to the public, what do you think of landing process at bank. 46% of them said (Above all), 20% of them said (Income), 18% of them said (Social status) and rest 16% of them said (Marketing).

(viii) Bank Loan Analysis

Table: 4.49

Bank Loan Analysis

S. N.	Research Variable	No. of Persons	% of Persons
1.	Yes	15	30
2.	No	27	54
3.	Will not say	8	16
	Total	50	100

Source: Field Survey, 2010

When question asked to the public, have you even obtained of bank loan. 54% of them said (No), 15% of them said (Yes) and rest 16% of them said (Will not say).

95

(ix) Loan Type Analysis

Table: 4.50

Loan Type Analysis

S. N.	Research Variable	No. of Persons	% of Persons
1.	Home loan	20	40
2.	Business loan	15	30
3.	Mortgage	13	26
4.	Education loan	2	4
	Total	50	100

Source: Field Survey, 2010

When question asked to the public, what types of bank loan you obtained from bank. 40% of them said (Home loan), 30% of them said (Business loan), 26% of them said (Mortgage loan) and rest 4% of them said (Education loan).

(x) Public Opinion Analysis

When question asked to the public, what are the major things to be taken for increase of investment from banking in Nepal. Most of the people have their own opinion, most of them said that there should be good political environment, some said that increase in investment sector, some said decrease in expenditure, some said increasing in saving, some said government should encourage to banks and some said government should make good economic and financial policy.

4.3 Major Findings of the Study

From the analysis of financial data, the main findings are as follows:

- Mean ratio of HBL investment to total commercial banks investment is 10.64% which is extremely higher than that of other banks to total commercial banks. The portion of HBL Investment is increasing every year in the Total Investment of Commercial banks. The ratio of NSBL and BoKL is 3.61% which is less than other banks.

- NSBL has invested most of their fund in government securities than other banks. Likewise NIBL. HBL, EBL and NIBL has started to invest in other sector from FY 2062. All the banks has invested fewer funds to share and capital of other company. The commercial banks mostly invest on government securities, NRB bond and share and debentures of other company.

96

- The mean ratio of Investment of Total deposit of HBL is 31.60% which is higher than other banks. Likewise NIBL, BoKL, EBL and NSBL. Loan and advances is also another type of Investment of Commercial bank. The mean ratio of Investment plus loan and advances to deposit ratio of NSBL is 107.63% which is higher than other banks, HBL has less than other banks. It shows that the bank uses most of its fund from deposit on Investment and loan and advances. The mean ratio of total investment to total assets ratio of HBL is 26.88% which is greater than other banks. Similarly EBL has fewer ratios than other banks. The mean ratio of investment on government securities to total assets ratio of NSBL is 20.80% which is higher than other banks and NIBL has 11.44% which is less ratio than other banks. The mean ratio of investment on share and debenture to total asset ratio of BoKL is 2.31% which is higher than other banks. BoKL has use its more fund on share and debenture of other companies than other banks. EBL has 0.11% which is less ratio of investment on share and debenture of other companies than other banks. It means EBL less invest its fund on share and debenture.

- Growth ratio of Investment of HBL is 46.73% which is higher than other banks. Likewise NIBL, NSBL, EBL and BoKL. All the banks increasing their investment. BoKL has 7.55% which is less growth ratio than other banks. Growth ratio of loan and advance of NIBL has 39.47% which is higher than that of other banks and HBL has 11.18% which is lower growth ratio of loan and advance. All the banks are increasing their loan and advance. Growth ratio of deposits of EBL is 31.31% which is higher than that other banks and HBL has 8.72% which is lower growth ratio of deposit. All the banks are increasing their deposit.

- From the Statistical Analysis of financial data of banks it is found that Total Investment and Total deposit of all five banks has positive relation. And co-relation of co-efficient between deposit and investment of all five banks are significant and the value of co-efficient of determination (r^2) of NIBL is 0.9996 which is higher than other banks it means 99.96% of Investment decision is dependent upon deposit and only 0.04% Investment is depend upon other variables. Similarly Probable Error (P.E.) is 0.0002 and 6P.E. is 0.0012 which shows that (r) is highly greater than 6P.E. Therefore it reveals that relationship

between deposit and Investment is significant. In the case of EBL, coefficient of correlation between Investment and deposit is 0.2166 which is less than other banks it shows that there is a positive correlation between deposit and Investment and the value of co-efficient of determination (r²) is 0.0469. Which mean only 4.69% Investment is depend on deposit and 95.31% Investment decision depends on other variables. And its Probable Error (P.E.) is 0.2751 and similarly 6P.E.is 1.6507 which shows that (6P.E) is higher than (r). It means correlation of coefficient between deposit and Investment of HBL is not significant though there is positive relation between them.

- Total Investment of five banks is also in increasing trend. The estimated Investment of NIBL will be Rs. 59808 million which is higher than that of other banks and NSBL will be Rs. 24945 in the FY 2070 B.S. which is less than that of other banks.

- On analyzing the primary data more people would like to invest their money in banking sector.

- Public has no more knowledge about stock market when analyzing the primary data.

- Most people believe that banks duly published their financial statement.

- Political environment mostly affects the banks investment policy when analyzing primary data.

- Companies past performance influencing bank's investment policy when analyzing primary data.

- Consumer banking is prevalent in Nepal when analyzing primary data.

- Social status, income and marketing are seen for landing process at bank when analyzing primary data.

- Less people are taking banking service and some people will not say their banking transaction.

- On analyzing the primary data, more people have taken home loan than other loan. Less people want to take business loan form bank.

- Political environment is not suitable for investment in Nepal and there is not more investment sector.

CHAPTER- IV
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The last chapter of this study is summary, conclusion and recommendation developed from the analysis of various aspects of the investment of commercial banks by using some financial as well as statistical tools. After completing the basic analysis required for the study the final and the most important task of the researcher is to be summarized the study and recommendation for the future importance.

5.1 Summary

Industrial development is very important for economic development of any country. And there must be investment made on productive activities for Industrial development. Investment is one of the financial activities which involve the decision of capital to establish commercial or industrial venture. It involves uses of funds to long term assets that would yield benefits in the future.

The beginning and establishment of financial institution depends upon the level of economic activities and monetary transaction in the country. In Nepal history of modern financial institution begins with the establishment of NBL in 1937 A .D. Since then several financial institutions have come into existence. But Nepalese Industries have been facing challenges especially due to inadequacy of financial resources. Although numerous financial institutions have emerged both in regional as well as in international financial centers to extend credit facilities to the financially viable enterprise. But there still a big gap between demand for and supply of financial resources and gap seems ever widening over the years. Globalization and freeing up of the economy, decentralization, restructuring the large firms, worldwide communication networks and transfer and acquisition of state of the art, technology and other application, all have brought the challenges and opportunities to entrepreneur. Those who can respond to these challenges and mobilize necessary financial resources become successful and those who do not, fall victim in their rapidly changing economic environment. Banks play a crucial role in this matter. Commercial banks not only collect the scattered saving from individual by accepting deposits but also provide various types of loan. And they invest in various share and

debentures of other companies. A healthy development of any bank depends heavily upon its Investment policy. A sound and variable investment policy can be effective one for the economy to attain the economic objectives directed towards the acceleration of the pace of development. A good Investment policy attracts both borrowers and lenders, which helps to increase the volume and quality of deposits, loan and Investment.

Establishment of commercial banks has continued in response to economic liberalization policies of the government. So, now in Nepal there are many commercial banks competition with each other in their business. These banks are mainly concentrated themselves on financing foreign trade commerce and industry.

According to the objective of the study; primary data as well as secondary data has been used to achieve the study. Secondary data were collected from annual report of different banks, daily newspaper, campus library, magazine, bulletins and website etc. This study has been mentioned already that the research concentrates only on the investment of five commercial banks. The researcher has evaluated of data for the least five years period i.e. 2062 – 2066.The researcher has analyzed the data by using financial tools like ratio analysis as well as statistical tools like mean.

5.2 Conclusions

After study and analysis of given data we conclude that banking is one of sectors of business. All the banks are running in profit. They invest in different sector. NIBL is the oldest bank of given bank. It is running successfully and the growth ratio of loan and advance is higher than that of other banks. It means NIBL collected more deposit and invested in different sector. From the analysis of data HBL is also running successfully and the growth ratio of investment is higher than other banks. It has collected more deposit and investment than that of other banks, but its growth rate of deposit and loan and advance is less than that of other banks. EBL is also running successfully, and the growth ratio of deposit is higher than other banks. Its growth rate of investment and loan and advance is increasing. NSBL and BoKL are also increasing their deposit, investment and loan and advance.

From above data we can say that HBL has collected more deposit and invest more fund and loan and advance than after NIBL, EBL, NSBL and BoKL.

5.3 Recommendations

On the basis of analysis of finding of study, the following recommendation and suggestion are forwarded;

- The average ratio of investment plus loan and advance to total deposit ratio of NSBL is higher than that of other banks, it means it has invested more than deposit so that its liquidity position is not good. So, it needs to decreases its investment.

- NSBL has invested its more funds only in government securities so it is recommended that it should invest in other different sector also like share and debenture different industries, business and so on.

- Growth ratio of deposit of HBL is too less than that of other banks so it is recommended that it should increase its deposit collection. It needs to plan and develop different schemes to collect more deposit. Likewise increase interest rate, insurance policies, decrease bank loan interest, minimum amount for opening accounts, different compensation policies etc.

- Growth ratio of loan and advance of HBL is lower than that of other banks so it is recommended that it should increased its loan and advance by reducing loan interest rate, bank credit policies, compensation policies etc.

- All that of banks invested fewer funds in share and debenture of other companies except NIBL, so it is recommended that they should increase their investment in share and debenture to develop the different industries as well as country.

- NSBL and BoKL have invested their funds only in government securities and share and debentures of other companies so it is recommended that they should invest other sector also.

- The commercial banks have been established gradually after the commercial banks act 2031 B.S. With the passage of time so many commercial banks, as a joint venture, have been established gradually because of the liberal and market friendly economic policy of government of Nepal. But banks should provide some social response by expanding their operation in rural areas rather than

urban areas. And banks can give response to poor and disadvantage groups. By establishing the branches in rural areas, minimum amount for opening accounts and interest rate should be reduced for creditors.

- In the light of growth competition in the banking sectors, the business of the banks should be customer oriented. It should focus not only towards big clients but also towards small clients. They should treat every client equally. They should bring different schemes to focus the customers like, increase interest rate, bank credit policies, bank loan insurance policies, evening counters, social responsibilities etc.

- Majority of commercial banks have been found to be profit oriented ignoring their social responsibility, which is not a proper strategy to sustain in long run. So all the banks are suggested to render their serves even in the rural areas providing special loans to the deprived and priority sectors, which might further intensify the goodwill of the banks in future.

- The Economic Liberalization policy adopted by Nepal government has created and environment of strict competition even in the banking sectors. In the context, all the banks are suggested to formulate and implement some sound and attractive financial; and non-financial strategies to meet required level of profitability such as risk analysis diversification, social responsibility, bank credit policy, compensation policy etc.

BIBLIOGRAPHY

Books:

Bajaracharya, B.C. (2056). *Business Statistics & Mathematics*, Kathmandu: M.K Publisher and Distributors.

Bhalla,V.K. (1983). *Investment Management Securities Analysis & Portfolio Management,* India: S. Chand & Co. Ltd. 5th Edition.

Bhattrai, R. (2005). *Investments Theory & Practice* 2nd Edition, Kathmandu: Buddha Academic Publisher & Distributors Pvt. Ltd.

Francis, J. C. (1986). *Investment Analysis & Management*, New York: McGraw-Hill Publication.

Joshi, S. (1990) . *An Introduction to Economic Theory*, Kathmandu: Nabin Prakashan.

Joshi, S. (2057). *Managerial Economic*, Kathmandu: Talaju Prakashan.

Journal, Report, Articles and Official Publication of Relevant Study

Annual Report, (2065/66) Bank of Kathmandu Ltd.

Kerlinger, F.N. (1986). *Foundation of Behavioral Research*, New Delhi: Subject Publication.

Mali, R. (1965). *Currency and Banking*, Agra: Om Printing Press.

Pandey, I.M. (1992). *Financial Management*, New Delhi: Vikas Publishing House Pvt. Ltd.

Radhaswamy, M. (1979). *Practical Banking*, India: S Chand & Company Ltd.

Radhaswamy, M.& Vasudevan, S.V. (1979). *A Text Book of Banking,* India: 2nd Edition S Chand & Company Ltd.

Sharpe, W. F. Alexander, G. J., Bailey, J.V. (2000). *Investment*, 4th Edition, New Delhi: Prentice-Hall of India Pvt. Ltd.

The Dorling Kindersley Illustrated Family *Encyclopedia*, London: Dorling Kindersley Ltd.

The World Book *Encyclopedia*, World Book International Vol. 10

Van Horne, J. C. (2003). *Financial Management and Policy*, New Delhi: Prentice-Hall of India Pvt. Ltd.

Wolf, H.K. & Pantha, P.R.(2003). *Social Science Research & Thesis Writing*, Kathmandu: Third Edition Buddha Academic Enterprises Pvt. Ltd.

Annual Report, (2065/66) Everest Bank Ltd.

Annual Report, (2065/66) Himalayan Bank Ltd.

Annual Report, (2065/66) Nepal Investment Bank Ltd.

Annual Report, (2065/66) Nepal Rastra Bank.

Annual Report, (2065/66) Nepal SBI Bank Ltd.

Banking & Financial Statistic, No. 49 (Mid –July, 2008) Nepal Rastra Bank, Baluwatar, Kathmandu.

Banking Khabar Patra No. 60 March-April, 2008 Nepal Rastra Bank, Baluwatar, Kathmandu.

Monetary Policy for Fiscal Year 2008/09 Nepal Rastra Bank (Baluwatar, Kathmandu, July 23, 2008)

Nepal Rastra Bank, 52nd Anniversary (2064, Baishka 14) Nepal Rastra Bank, Baluwatar, Kathmandu.

Pantha, Y. (May-June, 2003), *Info Himalayan*, Bimonthly Newsletter.

Pradhan, R.S., Yadav, M.P. (2002. Oct- Dec). *The Economic Journal of Nepal*, A quarterly Publication of the Central Department of Economic, T.U. Kirtipur, Kathmandu, Nepal.

Sharma, B. (2000 Oct). Banking the future on Competition, *Business age*.

Shrestha, S. (1998). *Leading Operation of Commercial Bank of Nepal and its impact on GDP* the Business Voice of Nepal, (The Special Issue of Banijya Sanar) T.U. Kirtipur.

Previous Research Works:

Thapa, S.(2005). Investment Policy of Commercial Bank of Nepal (A Comparative Study of Nepal Bangladesh Bank Ltd. with NABIL & NBL.) an unpublished Master's Thesis. T.U. Kathmandu.

Dhungana, P. (2006).*A Comparative Study on Investment Policy of Nepal Bangladesh Bank Ltd. & Other Joint Venture Banks (Himalayan Bank Ltd. & Nepal SBI Bank)* an unpublished Master's Degree Thesis, T.U. Kathmandu.

Loudari, S.R. (2007). *A Study on Investment Policy of Nepal Indosuez Bank Ltd. in comparison to Nepal SBI Bank Ltd.* an unpublished Master's Degree Thesis. T.U. Kathmandu.

Raya, T.K. (2008). *Investment Policy & Analysis of Commercial Banks in Nepal (A Comparative Study of Standard Chartered Bank Ltd. with Nepal Investment Bank & Nepal Bangladesh Bank Ltd.)* an unpublished Master's Degree Thesis T.U. Kathmandu.

Joshi, J. (2009). *Investment Policy of Commercial Bank of Nepal (A Comparative Study of Everest Bank Ltd. with Nabil Bank & Bank of Kathmandu Ltd.)* an unpublished Master's Degree Thesis. T.U. Kathmandu

Website:

www.bok.com.np

www.everestbankltd.com

www.hbl.com.np

www.nepalsbibank.com.np

www.nepalstock.com

www.nibl.com.np

www.nrb.org.np

APPENDICES

Appendix – 1

Sample Calculation of Growth Rate of Total Investment

Growth rate is calculated from

$$D_n = D_o (1+g)^{n-1}$$

D_n = Total Investment of nth year

D_o = Total Investment of Initial year

G = Growth Rate

N = Number of Year

NIBL

Here,

D_{66} = 7399

D_{62} = 4172   N = 5 year

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $7399 = 4172 (1+g)^{5-1}$

Or, $1.76 = (1+g)^4$

Or, $(1.76)^{1/4} = 1+g$

Or, $1+g = 1.1518$

Or, $g = 1.1518-1$

Or, $g = 0.1518$ $\therefore g = 15.18\%$

<u>HBL</u>

Here,

D_{66} = 13340

$D_{62} = 2878$

$N = 5yr$

$D_{66} = D_{62}(1+g)^{n-1}$

Or, $13340 = 2878(1+g)^{5-1}$

Or, $4.63 = (1+g)^4$

Or, $(4.63)^{1/4} = 1+g$

Or, $1+g = 1.4673$

Or, $g = 1.4673-1$

Or, $g = 0.4673$

$\therefore g = 46.73\%$

NSBL

Here,

$D_{66} = 3088$

$D_{62} = 1890$

$N = 5yr$

$D_{66} = D_{62}(1+g)^{n-1}$

Or, $3088 = 1890(1+g)^{5-1}$

Or, $1.63 = (1+g)^4$

Or, $(1.63)^{1/4} = 1+g$

Or, $1+g = 1.13$

Or, $g = 1.13-1$

Or, $g = 0.1306$

$\therefore g = 13.06\%$

EBL

Here,

$$D_{66} = 5059$$

$$D_{62} = 2483$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $5059 = 2483 (1+g)^{5-1}$

Or, $2.0375 = (1+g)^4$

Or, $(2.0375)^{1/4} = 1+g$

Or, $1+g = 1.1947$

Or, $g = 1.1947-1$

Or, $g = 0.1947$

$$\therefore g = 19.47\%$$

BoKL

Here,

$$D_{66} = 3204$$

$$D_{62} = 2395$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $3204 = 2395(1+g)^{5-1}$

Or, $1.3378 = (1+g)^4$

Or, $(1.3378)^{1/4} = 1+g$

Or, $1+g = 1.0755$

Or, $g = 1.0755-1$

Or, $g = 0.075$

$$\therefore g = 7.55\%$$

Appendix – 2

Sample Calculation of Growth Rate of Deposit

NIBL

Here,

$$D_{66} = 34452$$

$$D_{62} = 11706$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $34452 = 11706(1+g)^{5-1}$

Or, $2.9431 = (1+g)^4$

Or, $(2.9431)^{1/4} = 1+g$

Or, $1+g = 1.3098$

Or, $g = 1.3259-1$

Or, $g = 0.3098$

$$\therefore g = 30.98\%$$

HBL

Here,

$$D_{66} = 31805$$

$$D_{62} = 22761$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $31805 = 22761(1+g)^{5-1}$

Or, $1.3973 = (1+g)^4$

Or, $(1.3973)^{1/4} = 1+g$

Or, 1+g = 1.0872

Or, g = 1.0872-1

Or, g = 0.0872

$\therefore$ g = 8.72%

NSBL

Here,

$$D_{65} = 13715$$

$$D_{61} = 7232$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $13715 = 7232(1+g)^{5-1}$

Or, $1.8964 = (1+g)^{4}$

Or, $(1.8964)^{1/4} = 1+g$

Or, 1+g = 1.1735

Or, g = 1.1735-1

Or, g = 0.1735

$\therefore$ g = 17.35%

EBL

Here,

$$D_{66} = 23976$$

$$D_{62} = 8064$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

x

Or, $23976 = 8064(1+g)^{5-1}$

Or, $2.9732 = (1+g)^4$

Or, $(2.9732)^{1/4} = 1+g$

Or, $1+g = 1.3131$

Or, $g = 1.3131-1$

Or, $g = 0.3131$

$\therefore g = 31.31\%$

BoKL

Here,

$$D_{66} = 15833$$

$$D_{62} = 7742$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $15833 = 7742(1+g)^{5-1}$

Or, $2.0451 = (1+g)^4$

Or, $(2.0451)^{1/4} = 1+g$

Or, $1+g = 1.1959$

Or, $g = 1.1959-1$

Or, $g = 0.1959$

$\therefore g = 19.59\%$

Appendix – 3

Sample Calculation of Growth Rate of Loan and Advances

NIBL

Here,

$$D_{66} = 27146$$

$$D_{62} = 7174$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $27146 = 7174(1+g)^{5-1}$

Or, $3.7839 = (1+g)^4$

Or, $(3.7839)^{1/4} = 1+g$

Or, $1+g = 1.3947$

Or, $g = 1.3947-1$

Or, $g = 0.3947$

$$\therefore g = 39.47\%$$

HBL

Here,

$$D_{66} = 19985$$

$$D_{62} = 13082$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $19985 = 13082(1+g)^{5-1}$

Or, $1.5277 = (1+g)^4$

Or, $(1.5277)^{1/4} = 1+g$

Or, 1+g = 1.1118

Or, g = 1.1118-1

Or, g = 0.1118

$\therefore$ g = 11.18%

NSBL

Here,

$$D_{66} = 12575$$

$$D_{62} = 5491$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $12575 = 5491(1+g)^{5-1}$

Or, $2.2901 = (1+g)^{4}$

Or, $(2.2901)^{1/4} = 1+g$

Or, 1+g = 1.2302

Or, g = 1.2302-1

Or, g = 0.2302

$\therefore$ g = 23.02%

EBL

Here,

$$D_{66} = 18814$$

$$D_{62} = 6117$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $18814 = 6117(1+g)^{5-1}$

Or, $3.0757 = (1+g)^4$

Or, $(3.0757)^{1/4} = 1+g$

Or, $1+g = 1.3243$

Or, $g = 1.3243-1$

Or, $g = 0.3243$

$\therefore g = 32.43\%$

BoKL

Here,

$$D_{66} = 12692$$

$$D_{62} = 6050$$

$$N = 5yr$$

$$D_{66} = D_{62}(1+g)^{n-1}$$

Or, $12692 = 6050(1+g)^{5-1}$

Or, $2.0979 = (1+g)^4$

Or, $(2.0979)^{1/4} = 1+g$

Or, $1+g = 1.2035$

Or, $g = 1.2035-1$

Or, $g = 0.2035$

$\therefore g = 20.35\%$

Appendix – 4

Calculation the Required Values of HBL

		Investment + Loan & Advance	Deposit					Rs in 10 billion
		HBL						
Year	Profit(Y)	(X)	(X_1)	XY	X^2	XX_1	X_1Y	$X_1{}^2$
2062	2	159	227	318	25281	36093	454	51529
2063	3	187	248	561	34969	46376	744	61504
2064	4	264	264	1056	69696	69696	1056	69696
2065	4	294	299	1176	86436	87906	1196	89401
2066	6	333	318	1998	110889	105894	1908	101124
	19	**1237**	**1356**	**5109**	**327271**	**345965**	**5358**	**373254**

Substituting the sum values in the above equations.

$19 = 5a + 1237b + 1356b_1$…………………….v

$5109 = 1237a + 327271b + 345965b_1$…………vi

$5358 = 1356a + 345965b + 373254b_1$………………vii

Multiplying equation v by 1237 and equation vi by 5 and subtracting equation vi form v.

$23503 = 6185a + 1530169b + 1677372b_1$……………….×1237

$25545 = 6185a + 1636355b + 1729825b_1$…………………×5

$$-2042 = -106186b - 52453b_1$$

$-(2042 = 106186b + 52453b_1)$……………………….viii

Multiplying equation v by 1356 and equation vii by 5 and subtracting equation vii from v.

$25764 = 6780a + 1677372b + 1838736b_1$…………………….×1356

$26790 = 6780a + 1729825b + 1866270b_1$……………………×5

$$-1026 = -52453b - 27534b_1$$

$(1026 = 52453b + 27534b_1)$…………………..ix

Again Multiplying equation viii by 27534 and equation ix by 52453 and subtracting equation ix form viii.

$56224428 = 2923725324b + 1444240902b_1$...............................×27534

$53816778 = 2751317209b + 1444240902b_1$...............................×52453

$$2407650 = 172408115b$$

$b = 0.014$

Substituting the value of b in equation viii we get

$2042 = 106186b + 52453b_1$

$2042 = 106186 \times 0.014 + 52453b_1$

$b_1 = 0.0105$

Again the substituting the value of b and b_1 in equation v

$19 = 5a + 1237b + 1356b_1$

$19 = 5a + 1237 \times 0.014 + 1356 \times 0.0105$

$19 = 5a + 31.56$

$5a = -12.56$

$a = -2.512$

Substituting the value of a, b, and b_1

$y = -2.512 + 0.014x - 0.0105x_1$

To find out the profit in future, let's assume x and x_1 as 300 Then,

$y = a + bx + b_1x_1$

$\quad = -2.512 + 0.014 \times 300 + 0.0105 \times 300$

$\quad = 4.84$

The profit is $4.84 \times 100000000 = 484000000$

Keeping the value of x as constant and changing the value of x_1 as 350.

$y = a + bx + b_1x_1$

$\quad = -2.512 + 0.014 \times 300 + 0.0105 \times 350$

= 5.363

The profit is $5.36 \times 100000000 = 536000000$

Again Keeping the value of x_1 is as constant and changing the value of x as 350.

$$y = a + bx + b_1x_1$$
$$= -2.512 + 0.014 \times 350 + 0.0105 \times 300$$
$$= 5.54$$

The profit is $5.54 \times 100000000 = 554000000$.

Calculation of Required Value of NIBL

		NIBL						Rs in 10 Billion
Year	Profit(Y)	Investment + Loan & Advance (X)	Deposit (X_1)	XY	X^2	XX_1	X_1Y	X_1^2
2062	2	113	117	226	12769	13221	234	13689
2063	3	143	114	429	20449	16302	342	12996
2064	4	186	189	744	34596	35154	756	35721
2065	5	240	244	1200	57600	58560	1220	59536
2066	6	345	344	2070	119025	118680	2064	118336
	20	1027	1008	4669	244439	241917	4616	240278

Substituting the sum values in the above equations

$20 = 5a + 1027b + 1008b_1$………………….v

$4669 = 1027a + 244439b + 241917b_1$…………vi

$4616 = 1008a + 241917b + 240278b_1$……………….vii

Multiplying equation v by 1027 and equation vi by 5 and subtracting equation vi form v.

$20540 = 5135a + 1054729b + 1035216b_1$………………$\times 1027$

$23345 = 5135a + 1222195b + 1209585b_1$…………………$\times 5$

$$-\overline{}$$

$-2805 = -167466b - 174369b_1$

$-(2805 = 167466b + 174369b_1)$……………………………..viii

Multiplying equation v by 1008 and equation vii by 5 and subtracting equation vii from v.

$20160 = 5040a + 1035216b + 1016064b_1$……………………$\times 1008$

$23080 = 5040a + 1209585b + 1201390b_1$…………………$\times 5$

$$-\overline{}$$

$-2920 = -174369b - 185326b_1$

$-(2920 = 174369 + 185326b_1)$…………………..ix

Again Multiplying equation viii by 185326and equation ix by 174369 and subtracting equation ix form viii.

$519839430 = 31035803916b + 32315109294b_1$……………………$\times 185326$

$509157480 = 30404548161b + 32315109294b_1$……………………$\times 174369$

$$-\overline{}$$

$10681950 = 631255755b$

$b = 0.017$

Substituting the value of b in equation viii we get

$2805 = 167466b + 174369b_1$

$2805 = 167466 \times 0.017 + 174369b_1$

$b_1 = -0.0002$

Again the substituting the value of b and b_1 in equation v

$20 = 5a + 1027b + 1008b_1$

$20 = 5a + 1027 \times 0.017 + 1008 \times -0.0002$

$20 = 5a + 17.459 - 0.2016$

$a = 0.55$

Substituting the value of a, b and b_1

$y = 0.55 + 0.017b - 0.0002b_1$

To findout the profit in future, let's assume x and x_1 as 300. Then,

$y = a + bx + b_1x_1$

$= 0.55 + 0.017 \times 300 - 0.0002 \times 300$

$= 5.59$

The profit is $5.59 \times 100000000 = 559000000$

Keeping the value of x as constant and changing the value of x_1 as 350

$y = a + bx + b_1x_1$

$= 0.55 + 0.017 \times 300 - 0.0002 \times 350$

$= 5.58$

The profit is $5.58 \times 100000000 = 558000000$

Again keeping the value of x_1 as constant and changing the value of x as 350

$y = a + bx + b_1x_1$

$= 0.55 + 0.017 \times 350 - 0.0002 \times 300$

$= 6.44$

The profit is $6.44 \times 100000000 = 644000000.$

Calculation of Required Value of EBL

Year	Profit(Y)	Investment + Loan & Advance (X)	Deposit (X_1)	XY	X^2	XX_1	X_1Y	Rs in 10 billion X_1^2
2062	1	86	80	86	7396	6880	80	6400
2063	1	100	100	100	10000	10000	100	10000
2064	2	143	138	286	20449	19734	276	19044
2065	2	190	190	380	36100	36100	380	36100
2066	4	238	239	952	56644	56882	956	57121
	10	757	747	1804	130589	129596	1792	128665

Substituting the sum values in the above equations

$10 = 5a + 757b + 747b_1$…………………….v

$1804 = 757a + 130589b + 129596b_1$…………vi

$1792 = 747a + 129596b + 128665b_1$……………….vii

Multiplying equation v by757 and equation vi by 5 and subtracting equation vi form v.

$7570 = 3785a + 573049b + 565479b_1$……………….×757

$9020 = 3785a + 652945b + 647980b_1$…………………..×5

$-1450 = -79896b - 82501b_1$

$-(1450 = 79896b + 82501b_1)$…………………………..viii

Multiplying equation v by 747 and equation vii by 5 and subtracting equation vii from v.

$7470 = 3735a + 565479b + 558009b_1$……………………………×747

$8960 = 3735a + 647980b + 643325b_1$……………………×5

$-1490 = -82501b - 85316b_1$

$-(1490 = 82501b + 85316b_1)\ldots\ldots\ldots\ldots\ldots$ix

Again Multiplying equation viii by85316 and equation ix by 82501 and subtracting equation ix form viii.

$123708200 = 6816407136b + 7038655316b_1\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$×85316

$122926490 = 6806415001b + 7038655316b_1\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$×82501

$781710 = 9992135b$

$b = 0.08$

Substituting the value of b in equation viii we get

$1450 = 79896 \times 0.08 + 82501b_1$

$-4941.68 = 82501b_1$

$b_1 = -0.06$

Again the substituting the value of b and b_1 in equation v

$10 = 5a + 757b + 747b_1$

$7 = 5a + 757 \times 0.08 + 747 \times -0.06$

$a = -1.15$

Substituting the value of a, b, and b_1

$Y = -1.15 + 0.08x - 0.06x_1$

To find out the profit in future, let's assume x and x_1 as 200. Then

$y = a + bx + b_1x_1$

$= -1.15 + 0.08 \times 200 + (-0.06 \times 200)$

$= 2.85$

The profit is $2.85 \times 100000000 = 285000000$

Keeping the value of x as constant and changing the value of x_1 as 250

$y = a + bx + b_1x_1$

$$= -1.15 + 0.08 \times 200 + (-0.06 \times 250)$$

$$= -0.15$$

The profit is $-0.15 \times 100000000 = -15000000$

Again keeping the value of x_1 as constant and changing the value of x as 250

$$y = a + bx + b_1x_1$$

$$= -1.15 + 0.08 \times 250 + (-0.06 \times 200)$$

$$= 6.85$$

The profit is $6.85 \times 100000000 = 685000000$.

Calculation of required value of BOKL

		BOKL						Rs in 10 Billion
Year	Profit(Y)	Investment + Loan & Advance (X)	Deposit (X_1)	XY	X^2	XX_1	X_1Y	X_1^2
2062	1	84	77	84	7056	6468	77	5929
2063	1	84	89	84	7056	7476	89	7921
2064	2	102	104	204	10404	10608	208	10816
2065	2	126	123	252	15876	15498	246	15129
2066	3	158	158	474	24964	24964	474	24964
	9	554	551	1098	65356	65014	1094	64759

Substituting the sum values in the above equations

$9 = 5a + 554b + 551b_1$…………………….v

$1098 = 554a + 65356b + 65014b_1$…………vi

$1094 = 551a + 65014b + 64759b_1$……………….vii

Multiplying equation v by 554 and equation vi by 5 and subtracting equation vi form v.

$4986 = 2770a + 306916b + 305254b_1 \ldots\ldots\ldots\ldots\ldots \times554$

$5490 = 2770a + 326780b + 325070b_1 \ldots\ldots\ldots\ldots\ldots \times5$

$\overline{\quad - \qquad - \qquad - \qquad\qquad - \qquad\qquad}$

$-504 = -19864b - 19816b_1$

$-(504 = 19864b + 19816b_1) \ldots\ldots\ldots\ldots\ldots\ldots\ldots..\text{viii}$

Multiplying equation v by 551 and equation vii by 5 and subtracting equation vii from v.

$4959 = 2255a + 305254b + 303601b_1 \ldots\ldots\ldots\ldots\ldots\ldots \times551$

$5470 = 2255a + 325070 b + 323795b_1 \ldots\ldots\ldots\ldots\ldots \times5$

$\overline{\quad - \qquad - \qquad - \qquad\qquad - \qquad\qquad}$

$-511 = -19816b - 20194b_1$

$-(511 = 19816b + 20194b_1) \ldots\ldots\ldots\ldots\ldots..\text{ix}$

Again Multiplying equation viii by 20194 and equation ix by 19816 and subtracting equation ix form viii.

$10177776 = 401133616b + 400164304b_1 \ldots\ldots\ldots\ldots\ldots \times20194$

$10125976 = 392673856b + 400164304b_1 \ldots\ldots\ldots\ldots\ldots \times19816$

$\overline{\quad - \qquad - \qquad\qquad - \qquad\qquad}$

$51800 = 8459760b$

$b = 0.006$

Substituting the value of b in equation viii we get

$504 = 19864 \times 0.006 + 19816b_1$

$384.816 = 19816b_1$

$b_1 = 0.019$

Again the substituting the value of b and b_1 in equation v

$9 = 5a + 554b + 551b_1$

$9 = 5a + 554 \times 0.006 + 551 \times 0.019$

$a = -0.96$

Substituting the value of a, b, and b_1

$Y = -0.96 + 0.006x + 0.019x_1$

To findout the profit in future, let's assume x and x_1 as 250. Then,

$y = a + bx + b_1x_1$

$\quad = -0.96 + 0.006 \times 250 + (0.019 \times 250)$

$\quad = 5.29$

The profit is $5.29 \times 100000000 = 529000000$

Keeping the value of x as constant and changing the value of x_1 as 300

$\quad y = a + bx + b_1x_1$

$\quad = -0.96 + 0.006 \times 250 + (0.019 \times 300)$

$\quad = 6.24$

The profit is $6.24 \times 100000000 = 624000000$

Again keeping the value of x_1 as constant and changing the value of x as 300

$\quad y = a + bx + b_1x_1$

$\quad = -0.96 + 0.006 \times 300 + (0.019 \times 250)$

$\quad = 5.59$

The profit is $5.59 \times 100000000 = 559000000$.

Calculation of Required Value of NSBL

								Rs in 10 Billion
		NSBL						
Year	Pro fit(Y)	Investment + Loan & Advance (X)	Deposit (X_1)	XY	X^2	XX_1	X_1Y	X_1^2
2062	1	73	72	73	5329	5256	72	5184
2063	1	92	86	92	8464	7912	86	7396
2064	1	117	108	117	13689	12636	108	11664
2065	2	122	114	244	14884	13908	228	41465
2066	2	159	137	312	24336	21372	274	18769
	7	560	517	838	66702	61084	768	84478

Substituting the sum values in the above equations

$7 = 5a + 560b + 517b_1$………………….v

$838 = 560a + 66702b + 61084b_1$…………vi

$768 = 517a + 61084b + 84478b_1$………………vii

Multiplying equation v by 560 and equation vi by 5 and subtracting equation vi form v.

$3920 = 2800a + 313600b + 289520b_1$………………×560

$4190 = 2800a + 333510b + 305420b_1$…………………×5

$-270 = -19910b - 15900b_1$

$-(270 = 19910b + 15900_1)$…………………………..viii

Multiplying equation v by 517 and equation vii by 5 and subtracting equation vii from v.

$3619 = 2585a + 289520b + 267289b_1$……………………………×517

$3840 = 2585a + 305420b + 422390b_1$……………………×5

$-221 = -15900b - 155101b_1$

$-(221 = 15900b + 155101b_1)$…………………..ix

Again Multiplying equation viii by 155101 and equation ix by 15900 and subtracting equation ix form viii.

$41877270 = 3088060910b + 2466105900b_1$………………………×155101

$3513900 = 252810000b + 2466105900b_1$………………………×15900

$38363370 = 2835250910b$

$b = 0.014$

Substituting the value of b in equation viii we get

$270 = 19910 \times 0.014 + 15900b_1$

$b_1 = -0.0005$

Again the substituting the value of b and b_1 in equation v

$7 = 5a + 560b + 517b_1$

$7 = 5a + 560 \times 0.014 + 517 \times -0.0005$

$a = -0.1163$

Substituting the value of a, b, b_1

$y = -0.1163 + 0.014x - 0.0005x_1$

To find out the profit in future, let's assume x and x_1 as 200 then

$y = a + bx + b_1x_1$

$= -0.1163 + 0.014 \times 200 - (0.0005 \times 200)$

$= 2.58$

The profit is $2.58 \times 100000000 = 258000000$

Keeping the value of x as constant and changing the value of x_1 as 250

$y = a + bx + b_1x_1$

$= -0.1163 + 0.014 \times 200 - (0.0005 \times 250)$

$= 2.56$

The profit is $2.56 \times 100000000 = 256000000$

Again keeping the value of x_1 as constant and changing the value of x_1 as 250

$y = a + bx + b_1x_1$

$= -0.1163 + (0.014 \times 250 - 0.005 \times 200)$

$= 3.28$

The profit is $3.28 \times 100000000 = 328000000$.

Appendix – 5

Calculation of Co-Relation between Investment and Deposit

HBL

(Rs. in million)

Year	Investment + Loan and Advance (X)	Deposit (Y)	XY	X^2	Y^2
2062	1596	2276	3632496	2547216	510176
2063	1875	2483	4655625	3515625	6165289
2064	2641	2646	6988086	6974881	7001316
2065	2949	2991	8820459	8696601	8946081
2066	3332	3180	10595760	11102224	10112400
	$\sum X = 12393$	$\sum Y = 13576$	$\sum XY = 34692423$	$\sum X^2 = 32836547$	$\sum Y^2 = 32735262$

$$r = \frac{n\sum xy - \sum x.\sum y}{\sqrt{n\sum x^2 - (\sum x)^2}.\sqrt{n\sum y^2 - (\sum y)^2}}$$

$$r = \frac{5 \times 34692423 - 12393 \times 13576}{\sqrt{5 \times 32936547 - (12393)^2} . \sqrt{5 \times 32735262 - (13576)^2}}$$

$$r = \frac{5214747}{\sqrt{10596286} . \sqrt{20631466}}$$

$$r = \frac{5214727}{14785699.66}$$

$$r = 0.3527$$

Coeff. Of Determination $(r^2) = r \times r = 0.3527 \times 0.3527 = 0.1244$

Probable Error (P.E) $= 0.6745 \times \dfrac{1 - r^2}{\sqrt{n}}$

$$= 0.6745 \times \frac{1 - 0.3527^2}{\sqrt{5}}$$

$$= 0.6745 \times 0.039158$$

$$= 0.0264$$

$6 \times \text{P.E} = 6 \times 0.0264$

$= 0.1584$

$r \rangle 6P.E$ Therefore Correlation is significant.

NIBL

(Rs. in million)

Year	Investment + Loan and Advance (X)	Deposit (Y)	XY	X^2	Y^2
2062	1135	1171	1329085	1288225	1371241
2063	1437	1425	2047725	2064969	2030625
2064	1868	1893	3536124	3489424	3583449
2065	2400	2449	5877600	5760000	5997601
2066	3454	3445	11899030	11930116	11868025
	$\sum X = 10294$	$\sum Y = 10383$	$\sum XY = 24689564$	$\sum X^2 = 24532734$	$\sum Y^2 = 24850941$

$$r = \frac{n\sum xy - \sum x . \sum y}{\sqrt{n\sum x^2 - (\sum x)^2} . \sqrt{n\sum y^2 - (\sum y)^2}}$$

$$r = \frac{5 \times 24689564 - 10294 \times 10383}{\sqrt{5 \times 24532734 - (10294)^2} . \sqrt{5 \times 24850941 - (10383)^2}}$$

$$r = \frac{16565218}{\sqrt{16697234} . \sqrt{16448016}}$$

$$r = \frac{16565218}{16572156.53}$$

$$r = 0.9996$$

Coeff. of Determination $(r^2) = r \times r = 0.9996 \times 0.9996 = 0.9992$

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

$$= 0.6745 \times \frac{1 - 0.9996^2}{\sqrt{5}}$$

$$= 0.6745 \times 0.00035$$

$$= 0.0002$$

$$6 \times \text{P.E} = 6 \times 0.0002$$
$$= 0.0012$$

$r \rangle 6P.E$ Therefore Correlation is significant

NSBL

(Rs. in million)

Year	Investment + Loan and Advance (X)	Deposit (Y)	XY	X^2	Y^2
2062	738	723	533574	544644	522729
2063	923	865	798395	851929	748225
2064	1176	1085	1275960	1382976	1177225
2065	1222	1144	1397968	1493284	1308736
2066	1566	1371	2146986	2452356	1879641
	$\sum X= 5625$	$\sum Y= 5188$	$\sum XY= 6152883$	$\sum X^2 = 6725189$	$\sum Y^2 = 5636556$

$$r = \frac{n\sum xy - \sum x . \sum y}{\sqrt{n\sum x^2 - (\sum x)^2} . \sqrt{n\sum y^2 - (\sum y)^2}}$$

$$r = \frac{5 \times 6152883 - 5625 \times 5188}{\sqrt{5 \times 6725189 - (5625)^2} . \sqrt{5 \times 5636556 - (5188)^2}}$$

$$r = \frac{1581915}{\sqrt{1985320} . \sqrt{1267436}}$$

$$r = \frac{1581915}{1586275.0063}$$

$$r = 0.9973$$

Coeff. of Determination $(r^2) = r \times r = 0.9973 \times 0.9973 = 0.9964$

Probable Error (P.E) $= 0.6745 \times \dfrac{1 - r^2}{\sqrt{n}}$

$$= 0.6745 \times \frac{1 - 0.9973^2}{\sqrt{5}}$$

xxx

$$= 0.6745 \times 0.0023$$

$$= 0.0016$$

$$6 \times \text{P.E} = 6 \times 0.0016$$

$$= 0.0094$$

$r \rangle 6P.E$ Therefore Correlation is significant

EBL

Year	Investment + Loan and Advance (X)	Deposit (Y)	XY	X^2	Y^2
2062	860	806	693160	739600	649636
2063	1003	1010	1013030	1006009	1020100
2064	1433	1380	1977540	2053489	1904400
2065	1904	1910	3636640	36252165	3648100
2066	2387	2397	5721639	5697769	5745609
	$\sum$ X= 7587	$\sum$ Y= 7503	$\sum$ XY= 13042009	$\sum X^2 =$ 45749032	$\sum Y^2 =$ 12967845

$$r = \frac{n\sum xy - \sum x . \sum y}{\sqrt{n\sum x^2 - (\sum x)^2} . \sqrt{n\sum y^2 - (\sum y)^2}}$$

$$r = \frac{5 \times 13042009 - 7587 \times 7503}{\sqrt{5 \times 45749032 - (7587)^2} . \sqrt{5 \times 12967845 - (7503)^2}}$$

$$r = \frac{8284784}{\sqrt{171182591} . \sqrt{8544216}}$$

$$r = \frac{8284784}{38244226.048}$$

$$r = 0.2166$$

Coeff. Of Determination $(r^2) = r \times r = 0.2166 \times 0.2166 = 0.0469$

Probable Error (P.E) $= 0.6745 \times \dfrac{1 - r^2}{\sqrt{n}}$

$$= 0.6745 \times \frac{1 - 0.2166^2}{\sqrt{5}}$$

$$= 0.6745 \times 0.4079$$

$$= 0.2751$$

$$6 \times \text{P.E} = 6 \times 0.2751$$

$$= 1.6507$$

$r \angle 6P.E$ Therefore Correlation is significant

BoKL

<div align="right">(Rs. in million)</div>

Year	Investment + Loan and Advance (X)	Deposit (Y)	XY	X^2	Y^2
2062	844	774	653256	712336	599076
2063	840	894	750960	705600	799236
2064	1027	1043	1071161	1054729	1087849
2065	1266	1236	1564776	1602756	1527696
2066	1589	1583	2515387	2524921	2505889
	$\sum X = 5566$	$\sum Y =$ 5530	$\sum XY =$ 6555540	$\sum X^2 =$ 6600342	$\sum Y^2 =$ 6519746

$$r = \frac{n \sum xy - \sum x . \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} . \sqrt{n \sum y^2 - (\sum y)^2}}$$

$$r = \frac{5 \times 6555540 - 5566 \times 5530}{\sqrt{5 \times 6600342 - (5566)^2} . \sqrt{5 \times 6519746 - (5530)^2}}$$

$$r = \frac{1997720}{\sqrt{2021354} . \sqrt{2017830}}$$

$$r = \frac{1997720}{2019591.231}$$

$r = 0.9892$

Coeff. of Determination $(r^2) = r \times r = 0.9892 \times 0.9892 = 0.9785$

Probable Error (P.E) $= 0.6745 \times \dfrac{1 - r^2}{\sqrt{n}}$

$$= 0.6745 \times \dfrac{1 - 0.9892^2}{\sqrt{5}}$$

$$= 0.6745 \times 0.0096$$

$$= 0.0065$$

$6 \times \text{P.E} = 6 \times 0.0065$

$$= 0.0039$$

$r \rangle 6 P.E$ Therefore Correlation is significant

Appendix – 6
Calculation of Investment Trend for
Next Five Year
NIBL

(Rs. in million)

Year (X)	Investment (Y)	x(X - $\overline{X}$)	y(Y - $\overline{Y}$)	xy	x
2062	11347	-2	-7333	14666	4
2063	14370	-1	-4310	4310	1
2064	18680	0	0	0	0
2065	24001	1	5321	5321	1
2066	34545	2	15865	31730	4
		$\sum x = 0$	$\sum y = 9543$	$\sum xy = 56027$	$\sum x^2 = 10$

We have,

$Y = a + bx$ ………….. (i)

$\sum y = na + b \sum x$ ……..................(ii)

$\sum xy = a \sum x + b \sum x^2$ ………………… (iii)

From equation (ii) we get

$\sum y = na + b \sum x$

Or, $9543 = 5a + b.0$

Or, $a = \dfrac{9543}{5}$

$= 1908.6$

From equation (iii) we get

$$\sum xy = a\sum x + b\sum x^2$$

Or, $56027 = a.0 + b \times 10$

Or, $b = \dfrac{56027}{10}$

$= 5602.7$

From equation (i) we get

$Y = a + bx$

Or, $Y - \overline{Y} = a + b(X - \overline{X})$

Or, $Y = \overline{Y} + a + b(X - \overline{X})$

Now,

$Y_{66} = 18680 + 1908.6 + 5602.7(2066-2063)$

$= 37397$

$Y_{67} = 18680 + 1908.6 + 5602.7(2067-2063)$

$= 42999$

$Y_{68} = 18680 + 1908.6 + 5602.7(2068-2063)$

$= 48602$

$Y_{69} = 18680 + 1908.6 + 5602.7(2069-2063)$

$= 54205$

$Y_{70} = 18680 + 1908.6 + 5602.7(2070-2063)$

$= 59808$

HBL

(Rs. in million)

Year (X)	Investment (Y)	x($X-\overline{X}$)	y($Y-\overline{Y}$)	xy	x
2062	15960	-2	-10446	20892	4
2063	18755	-1	-7651	7651	1
2064	26406	0	0	0	0
2065	29494	1	3088	3088	1
2066	33325	2	6919	13838	4
		$\sum x = 0$	$\sum y = -8090$	$\sum xy = 45469$	$\sum x^2 = 10$

We have,

$Y = a + bx$ ………….. (i)

$\sum y = na + b\sum x$ ……................(ii)

$\sum xy = a\sum x + b\sum x^2$ ………………… (iii)

From equation (ii) we get

$\sum y = na + b\sum x$

34

Or, -8090 = 5a + b.0

Or, $a = \dfrac{-8090}{5}$

$= -1618$

From equation (iii) we get

$\sum xy = a\sum x + b\sum x^2$

Or, 45469 = a.0 + b ×10

Or, $b = \dfrac{45469}{10}$

$= 4546.9$

From equation (i) we get

Y = a + bx

Or, Y - $\overline{Y}$ = a + b (X - $\overline{X}$)

Or, Y = $\overline{Y}$ + a + b (X - $\overline{X}$)

Now,

$$Y_{66} = 26406 - 1618 + 4546.9(2066-2063)$$
$$= 38429$$

$$Y_{67} = 26406 - 1618 + 4546.9(2067-2063)$$
$$= 42976$$

$$Y_{68} = 26406 - 1618 + 4546.9(2068-2063)$$
$$= 47523$$

$$Y_{69} = 26406 - 1618 + 4546.9(2069-2063)$$
$$= 52069$$

$$Y_{70} = 26406 - 1618 + 4546.9(2070-2063)$$
$$= 56616$$

63					
2064	11760	0	0	0	0
2065	12224	1	464	464	1
2066	15663	2	3903	7806	4
		$\sum x = 0$	$\sum y = -2546$	$\sum xy = 19563$	$\sum x^2 = 10$

NSBL

(Rs. in million)

Year (X)	Investment (Y)	x(X - $\overline{X}$)	y(Y - $\overline{Y}$)	xy	x
2062	7380	-2	-4380	8760	4
2063	9227	-1	-2533	2533	1

36

We have,

$$Y = a + bx \ldots \ldots \ldots \ldots \text{ (i)}$$

$$\sum y = na + b\sum x$$

$$\ldots \ldots \ldots \ldots \ldots \ldots \text{(ii)}$$

$$\sum xy = a\sum x + b\sum x^2$$

$$\ldots \ldots \ldots \ldots \ldots \text{ (iii)}$$

From equation (ii) we get

$$\sum y = na + b\sum x$$

Or, -2546 = 5a + b.0

Or, $a = \dfrac{-2546}{5}$

= -509.2

From equation (iii) we get

$$\sum xy = a\sum x + b\sum x^2$$

Or, 19563 = a.0 + b ×10

Or, $b = \dfrac{19563}{10}$

= 1956.3

From equation (i) we get

$Y = a + bx$

Or, $Y - \overline{Y} = a + b (X - \overline{X})$

Or, $Y = \overline{Y} + a + b (X - \overline{X})$

Now,

Y_{66} = 11760 - 509.2 + 1956.3 (2066-2063)

= 17119

Y_{67} = 11760 − 509.2 + 1956.3 (2067-2063)

= 19076

Y_{68} = 11760 − 509.2 + 1956.3 (2068-2063)

= 21032

Y_{69} = 11760 − 509.2 + 1956.3 (2069-2063)

= 22989

Y_{70} = 11760 − 509.2 + 1956.3 (2070-2063)

= 24945

EBL

(Rs. in million)

Year (X)	Investment (Y)	x(X-$\overline{X}$)	y(Y-$\overline{Y}$)	xy	x
2062	8600	-2	-5726	11452	4
2063	10034	-1	-4292	4292	1
2064	14326	0	0	0	0
2065	19044	1	4718	4718	1
2	2387	2	9547	1909	4

37

0 6 6	3			4	
		$\sum x = 0$	$\sum y = 4247$	$\sum xy = 39556$	$\sum x^2 = 10$

We have,

$$Y = a + bx \ldots\ldots\ldots\ldots \text{(i)}$$

$$\sum y = na \quad + \quad b\sum x \ldots\ldots\ldots\ldots\ldots\text{(ii)}$$

$$\sum xy = a\sum x + b\sum x^2 \ldots\ldots\ldots\ldots\ldots \text{(iii)}$$

From equation (ii) we get

$$\sum y = na + b\sum x$$

Or, $4247 = 5a + b.0$

Or, $a = \dfrac{4247}{5}$

$$= 849.4$$

From equation (iii) we get

$$\sum xy = a\sum x + b\sum x^2$$

Or, $39556 = a.0 + b \times 10$

Or, $b = \dfrac{39556}{10}$

$$= 3955.6$$

From equation (i) we get

$Y = a + bx$

Or, $Y - \overline{Y} = a + b(X - \overline{X})$

Or, $Y = \overline{Y} + a + b(X - \overline{X})$

Now,

$Y_{66} = 14326 + 849.4 + 3955.6$

$(2066 - 2063)$

$= 27042$

$Y_{67} = 14326 + 849.4 + 3955.6(2067 - 2063)$

$= 30998$

$Y_{68} = 14326 + 849.4 + 3955.6(2068 - 2063)$

$= 34953$

$Y_{69} = 14326 + 849.4 + 3955.6(2069 - 2063)$

$= 38909$

$Y_{70} = 14326 \quad 849.4 + 3955.6(2070 - 2063)$

$= 42865$

BoKL

(Rs. in million)

Year (X)	Investment (Y)	x(X-$\overline{X}$)	y(Y-$\overline{Y}$)	xy	x
2062	8444	-2	-1830	3660	4
2063	8403	-1	-1871	1871	1
2	1027	0	0	0	0

38

2 0 6 4	4				
2 0 6 5	1265 9	1	2385	2385	1
2 0 6 6	1589 7	2	5623	1124 6	4
		$\sum x = 0$	$\sum y = 4307$	$\sum xy = 19162$	$\sum x^2 = 10$

We have,

$$Y = a + bx \quad \ldots\ldots\ldots\ldots (i)$$

$$\sum y = na + b\sum x \quad \ldots\ldots\ldots\ldots\ldots\ldots (ii)$$

$$\sum xy = a\sum x + b\sum x^2 \quad \ldots\ldots\ldots\ldots\ldots (iii)$$

From equation (ii) we get

$\sum y = na + b\sum x$

Or, $4307 = 5a + b.0$

Or, $a = \dfrac{4307}{5}$

$= 861.4$

From equation (iii) we get

$\sum xy = a\sum x + b\sum x^2$

Or, $19162 = a.0 + b \times 10$

Or, $b = \dfrac{19162}{10}$

$= 1916.2$

From equation (i) we get

$Y = a + bx$

Or, $Y - \overline{Y} = a + b(X - \overline{X})$

Or, $Y = \overline{Y} + a + b(X - \overline{X})$

Now,

$Y_{66} = 10274 + 861.4 + 1916.2 (2066-2063)$

$= 16884$

$Y_{67} = 10274 + 861.4 + 1916.2 (2067-2063)$

$= 18800$

$Y_{68} = 10274 + 861.4 + 1916.2(2068-2063)$

$= 20716$

$Y_{69} = 10274 + 861.4 + 1916.2 (2069-2063)$

$= 22633$

$Y_{70} = 10274 + 861.4 + 1916.2 (2070-2063)$

$= 24549$