

# CHAPTER – ONE

## INTRODUCTION

### 1.1 Background of the Study

Nepal is a land-locked country situated between two Asian giants China and India, both having well developed economic condition. The development of a country is measured by its economic indices. Nepal, like any other country has been laying emphasis on the uplifting of its economy. The process of economic development depends upon various factors. Financial institutions are viewed as catalyst in the process of economic growth. The mobilization of domestic resources, capital formation and its proper utilization plays an important role in the economic development of a country. Every financial institution, big or small, be it a commercial bank or a finance company or a cooperative bank, play an important role in the development of a country.

Commercial banks are major financial institutions, which occupy an important place in the economy because through the deposits they collect, they provide much needed capital for the development of industry, trade and business and other deficit sectors, thereby contributing to the economic growth of the nation.

Investment in the actual sense refers to the sacrifice of current dollars for future dollars (Sharpe, 1986). Investment involves two attributes, time and risk. The sacrifice takes place in the present and is certain. The reward comes later, and the magnitude of which is uncertain. In some cases the element of time predominates (for example, government bonds). In other case, risk is more dominant (for example call option on common stock). In yet others, both time and risk play a dominant role (for example share of common stock).

Investment is the use of money to earn profit. It can be said that investment is concerned with the proper management of the investor's wealth, which are the sum of the current income and the present value of all future income. Fund to be invested come from assets already owned, borrowed money

and saving or foregone consumption. By foregoing today and investing the saving, investors expect to enhance their future consumption possibilities i.e. the fund is invested to increase wealth. Investors also seek to manage their wealth effectively obtaining the most from it, while protecting it from inflation, taxes and other possible harms.

Investment policy involves determining the investor's objectives and the amount of his or her invest-able wealth. It is not appropriate for an investor to say that his objective is to make a lot of money (Clarke, 1989). What is appropriate for an investor in this situation is to state that the objective to earn a profit while recognizing that there exist some chances of incurring large losses. Investment objectives should be stated in terms of both risk and return.

National development of any country depends upon the economic development of that country and economic development is supported by financial infrastructure of that country. Therefore, the primary goal of any nation including Nepal is rapid economic development to promote the welfare of the people and the nation as well. Nepal being listed among least development country, is trying to embark upon the path of economic development by economic growth rate and developing all sectors of economy

The proper mobilization and utilization of domestic resources is one of the key factors in the economic development of a country. Similarly, integrated and speedy development of the country is only possible when competitive and reliable banking services are reached and carried to every corner of the country. It has been well established that the economic activities of any country can hardly be carried forward without the assistance and support of financial institutions. Financial institutions have catalytic role in the process of economic development. Successful formulation and effective implementation of investment policy is the prime requisite for the successful performance of banks and other financial institutions. Good investment policy has a positive impact on economic development of the country and vice- versa.

The initial step an investing policy involves determining the investment objectives and the amount of one's investable wealth. Investment is always related with risks and returns. Making money alone cannot be an appropriate objective. It is appropriate to state that the objective is to make a lot of money by recognizing the possible losses. Therefore, investment objective should be stated in terms of both risks and returns. Setting a clear investment policy also involves the identification of the potential categories of financial assets for consideration in the ultimate portfolio. The identification of assets depends upon many things, such as investment objectives, investable wealth, tax consideration etc. (Bhattarai Rabindra, 2004; 3)

Investment is a very risky job for a purposeful safe, profitable investment. Bank must follow sound investment policy. The fundamental principals of investment must be followed thoroughly for profitable investment. Investment policy should ensure maximum amount of investment to all sectors with proper utilization. There is high liquidity in the market but there seems no profitable place to invest. Investment policy provides the bank several inputs through which they can handle their investment operation efficiently ensuring the maximum return with minimum risk, which ultimately leads the bank to the path of success.

### **1.1. a) Evaluation of Bank**

The evaluation of bank is not a non-phenomenon. There was crude firm of banking evening an ancient Vedic era. The terms banking such as deposits, pledge, policy of loan, interest rates etc can be found in the "Manusmiriti"

The Roman Empire collapses in the last of 15<sup>th</sup> century and beginning of 16<sup>th</sup> century. Consequently, commercial banking transaction was received because of revival of commercial and other trading activities in European countries. According to the opinion of great economist Geoffrey Crowther, following community groups are the ancestors of modern banking.

- I. The merchant trader
- II. The goldsmith
- III. The money lenders

History tells us that it was the merchant banker who first evolved the system of banking by trading in commodities than money. Their trading activities required the remittance of money from one place to another for this they issued different documents as the near substitutes of money, called draft of hundis in modern days.

The next stage in the growth of banking was the goldsmith; the business of goldsmith was such that he had to take deposits such as bullion, money and amendments for the security from theft. This makes possible to the goldsmith to charge something for taking care of the money and bullion. On the other hand, as the evidence of receiving valuables, he used to issue a receipt to the depositors. As such receipts are good for payment equipment to the amount mentioned, it become like the modern cheque, as a medium of exchange and a means of payments.

Finally, moneylender in the early ago contributed in the growth of banking to a lager extent. He advances the coins on load by charging interest. As a safe guard he use to keep some money in the reserve. Therefore goldsmith, moneylender became a banker who started performing the two function of and advancing loans. “The bank of Venice” of Italy was established in 1157 A. D. as first banking institution in the world. The second banking institution namely, ‘The bank of Barcelona’ of Spain was established in 1401 A.D. Its function is to exchange money, receive deposits and discount bill of exchange, both for the citizens and for the foreigner. During 1407 A.D. The Bank of Genon was established in 1609 A.D. “The Bank of England” was incorporated in 1694 A.D. as a joint stock bank and later on the 1844 A.D. It becomes a first central bank in the world.

## **1.1 b) Commercial Banks and Investment Policy**

Commercial Bank is a corporation. Which accepts demand deposits subject to check and make short term loans to business enterprises, regardless of the scope of its other services. (American institution of banking, 1972; 345-346)

Commercial banks are major financial institutions, which occupy quite an important place in the framework of every economy. Commercial banks render numerous services to their customer in view of facilitating their economic and social life. All the economic activities of each and every country are greatly influenced by the commercial banking business of that country. Commercial banks, by playing active roles, have changed the economic structure of the world. Thus, commercial banks have become the heart of financial system.

Commercial bank deals with other people's money. They have to find ways of keeping their assets liquid so that they could meet the demand of their customers. In their anxiety to make profit, the banks can't afford to lock up their funds in assets that are not easily realizable. The depositor's confidence could be secured only if the bank is able to meet the demand for cash promptly and fully. The banker has to keep adequate cash for this purpose. Cash is an idle asset and hence the banker cannot afford to keep a long portion of his assets in the bank. Therefore the banker has to distribute his assets in such a way that he can have adequate profits without sacrificing liquidity. (M.Radhaswamy and S.V.Vasudevan, 110055; 510)

Commercial banks must mobilize its deposits and other funds to profitable, secured, stable and marketable sector. Then, only it can earn more profit as well as it should be secured and can be converted into cash whenever needed. But, commercial banks have to pay due consideration while

formulating investment policy regarding loan and investment. Investment policy is one facet of the overall spectrum of policies that guide banks investment operations. A healthy development of any bank depends heavily upon its investment policy. A sound and viable investment policy attracts both borrowers and lenders, which helps to increase the volume and quality of deposits, loan and investment. Commercial bank should be careful while performing the credit creation function. The banks should never invest its funds in those securities, which are subject to too much depreciation and fluctuations because a little difference may cause a great loss. It must not invest its funds into speculative businessman who may be bankrupt at once and who may earn millions in a minute. Emphasizing upon this, H.D. Crosse stated, “The investment policy should be carefully analyzed.”(Crosse H.D., 963) So they must invest their funds where they gain maximum profit.

Commercial banks must follow the rules and regulations as well as different directions issued by central bank, ministry of finance, and ministry of law and other while mobilizing its funds. So, the bank should invest its funds in legal securities only. Diana McNaughton in her research paper ‘Banking institutions in developing markets’ state that, investment policy should incorporate several elements such as regulatory environment, the availability of funds, the selection of risk, loan portfolio balance and term structure of the liabilities. (McNaughton, Diana, 1994). Thus, commercial banks should incorporate several elements while making investment policy. The loan provided by commercial bank is guided by several principles such as length of time, their purpose, profitability, safety etc. These fundamental principles of commercial bank’s investment are fully considered while making investment decisions.

### **1.1.c) Investment Pattern of Nepalese Commercial Banks**

However, the development of banking in Nepal is relatively recent. The establishment of “Tejarath Adda” during the year 1877 A.D. was the first step

in institutional development of banking sector in Nepal. Tejarath Adda did not collect deposit from public but granted loans to public against the collateral of bullions. Consequently the major parts of the country remain untouched from these limited-banking activities. The development of trade with India and other countries increase the necessity of the institutional banker, which can act more widely to enhance the trade and commerce and to touch the remote non-banking sector in the economy. Reviewing this situation, the “Udyog Parishad” was constituted in 1936 A.D. One year after its formulation, it formulated the “company Act” and “Nepal Bank Act” in 1937 A.D. Nepal Bank limited was established under Nepal Bank ACT in 1937 A.D. as a first commercial bank of Nepal with 10 million authorized capital.

Modern banking practices emerged with the establishment of Nepal Bank Limited in 1934 A.D. However the stand of Nepal Bank limited alone in total monetary and financial sector was sufficient and satisfactory. Thus Nepal Rastra Bank was set up on 1956 A.D.(2013.01.14) as a central Bank under Nepal Rastra Bank Act 1956 A.D.(2012 B.S.).Similarly, on 1966 A.D.(2022.10.10) Rastra Banijaya Bank was established as a fully government owned commercial bank. With the emergence of RBB, banking service spread to both the urban and rural areas but customers failed to have taste of quality & competitive service because of excessive political and bureaucratic interference. For industrial development, Industrial Development center was set up in 1956 A.D. (2013 B.S.) which was converted to Nepal Industrial Development Corporation (NIDC) in 1959 A.D.(2016 B.S.).Similarly, Agriculture Development Bank (ADB) was established in 1976 AD (2024.10.07) with an objective to provide agricultural products so that agricultural productivity could be enhanced through introduction of modern agricultural techniques. As the country moved towards economic liberalization in 1980 A.D., foreign Banks were invited to operate in Nepal. The financial scenario has changed with the introduction of joint venture banks in 1984.The number of commercial banks has been increasing. Since then, various financial

institution like, JVBs, Domestic Commercial Banks, Development Banks, Finance Companies, Co-operative Banks credit Guarantee corporation, Employee provident funds, National Insurance corporation, Nepal stock Exchange have come into existence to cater the financial needs of the country thereby assisting financial development of the country.

In 1990 A.D. after the restoration of democracy in Nepal, the governments highlight the agenda of economic liberalization policies were announced and emphasized to invite foreign direct investment (FDI) in the banking sector of Nepal. Therefore the development of CB's in Nepal is categorized in three phases on the basis of financial institutions policies adopted by the country from time to time. They are:

- ) CB's prior to 1980's
- ) CB's of 1980's
- ) CB's post 1990's

There are only two banks prior to 1980's they are NBL and RBB .All the three CBs of 1980's were established as joint venture bank. Similarly six commercial banks of past 1990's were also come into operation as joint venture banks. Latest six banks including Nepal industrial and commercial, Lumbini Bank Ltd, Machapuchhre Bank Ltd, Kumari Bank Ltd, Laxmi Bank Ltd, Siddharth Bank Ltd, were established by the private sector of Nepal consequently the name of the banks are also changed. Nepal Arab Bank Ltd. Is now known as Nabil BankLtd, similarly Nepal Grindlays Bank Ltd, Nepal Indosueze Bank Ltd, and Nepal Bank of Ceylon Ltd, are known as standard chartered Bank Nepal Ltd, Nepal Investment Bank Ltd, Nepal credit and commerce Bank Ltd. respectively.

Taking an overview of financial institutions providing banking facility in Nepal, there are 25 CBs, 29 Development Bank, 5 Rural Development



banks, 59 Finance companies, 20 co- operative firm, 46 non- government  
finance firm licensed by NRB.

### **List of Licensed commercial Banks in Nepal**

After the announcement of liberal and free market economic based policy, Nepalese banks and financial Sectors and having greater network and access to national and international markets. They have to go with their

<b>Name of Banks</b>	<b>Estd (B.S.)</b>
Nepal Bank Ltd.	1994
Rastriya Banijya bank	2022
Agriculture Devt. Bank Ltd.	2024
Nabil Bank Ltd. (Prev. Nepal Arab Bank Ltd.)	2041
Nepal Investment Bank Ltd (Prev. Nepal Indosuez Bank Ltd.)	2042
Standard Chartered Bank Nepal Ltd. (Prev. Nepal Grindlays Bank Ltd)	2043
Himalayan Bank Ltd.	2049
Nepal SBI Bank Ltd.	2050
Nepal Bangladesh Bank Ltd.	2051
Everest Bank Ltd.	2051
Bank of Kathmandu Ltd.	2051
Nepal Credit & Commercial Bank Ltd. (Prev. Nepal Bank of Ceylon)	2053
Nepal Industrial & Commercial Bank Ltd.	2055
Lumbini Bank Ltd.	2055
Machapuchhre Bank Ltd.	2057
Kumari Bank Ltd.	2056
Laxmi Bank Ltd.	2058
Siddhartha Bank Ltd.	2059
Global Bank Ltd.	2063
Citizen International Bank Ltd.	2063

portfolio management very seriously and superiority. Fighting various challenges in order to increase their regular basis of income as well as to enrich the quality base of service for the attraction of good clients. In this competitive and market oriented open economy, each and every commercial banks and

financial institution has to play a determining role by widening various opportunities for the sake of expanding provisions of best service to their customers and by making themselves as a strong and potential financial intermediaries as per country's need of present scenario to obtain the desired level of economic development of nation.

Joint venture banks are the mode of trading to achieve mutual exchange of goods and services for sharing competitive advantage by performing joint investment scheme between Nepalese investors, Financial and non financial institution as well private investors and their parent banks each supplying 50 percent of total investment. The parent banks, which have experiences in highly merchandised and efficient modern banking services in many parts of the world have come to Nepal with higher technology, advance management skills. Joint venture banks are established by joining different forces and with ability to achieve a common goal and with each of the partners. They are more efficient and effective monetary institution in modern banking fields than other old type of banks in Nepalese context (Thapa Samiksha, 2001; 6)

In Nepal, Commercial banks play a vital role in the economic growth. Its investments range from small-scale cottage industries to all types of social and commercial loans and large industries. Generally the investment of the CBs include the investment on Government securities, like treasury bills, development bonds, national savings bonds, foreign government securities, shares of government owned companies and non- government companies and investment on debentures, similarly the CBs used their funds as loan and advances.

#### **1.1.d) Profile of Concerned Banks**

In this section general introduction of the banks under study is being attempted to furnish for the easy reference of the samples to the research.

## **(A) Nabil Bank Ltd.**

“Nabil Bank Limited” the first commercial bank was incorporated in 1984. Dubai Bank Ltd. was the initial joint venture partner with 80% equity investment .The shares owned by Dubai bank Ltd. (DBI) were transferred to Emirates Bank International Ltd. (EBIL) Dubai. Later on EBIL sold its entire stock to National Bank Ltd, Bangladesh (NBLB). National Bank Ltd. Bangladesh is managing the bank in accordance with the technical services agreement signed between it (NABIL) and the bank on June 1995.

The present configuration consist of 50% share capital of National Bank limited, Bangladesh.10% of NIDC, 9.66% of Rastriya Bema Sansthan, 0.34% of Nepal stock exchange and 30% of Nepalese public. At present 17 branches of the bank are operating in different parts of the country. Authorized capital and paid up capital of Nabil bank limited are Rs.500 million and Rs. 491.6544 million.

The following Activities and services are provides by NABIL including normal functions;

- ) Tele Banking
- ) Credit card facilities
- ) SWIFT
- ) Deposit Locker
- ) Western Union money Transfer
- ) ATM
- ) International Trade and Bank Guarantee.

This Bank is awarded by “Bank of year 2004”.

## **A) Nepal Investment Bank**

Nepal Investment Bank Ltd. (Nepal Indosuez Bank Ltd) was established on 21<sup>ST</sup> January 1986 as a third joint venture bank under the company Act 1964. Initially, the Bank is managed by Banque Indosuez, Paris in accordance with joint venture and technical services. 50% of the shares of Nepal Indosuez Bank Ltd held by Credit Agricole Indosuez was sold to the Nepalese promoters on April 25, 2002 as per the transaction record of NEPSE. After this divestment of shares by Nepalese Owners, the name of the company was changed to Nepal Investment Bank Ltd. by its 15<sup>th</sup> AGM held on May 31, 2002

Out of total equity shares of Nepal Investment Bank Ltd. 50% shares are held by a group of companies, 15% by commercial banks another 15% by financial institutions and remaining 20% by general public. Authorized capital of NIBL is Rs.590 million and issued and paid up capital is Rs.295.293 million

The following Activities and services are provided by NIBL including normal functions;

- ) Tele Banking
- ) Credit card facilities
- ) SWIFT
- ) Deposit Locker
- ) NTC's Mobile bill payment
- ) ATM
- ) International Trade and Bank Guarantee.

This bank is awarded by "Bank of year 2003"

## **B) Nepal State Bank of India (SBI)**

Nepal State Bank of India (SBI) Limited was established in 1993, under the company Act 1964. This is the joint venture of State Bank of India and Nepalese promoters. The ownership structure of the shares of Nepal SBI Bank Ltd is as follows.

State Bank of India – 50.84%

Commercial Banks -5.08%

Organized Institutions – 15.25%

General Public –28.83%

The bank has 11 branches and 3 extension counter of Nepal SBI Bank Ltd in operation. The authorized capital and paid up capital of the bank is Rs.1000 million and Rs.426.8759 million respectively.

The following Activities and services are provided by SBI including normal functions.

- ) Tele Banking
- ) Credit card facilities
- ) SWIFT
- ) Deposit Locker
- ) International Trade and Bank Guarantee.

## **1.2 Statement of Problem**

Mushrooming of joint venture banks is the present situation of Nepalese Financial system. The fast growth of such organization has made pro-rata increment in collecting deposits and their investment. They collected adequate amount from the mass, however they could not find or locate new investment sectors required to mobilize their funds on the changing context of Nepal. Only few commercial banks are getting regular profits. Most of them are unable to satisfy their shareholder's and clients in ascertaining profitability and ensuring their safe deposition. Some banks are incurring losses in early establishment years. It is not that they do not have potential clients or adequate deposits but they cannot find profitable sectors or opportunities to invest the deposit collections. They have always feared high degree of risk and uncertainty.

There are various problems in resources mobilization by financial institution in Nepal. The most important problem is poor investment climate prevailing in Nepal due to heavy regulatory procedure uncertain government policy, NRB's directives, unsecured climate etc. Lack of sound investment policy is another reason for a commercial bank not to properly utilizing its deposits that is making loan and advances or lending for a profitable project. This condition will lead the commercial bank to the position of liquidation.

Commercial banks invest their funds in limited areas to achieve highest amount of profit. They are found to more interested in investment in less risky and highly liquid sectors i.e. treasury bills, development bonds and other securities. There is hesitation to invest on long-term projects they are much more safety minded. So, they follow conservative and un-effective investment policy.

As with everything in Nepal, every commercial bank has an investment in the same sectors. They are in tourism, garments and in trading as well. They are the major sectors. But given the current situation of the country, it is not up to them to decide which sector they want to go into. The main factor for success of any organization is the security situation. Once the security situation stabilize, then only commercial banks consider rationally as to where they should to invest and grow. Till then it is a question of moving into sectors as and when things develop. So, security problem is the big problem for every commercial bank to invest their funds in our any sectors.

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. Furthermore, the implementation of policy is not in an effective way. Lack of farsightedness in policy formulation and absence of strong commitment towards its proper implementation has caused many problems to commercial banks.

The problems specially related to investment functions of the commercial banks have been present briefly as under.

- a) Is Nabil's investment policy more effective and efficient than the investment and SBI Bank?
- b) Is Nabil's investment strategy successful to utilize its available fund in comparison to the Investment and SBI?
- c) Are they maintaining sufficient liquidity, profitability and risk position?
- d) What is the relationship of investment on loan and advances with total deposits and total net profit?
- e) Does the investment decision affect the total earnings of the commercial bank?

### **1.3 Objectives of the study**

- a) To examine the investment policy of the banks.
- b) To examine and evaluate the utilization of available fund of Nabil's in comparison to Investment and SBI.
- c) TO evaluate the liquidity, profitability and risk position of Nabil's in comparison to Investment and SBI.
- d) To find out the empirical relationship between deposits loan and advances, investment, net profit and compare them between Nabil, Investment & SBI
- e) To provide the suggestion on the basis of the major findings.

### **1.4 Focus & Significance of the Study**

The main focus of the study is to highlight the investment policies of commercial banks expecting that the study can be bridge the gap between deposits and investment policies. On the other hand, the study would provide information to management of the bank that would help them to take collective action. Further from the study the shareholders would get information to make decision while making investment on shares of various banks.



In the context of Nepal there is less availability of research work. Journal and articles in investment policy of commercial banks as well as other financial institution. As it is a well known fact that the success and prosperity of the bank relies heavily upon the successful investment of collected resource to the important sectors of economy. Successful formulation and effective implementation of investment policy is the prime requisite for the successful performance of commercial banks.

There are various problems in effective investment of commercial banks of Nepal, which affect their performance to the great extent. CBs performance does not seem so satisfactory in terms of utilizing its resource efficiently in productive sectors. Hence the main significance of this study of investment portfolio analysis of Nepalese commercial banks is to help how to minimize risk on investment and maximize return through portfolio analysis. Similarly, the study of commercial banks investment trend, risk return pattern, portfolio management, credit management and effect on investment decision on earning will strive to disclose the internal weakness of the banks and furnish the ideas for improvement. Therefore, the researcher has undertaken this study to analyze the existing investment portfolio of Nepalese commercial banks and point out the various weaknesses of defects inherent in it and provide package of suggestions for its improvement.

## **1.5 Limitations of the study**

This study is simply a partial study for the fulfillment of MBS degree, which has to be finished within limited period. Hence, this study is not far from several limitations of its own kind, which weaken the heart of the study.

Some of such limitations are as follows.

- a. The study is mainly based on secondary data collected from different sources.

- b. The study period will be covered by only five fiscal year i.e. from 2003/2004 to 2007/2008.
- c. Out of the numerous affecting factors, this study concentrates only on those factors, which are related with investment policy, and available in the form required for analyzing the different issues.
- d. Due to wide range of data deficiencies only simple technique have been used for the analysis of the data.
- e. The study deals with only two other Commercial banks to compare with Nabil bank Ltd. And other commercial banks have not been accounted.

## **1.6 Organization of the Study**

The whole study has been divided into six chapters. First is introduction chapter, which includes general background, statement of the problem, focus & signification of the study, objectives of the study and limitations of the study and chapter plan.

Second chapter deals with the review of available literatures in the field of the study being conducted. This includes review of the theories of the concerned topic, review of supportive text, review of books, review of bulletins and annual reports published by bank, review of related articles and review of previous thesis.

Third chapter explains the research methodology employed to conduct the study and tools and techniques used in analysis of the data as well. This chapter includes, research design, sources of data, population and samples, method of data analysis, various financial and statistical tools.

Fourth chapter is devoted to the presentation and analysis of data through definite course of research methodology. The main working of this chapter is to analyze different financial ratios related to the investment and

fund mobilization of NABIL in comparison to the NIBL & SBI. Major findings of the study are also included in this chapter.

Fifth is the last chapter of the study, which provides summary and conclusion, suggestions and recommendations for improving the future performance of the sample banks.

Besides these, bibliography and appendices will also present at the end of the thesis. Similarly, acknowledgements, table of contents, list of tables, list of figures, abbreviations are included in the front part of the thesis report.

## **CHAPTER –TWO**

### **REVIEW OF LITERATURE**

This chapter deals with the theoretical aspect of the topic on investment policy in more detail and descriptive manner. It provides the foundation for developing a comprehensive theoretical framework and knowledge of the status relevant to the field of research in order to explore the relevant and true facts for the reporting purpose. Hence, in this chapter, the focus has been made on the review of literature relevant to the investment policy of commercial banks. For this study, different books, journals, articles, annual reports and some research paper related with this topic has been reviewed. For this purpose, chapter has been mainly two sections, viz. theoretical perspective and review of related studies

1. Review of supportive text
2. Review of previous study
  - a) Review of Articles
  - b) Review of Research papers
  - c) Review of Thesis
3. Review of legislative provisions

#### **2.1) Review of Supportive text**

Review of supportive text provides the fundamental theoretical framework and foundation to the present study. For this, various books,

research paper, articles etc. dealing with theoretical aspects of investment policy analysis are taken into consideration.

### **2.1.a) Definition of Investment**

Investment is nothing but deploying our savings in a manner that ensures safety of our money and provides a sustained return to supplement our regular income. (Delhi stock exchange, January 2002). The term investment covers a wide range of activities. It is commonly known fact that an investment is only possible where there adequate savings. If all the incomes and savings are consumed to solve the problem of hand to mouth and to the other basic needs. Then there is no existence of investment. Therefore, both savings and investment are interrelated.

Investments are made in assets. Assets in all are of two types, real assets (land, buildings, factories etc) and financial assets (stocks, Bond, T-bill etc.). These two investments are not competitive but complementary, highly – developed institutions for financial investment greatly facilitating real investment. (Bhattarai Rabindra, 2004; 3)

Mrs. Preeti Singh has defined investment in this way; Investment is the employment of funds with the aim of achieving additional income or growth invalue (Singh, 1992; 1)

In the words of Gitman and Joehank, Investment is any vehicle into which funds can be placed with the expectation that will preserve or increase in value and generate positive returns. (Gitman and Joehank, 1990; 1)

Charles P. Jones has defined that, Investment as the commitment of funds to one or more assets that will be held over some future time period. Investment is concerned with the management of an investor's wealth. Which is the sum of current income and present value of all income. (Charles, 1991; 2)

## **2.1.b) Features of Sound Lending and Investing Policy**

Some of the main characteristics of sound lending and investment policies which most of the banks must consider have been given by many authors are as under:

### **I) Safety and Security**

While selecting the sectors for investing the funds a bank should be very much conscious. It should never invest its funds in those securities, which are too volatile because a little difference may cause a great loss. Similarly, the businessman who is bankrupt at once or earns a million in a minute should not be financed at all. The banks invest its funds in legal securities only. The bank should accept that type of securities, which have marketability; ascertainability, stability & transferability and it also accept those securities, which are commercial, durable and high market prices. For the safety and security in investing funds the bank can use the investment portfolio tools also.

### **II) Liquidity**

Liquidity generally refers to the cash or any asset that can be converted into cash immediately. Generally, people deposit money at the bank in different account with confidence that the bank will repay their money whenever it is needed. In order to maintain the confidence to the depositors, the bank must always be ready to meet current or short-term obligations when they become due for repayment. Liquidity is the capacity of bank to pay cash against deposits. Hence the liquidity position of a bank is such an important factor.

### **III) Profitability**

Commercial banks invest on those sectors from where more and more return can flow because through maximizing the returns on its investment, bank can maximize its volume of wealth. Hence the investment or granting of loan & advances by them are highly influenced by the profit margin. Generally the

profit of commercial bank depends upon the interest rate of the bank, volume of loan provided, time period of loan and nature of investment on different securities. Profitability is only the term, which always motivated commercial banks to invest his money more and more.

#### **IV) Suitability**

A banker should always know that why a customer is in need have loan. If a borrower misuse the loan granted by the bank, he will never be able to repay the loan and bank will possess heavy bad debts. Therefore, in order to avoid such circumstances advances should be allowed to select and suitable borrowers and it should demand all the essential detailed information about the scheme of the project. Bank must keep in mind the overall development plans of the nation and the credit policy up the central bank.

#### **V) Diversification**

The bank should be careful that while granting loan, it should not be always in one sector. To minimize risk and maximize the profit, a bank must diversify its investment on different sectors. Diversification of loan helps to sustain loss according to the law of average because if securities of a company deprived, there may be appreciation in the securities of other companies. In this way, the loss can be recovered.

### **2.1.c) Sources of Funds for the Investment**

There are different sources of funds for the investment of the bank.

#### **a) Capital**

Capital is the lifeblood of the trade and commerce. Therefore, Capital is needed for the operation of the bank as in other business. So far as that funds, it is only nominal source. So it can be used for the investment purpose. The capital fund consist of two elements like

- i) Issuing shares
  - ii) General Reserves
- 
- i) Issuing Shares**

Bank issues its share for the collections of capital. So this is one of the sources of fund to invest. By increasing in the issue of share, the bank can increase its capital.

## **ii) General Reserves**

Reserves are kept by the bank separated from the profit. This reserve is also invested in the times of contingency and to cover the loss in future.

## **b) Accumulated profit**

If the capital is not sufficient and there is need of more money to invest in that case the bank take up the accumulated profit to invest. In the time of contingency also, the bank invests its accumulated profit for recovering its future loss.

## **c) Deposits**

Deposits are the main source of funds. By providing certain rate of interest, commercial bank calls for the deposit from the customer. Mainly, three types of deposits are accepted by the bank like current deposit, fixed deposit, saving deposits. These different types of deposits are used for lending the money to different sector agriculture, productive work, trade, irrigation and industry. The deposits will lead to increase the working capital of the bank.

## **d) External and internal borrowings**

The funds can be collected by borrowings money through different banks or different institution. In a developing country like Nepal, those type of borrowings is very important. The commercial bank may not have sufficient



fund to invest in different sector. In that case it has to borrow from other bank or other economic institution. Generally the commercial bank borrows from two sources i.e. external and internal. Generally external borrowing means the borrowing from foreign banks, and foreign government. Internally, the commercial banks borrow mainly from Nepal Rastrya Bank. So the commercial bank cannot provide loan or investment without the funds. From the above different source of fund the commercial bank grants loan.

## **2.2 Review of Previous Study**

Every scientific research is based on past knowledge. The previous studies cannot be ignored because they provided the foundation to the preset study. Therefore, in the light of this dissertation in this section review of articles, review of research papers & review of thesis of previous study are taken into consideration.

### **2.2.a) Review of Articles**

Under this heading, effort has been made to examine and review some of the related articles published in different economic journals, bulletin of World Bank, dissertation papers, magazines, newspapers and other related books.

**F. Morris**, in his discussion paper on, "Latin America's Banking system in the 1980's, has concluded that most of the banks concentrated on compliance with central bank rules on reserve requirements, credit allocation (investment decision) and interest rates. While analyzing loan portfolio quality, operating efficiency and soundness of bank investment management has largely been overlooked.

He further adds that mismanagement in financial institutions has involved inadequate and overoptimistic loan appraisal, high risk diversification of loan portfolio and investments, high risk concentration, related parties

lending, etc, are major cause of investment and loan that has gone bad (Morris, 1990;pp81)

**Sunity Shrestha** in her article, “Lending operation of commercial Banks of Nepal and its impact on GDP” has presented with the objectives to make an analysis of contribution of commercial banks lending to the gross domestic product (GDP) of Nepal. She has set hypothesis that there has been positive impact of lending of commercial banks to the GDP. In research methodology, she has considered GDP as the dependent variable and various sectors of lending viz. Agriculture, industrial, commercial service and general multiple regression technique has been applied to analyze the contribution.

The multiple analyses have shown that all the variables except service sector lending have positive impact on GDP. Thus, in conclusion she has accepted the hypothesis i.e. there has been positive impact by the lending of commercial banks in various sectors of economy, except service sector investment. (Dr. Sherestha, 2055; 23-27).

**Shree Prasad Poudel**, Deputy Director, NRB in his article “Government Security Markets Rational and Development in Nepal” has concluded that the Security markets are center of the financial system. Debt securities market in the Nepal is highly dominated by government debt securities. Debt statistic’s evidenced that Nepal remained debt free nation till 1950’s. From the beginning of 1960’s foreign loans and domestic bonds have been alternative means of debt financing in Nepal as a result total debt as a percentage of GDP widened from 1% in 1960’s to 65.3% in 2000.

According to Mr. Poudel, Government debt Consist treasury bills (TBS), National savings certificates (NSCS), Development Bonds (DBs), Special bonds (SBs), and Citizen Saving Certificates (CSCs).

He further added that NRB and commercial Banks are the main holders of government bonds. In his article he suggested following improving area in debt securities MKT in Nepal:

- ) To make government securities active instruments of open market operation coupon rate on government securities has to be fixed closely to the market rate of interest.
- ) Exchange of government securities at market price has to be encouraged.
- ) Products of government debt securities need to be diversified to meet investor demands.
- ) Like equity shares the marketable government securities need to be exchanged in the floor of Nepal stock exchange at competitive price. (Poudel, 2059; 45-51)

**Bodhi B. Bajracharya** has mentioned in his article, “Monetary policy and deposit mobilization in Nepal” has concluded that the mobilization of domestic savings is one of the monetary policies in Nepal. For this purpose commercial banks stood as the vital and active financial intermediary for generating resources in the form of deposit of the private sector so far providing credit to the investor’s in different aspects of the economy.(Bajracharya,1990;93-97)

## **2.2.b) Review of Research Papers**

Under this heading, reviews of research papers of researchers are analyzed to find out about the investment policies of commercial banks.

**Dr. Govinda Bahadur Thapa**, expresses his views in his research paper “Financial System of Nepal” that the commercial banks including foreign joint venture banks seem to be doing pretty well in mobilizing deposits. Likewise, loans and advances of these banks are also increasing. But compared to high credit needs particularly by newly emerging industries, the bank still

seems to lack adequate funds. The banks are increasing their lending to non – traditional sectors along with the traditional sectors.

Out of all commercial Banks (excluding two recently opened regional commercial banks), Nepal bank Ltd. And Rastra Banajya bank are operating with a nominal profit, the later turning towards negative from time to time. Because of non-recovery of accrued interest, the margin between interest income and interest expenses is declining. Because of these two local banks, in traditional off-balance sheet operations, these banks have not been able to increase their income from commission and discount. On the contrary, they have got heavy burden of personal and administrative overheads. Similarly, due to accumulated overdue and defaulting loans, profit position of these banks has been seriously affected.

On the other hand, the foreign venture banks have been functioning in an efficient way. They are making profit year after year and have been distributing bonus to their employees and dividends to their shareholders.

He concludes that by its very nature of the public sector, the domestic banks couldn't compete with the private sector banks, so only remedy to the problems of these banks, as the government decided, is to hand over the ownership as well as the management of these banks to the private hands (Dr. Thapa, 1994,PP29-37).

**Dr. Radhe S. Pradhan** in his research paper “Role of saving, investment and capital formation in economic development. A case of Nepal,” has studied about the strong role and impact of saving, investment and capital formation on economic development of Nepal. This study is based on secondary data only. The necessary data on saving, investment, capital formation and gross domestic product has been collected for the period of 1974/75 to 2000/01. The role and impact of saving, investment and capital formation on economic development were analyzed by using various

regression models. The regression equations used in this study have been estimated at current prices as well as in real terms with the entire study period divided into different sub periods.

The results presented in this paper suggest that in all cases, GDP is significantly associated with saving, investment and capital formation both at current prices and in real terms. The results of the empirical analysis led to three important conclusions: First, saving, investment and capital formation have positive impact on economic development. Second, the current values and past values of saving, investment and capital formation have positive impact on economic development but the current values have the largest impact. Third, there is a strong role played by saving and capital formation on economic development while weak role-played by investment. (Dr. Pradhan, 2003;pp 123-133)

### **2.2.c) Review of Master degree and Ph.D. Thesis**

Several thesis works have been conducted by various students regarding the various aspects of commercial bank such as lending policy, investment policy, investment planning, liquidity and investment position, trends of saving investment and capital formation, investment on priority sectors etc. Some of them as supposed to be relevant for the study are presented below.

**Mrs. Ramala Bhattarai**, in her thesis, “Lending policy of commercial banks in Nepal,” has made an effort to examine the lending policy of commercial banks. She has concluded that efficient utilities of resources are more important than collection of the same. Lower investment means lower capital formation that hampers economic development of the people and the country. So, she recommended that banks give emphasis on efficient utilization of resources (Bhattarai, 1978)

**Sunity Shrestha** has conducted a study on “Investment planning of commercial banks in Nepal” with the objectives of:

- ) To evaluate the financial performance of commercial banks in Nepal.
- ) To examine the investment of commercial banks of Nepal with reference to securities, loans & advances.
- ) To establish the relationship of bank portfolio variables with the national income and interest rates.

The research findings of the study are summarized as:

- ) The general trend of commercial banks asset holding is growing. Deposits have been a major source of funds. The excess reserve level of the banks allows idle money and loss of opportunity. Debt equity ratios are very high, greater than 100%.
- ) The return ratios are on the average higher for foreign joint venture banks than for the Nepalese bank but return of asset found to be statistically some. Risk taking attitude is higher in foreign joint venture banks. The total management achievement index is higher in case of foreign banks in comparison to the Nepalese banks.
- ) The hypothesis that the commercial banks have non –professional style of decision making in investment has been accepted. The investment of commercial banks in shares and securities is normal and not found to have strategic decision towards investment in shares and securities. Yield from the security has been found to be satisfactory.
- ) Investment in various economic sectors shows industrial and commercial sector taking higher shares of loan till 1990.
- ) Investment in various sectors has a positive impact on the national income from their respective sectors.
- ) Lending in priority sector showed cottage and small industry sector sharing higher loans.
- ) Priority sector lending showed positive impact on the national income.

The secured loan analysis showed commercial loan as being very important followed by social and industrial loans. The loan loss ratio has been found to be increase with low recovery of loan. Demand of bank credit has been found to be affected by the national income and lending and Treasury bill rate. The investment of commercial banks on government securities has been observed to be affected by total deposit, cash reserve requirements and Treasury bill and lending rates. Interest rates, lending rate, deposit rate were found to constitute a set of significant variables affecting the bank portfolio composition. (Dr.Sherestha, 1993)

**Kishor Poudel's**, in his thesis paper “liquidity and investment position of joint venture commercial Bank in Nepal” had made an attempt to evaluate liquidity and investment of joint venture Banks special reference to Everest Bank limited and NABIL .He has conducted that liquidity position of EBL is comparatively better than NABIL's. Growth rate of investment is higher in EBL than NABIL. He further found the banks do not have constant and consistent liquidity and investment policy. There is no standard and uniform rate or ratio for maintaining liquid assets by the commercial banks. A commercial bank at its own judgment may decide to maintain an appropriate level of liquid assets. So he has recommended exploring such investment and to increase its investment on share and debenture and the bank should have laid down policy for timely review of portfolio and to maintain risk and return.( Poudel,2002)

**Sharad Wagle's** Study; in his thesis paper “A study on trends of savings, investment and capital formation in Nepal”, he concluded that in Nepal there is large gap between investment and saving rate. The low savings rate implies that majorities of people are poor. Low rate of saving and investment has been the continuing characteristic of the Nepalese economy as compared to some selected Asian countries. The need for the improving

internal savings and investment performance in the country has been high in the agenda of Nepalese policy declarations but the performance in has remained rather poor. The rate of investment and capital formation is low in Nepal because of low saving. He has recommended that the government should review existing restriction on foreign direct investment. (Wagle, 2000)

**Mrs. Rabina Bajracharya**, in her thesis paper entitled, "Investment of CBs in priority sector" has made an effort to examine the banking procedures and services in disbursing loan in priority sector .She has found that:-

- ) The target of 12% investment of total outstanding liabilities in priority sector and 3% out of which has been invested in deprived sector has been met by Rastriya Banijya Bank.
- ) The trend of investment are continued to increase in the following years.
- ) The regression analysis of the investment and relationship between investment and repayment.
- ) Investment on agriculture is higher than investment on industry and service sector because investment on agriculture benefited a higher number of households. (Bajracharya, 2000)

**Kul Chandra Pandit in his thesis**, "A study on the investment policy analysis of S.C.Bank Nepal Limited in comparison to Nabil and Nepal Bangaledesh Bank" has mainly found that S.C's loan & advances to total deposits ratios are significantly lower than that of Nabil and Nepal Bangaledesh Bank, S.C. is recommended to follow a liberal lending policy, invest more portion of deposition loan & advances. He has further stated that besides giving priority of investing on government securities, S.C. is recommended to invest its fund in the purchase of shares and debentures of other financial, non-financials companies, hotels and government companies. This also helps in the maintenance of a sound portfolio of the banks. (Pandit, 2003)



**Mukunda Prasad Lamichhane** in his thesis, “Investment policy of the Joint Venture Banks in Nepal” had analyzed between investment policy and different variables like deposits, commission and discount, net profit, interest on loan and investment. He applied correlation, ratio analysis, t- test, and standard deviations.

He concluded that there is significant relationship between deposit and loan and advances as well as outside assets and net profit but not deposits and total investment in case of NABIL and other joint venture banks. Most of the joint venture banks have focused their banking services especially to big clients such as to purchase shares and debentures of other financial and non-financial companies. (Lamichhane, 2000)

**Mr. Shiba Raj Loudari** conducted a study on “A study on investment policy of Nepal Indosuez Bank Ltd. In comparison to Nepal SBI Bank Ltd.” With the objective of:

- ) 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 in comparison to Nepal SBI bank ltd.
- ) To analyses relationship between deposit and investment, deposits and loan & advances, net profit and outside assets of Nepal Indosuez Bank Ltd. In comparison to Nepal SBI Bank Ltd.

The research findings of the study are as follows:

- ) Current ratios for both the banks are satisfactory.
- ) Although Cash reserve ratio is managed by both banks as per Nepal Rastrya Bank directives, both banks have not paid sufficient insight

towards 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 has decreased.
  - ) Nepal Indosuez Bank Ltd. has maintained both current ratio and cash reserve ratio better than Nepal SBI Bank Ltd. But its cash and bank balance, investment in government securities and loan and advances in comparison to current assets are lower than that of Nepal SBI Bank Ltd.
  - ) Deposit utilization of Nepal Indosuez Bank Ltd. is less effective than that of Nepal SBI Bank Ltd. Further Nepal Indosuez Bank Ltd. has invested lesser amount on government securities and shares and debenture than that of Nepal SBI Bank.
  - ) Nepal Indosuez Bank Ltd. did a better performance in return on total assets and loan and advances and interest earning, but it paid lower interest amount to working fund.
  - ) The analysis of growth ratios shows that growth ratios of total deposit, loan and advances, total investment and net profit of Nepal Indosuez Bank are less than that of Nepal SBI Bank.
  - ) The trend value of loan and advances to total deposits ratio is decreasing in case of both banks. The trend value of total investment to total deposits ratio is also decreasing in case of both banks.
- (Mr.Loudari, 2001)

### **2.3 Review of Legislative Provisions**

In this section review of legislative framework under which the commercial banks are operating has been discussed. This legislative environment has significant impact on the commercial bank's establishment, 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 regulations formulated to facilitate the smooth running of commercial banks.

### **Investment Management Regulation**

“A commercial bank formulating a written policy may decide to invest in shares and securities of an organized institution. However, such investment is restricted to 10% of paid up capital of the organization. However, the cumulative amount of such investment in all the companies in which the bank has financial interest shall be limited to 20% of the paid up capital of the bank. But the total amount of investment in share and securities of organized institution is restricted to 30% of the paid up capital of the bank.”(Directives to commercial Banks, directive No.8, NRB Banking operation department 81-82)

Likewise, commercial banks are not allowed to invest in any shares, securities, and hybrid capital instruments issued by any banks and financial institutions, licensed by NRB. Where such investment exists prior to issuance of this directive, such investment should be brought within the restrictive limitations by the fiscal year 2060/61. But investment on rural micro finance development banks' shares are not comes under such restriction. A commercial bank is directly related to the fact that how much fund must be collected as paid up capital while being established at a certain place of the nation, how much fund is needed to expand the branch and counters, how much flexible and helpful the NRB rules are also important. But we discuss only those, which are related to investment function of commercial banks. The main provisions, established by NRB in the form of prudential norms in above relevant area are briefly discussed here under.

#### **i) Provisions for investment in the deprived sector**

Some rules, which are formulated by NRB, affect the areas of credit and investment extension to the deprived sector by the commercial bank.

According to the new provision, with effect from the 3<sup>rd</sup> quarter of FY 1995/96, investment in shares of the rural development bank by CBs, which used to be counted for the priority sector lending, only is now to be included under the deprived sector lending.

According to the new provisions effective from FY 1997/98, NBL, RBB, NABIL, NGBL, NIBL are required to invest 3 percent, HBL, NSBL, NBBL, EBL, are required to invest 2 percent, Bank of Kathmandu is required to invest 1.75 percent, NBCL is required to invest 0.75 percent while new commercial banks are required to invest 0.25 percent of their total loans and advances to the deprived sector.

**ii) Provision for credit to the priority sector**

NRB requires commercial banks to extend loan and advances, amounting at least to 12 p.c. of their total outstanding credit to the priority sector. Commercial banks credit to the deprived sector is also a part of priority sector. Under priority sector, credit to agriculture, credit to the cottage and small industries and credit to service are counted commercial bank's loan to the co-operatives licensed by the NRB is also to be computed as the priority sector credit from the fiscal year 1995/96 onwards.

**iii) Provision for the investment in productive sector**

Nepal, being a developing country needs to develop infrastructure and other primary productive sectors like agriculture, industry etc. For this, NRB has directed commercial banks to extend at least 40 p.c. of their total credit to the productive sectors. Loans to priority sector, agriculture sector, industrial sector have to be included in productive sector investment.

**iv) Provision for the single borrower credit limit**

With the objectives of lowering the risk of over concentration of bank loans to a few big borrowers and also to increase the access of small and

middle size borrower to the bank loans, NRB directed CBs to set an upper limit on the amount of loan financed to an individual, firm, company or group of companies. According to this, CBs are required not to exceed the single borrower limit of 35 percent in the case of fund- based credit and 50 percent, in the case of non- fund based credit such as the letter of credit, guarantee, acceptance letter, commitment has been fixed is a proportion of capital funds of bank.

Similarly, NRB has graded six foreign joint venture banks now as the prestigious class “A” bank, which is NABIL, NGBL, NIBL, HBL, SBI, and NBBL. These banks have been kept outside the purview of the single borrower credit limit.

Likewise, in the case of consortium financing, commercial banks are permitted to extend an additional 10 percent credit above the limit fixed by the NRB as before.

In addition, Nepal Oil- Corporation, Agriculture-inputs Corporation and Nepal Food Corporation for their imports of petrol, diesel, kerosene, fertilizer and foodstuff respectively have been removed from the restrictions of single borrower credit limit.

**v) Provision for Minimize liquidity Risk**

Commercial banks are required monitor their liquidity risk. This is to minimize risk inherent in the activities and portfolio of the banks. According to the regulation a gap found between maturing assets and maturing liabilities is the liquidity risk. They are monitoring their assets and liabilities on the basis of maturity period. Maturity periods such as 0-90, 91-180,181-270, 271-365 days and above 1 year are classified for the purpose of checking.

**vi) Cash Reserve Requirements (CRR)**

To ensure adequate liquidity in the commercial banks, to meet the depositors' demand for cash at anytime and to inject the confidence in depositors regarding the safety of their deposited funds, commercial banks are required to have maximum CRR. In this regard, NRB has directed commercial banks to deposit minimum 8 percent of current and saving and 6 percent of fixed deposits in the NRB as primary cash reserve the commercial banks are further required to have 3 percent cash of total deposits in their own bank as secondary reserve.

**vii) Loan Classification and Loss Provision**

With a view to improving the quality of assets of commercial banks NRB has directed commercial banks to classify their out-standing loan and advances, investment and other assets into six categories. The classification is done in two ways. The loans of more than one lakh are to be classified as debt service charge ratio, repayment situation, financial condition of borrower, management efficiency, quality of collateral. The loans of less than one lakh have to be classified as per maturity period.

**viii) Directives regarding interest rate spread**

The interest rate spread, the difference between interest charged on loan and advances and the interest paid to the depositors, has widened significantly in the aftermath of deregulation in interest rates. This has caused lower financial intermediation. Therefore, NRB has required commercial banks to limit interest rate spread between deposit and lending rates to a maximum extent of 5 percent .NRB has also provided commercial banks with new calculation method of interest rate spread for a certain period recently.

## **2.4 Research Gaps**

The purpose of the research work is quite different from the studies made by the above persons (related to Joint Venture Banks). The author

focuses this study in effectiveness on investment policy analysis of Nabil Bank (as comparative study with Nepal Investment Bank & SBI Bank) in comprehensive manner considering the major items. The method of analysis is fully different. Financial tools and statistical tools are used in this study as ratio analysis, trend analysis, correlation and hypothesis.

This study is a little bit different than previous studies. It may be the first research study in the field of investment policy taking the comparative study of Nabil Bank with Investment and SBI Bank. This study has tried to indicate the effectiveness of investment policy of concerned banks.

## **CHAPTER –THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

Research methodology is a way to systematically solve the research problem. It refers to the various sequential steps that are to be adopted by a researcher during the course of studying the problem with certain objectives. This chapter refers to the overall research method from the theoretical aspects to the collection and analysis of data.

This study covers quantitative methodology in a greater extent and also uses the descriptive part based on both technical aspects and logical aspect. This research tries to perform a well-designed quantitative and qualitative research in a very clear and direct way using both financial and statistical tools

### **3.2 Research Design**

Research design indicates a plan of action to be carried out in connection with proposed research work. The research design is descriptive and core prescriptive in this study because the historical secondary data have been mainly deployed for analysis.

Some financial and statistical tools have been applied to examine facts and descriptive techniques have been adopted to evaluate investment performance of NABIL and compare it with CBs. Besides very simple questions asked to the concerned personnel's in the course of visiting the bank, this report contains no other primary data. This report is mainly based on secondary data, which include annual reports published by the concerned bank and other publications related to the concerned topic.

### **3.3 Sources of Data**

The report is mainly based on secondary data with negligible information and data collected from primary sources. The data required for the analysis are directly obtained from the balance sheet and P/L account of concerned bank's annual reports. Supplementary data and information are collected from number of institutions and regulating authorities like NRB, SEBON, NEPSE, Ministry of finance, budget speech of different fiscal years and economic survey.

All the secondary data are compiled, processed and tabulated in the time series as per the need and objectives. 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. Formal and informal talks with the concerned authorities of the bank were also helpful to obtain the additional information of the related problem.

### **3.4 Population and Sample**



There are altogether 25 commercial banks functioning all over the kingdom and most of their stocks are traded actively in the stock market. In this study, NABIL's investment policies have been compared with that average of CBs, which are selected from population.

The population is as follows:

1. Nepal Bank Ltd.
2. Raistrya Banijya Bank Ltd.
3. Nabil Bank Ltd.
4. Nepal Investment Bank Ltd.
5. Standard Chartered Bank Ltd.
6. Himalayan Bank Ltd.
7. Nepal SBI Bank Ltd.
8. Nepal Bangladesh Bank Ltd.
9. Everest Bank Ltd.
10. Bank of Kathmandu Ltd.
11. Nepal Credit and Commercial Bank Ltd.
12. Lumbini Bank Ltd.
13. Nepal Industrial and Commercial Bank Ltd.
14. Machhapuchhre Bank Ltd.
15. Kumari Bank Ltd.
16. Laxmi Bank Ltd.
17. Siddharth Bank Ltd.
18. Global Bank Ltd.
19. Citizen International Bank Ltd
20. Agriculture Devt. Bank Ltd.

From these populations NABIL Bank Ltd. has been selected and its data related to investment policy are comparatively studied with the following commercial Bank.

- i) Nepal Investment Bank Ltd.
- ii) Nepal SBI Bank Ltd.

### **3.5 Methods of Analysis**

As mentioned above for the purpose of data analysis, various financial, accounting and statistical tools are used to make the analysis more effective, convenience, reliable and authentic. The analysis of data will be done according to the pattern of data available because of limited time and resources. Simple analytical statistical tools such as percentage, Karl Pearson's coefficient of correlation, regression, the method of least square and test of hypothesis are used in this study. Similarly some accounting 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.

#### **3.5.1 Financial Tools**

Financial tools are used to examine the financial strength and weakness of bank in this study financial tool like ratio analysis has been used.

#### **Ratio Analysis**

Ratio analysis is a tool of scanning the financial statement of the firm. "Ratio means the numerical or quantitative relationship between two items or variables. It can be expressed as percentage fraction or a stated comparison between numbers." (I.M.Panday, 1992; 104) Ratio analysis is the relationship between two accounting figures expressed in mathematically. It is computed by dividing one item of relationship with the other. Management itself can use these parameters to improve the organization's performance in future. Because,

truly know- how of the strengths and weakness for exploiting maximum benefits and to repair the weaknesses to meet the challenges.

Even though there are many ratios, only those financial ratios are calculated and analyzed which are related in this study. They are as follows:

### **A) Liquidity Ratios**

Liquidity ratios measure the firm's ability to current obligations. It reflects the short – term financial strength of the business. It is the measurement of speed with which a bank's assets can be converted into cash to meet deposit withdrawal and other current obligations. A bank should ensure that it does not suffer from lack of liquidity and also it does not have excess liquidity. Both condition of liquidity are not in favour the viewpoint of banks.

The following ratios are evaluated under liquidity ratios.

#### **i) Current Ratio**

A ratio between current assets and current liabilities is known as current ratio. It shows the relationship between current assets and current liabilities. Current assets are those assets which can be converted into cash within short period of time, normally not exceeding one year current liabilities are those obligations which are payable within a short period, normally not exceeding one year.

Mathematically it is represented as:

$$\text{Current ratio} = \frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$$

Higher the current ratio better is the liquidity position. The widely accepted standard of current ratio is 2:1 but accurate standard depends on circumstances in case of seasonal business ratio.

This ratio measures the bank short-term solvency i.e. its ability to meet short-term obligations. As a measure of creditors versus current assets, it indicates each rupee of current assets available for each rupees of current liability.

**ii) Cash and Bank Balance to Total Deposit Ratio (Cash Reserve Ratio)**

Cash and bank balances are the most liquid current assets. This ratio measures the percentage of most liquid fund with the bank to make immediate payment to the depositor. This ratio is calculated by dividing the cash and bank balance by the amount of total deposits. Mathematically it is expressed as,

$$\text{CRR ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposit}}$$

Hence, cash and bank balance includes cash on hand, foreign cash on hand, cheques and other cash items, balance with domestic and abroad banks where as the total deposits include current deposits, saving deposits, fixed deposits, money at call and short term notice and other deposits.

**iii) Cash and Bank Balance to Current Assets Ratio**

This ratio measures the proportion of most liquid assets i.e. cash and balance among the total current assets of the bank. Higher ratio shows the banks ability to meet its demand for cash.

This ratio is calculated by dividing cash and bank balance by current assets.

Mathematically it is expressed as,

$$\text{Cash and bank balance to current assets ratio} = \frac{\text{Cash and Bank Balance}}{\text{Current Assets}}$$

**iv) Investment on Government Securities to current Assets Ratio**

Investment on government securities includes treasury bills and development bonds etc. This ratio is calculated to find out the percentage of current assets invested in government securities.

This ratio is calculated by dividing investment made on government securities by current assets,

Mathematically it is expressed as,

Investment on govt. securities to current assets ratio

$$= \frac{\textit{Investment on Government Securities}}{\textit{Current Assets}}$$

**v) Loan and Advances to Current Assets Ratio**

Loan and advances to current asset ratio shows the percentage of loan and advances in the total current assets. Where loan & advances include loans, advances, cash credit, local and foreign bill purchased and discounted etc.

This ratio can be calculated by dividing loans and advances by current assets.

Mathematically it is expressed as,

$$\textbf{Loan and advances to current assets ratio} = \frac{\textit{Loan and Advances}}{\textit{Current Assets}}$$

**B) Assets Management Ratios (Activity Ratios)**

Activity ratios are employed to evaluate the efficiency with which the firm manages and utilizes its assets. These ratios are also called turnover ratios because they indicate the speed with which assets are being converted turnover into sales. Asset management ratio measures how efficiently the bank manages the resources at its command.

The following ratios are used under this asset management ratio.

**i) Loan and Advances to Total Deposit Ratio**

This ratio is calculated to find out that which banks are able to utilizing their total deposits on loan and advances for profit generating purpose. This ratio can be obtained by dividing loan and advances by total deposits, which can be states as,

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

**ii) Total Investment to Total Deposit Ratio**

This ratio implies the utilization of firm's deposit on investment in government securities and share debentures of other companies and bank.

This ratio can be calculated by dividing total investment by total deposit. Which can be states as,

$$\text{Total Investment to Total Deposit Ratio} = \frac{\text{Total Investment}}{\text{Total Deposit}}$$

Hence, total investment consist investment on government securities, investment on debenture and bonds, share in subsidiary companies, share in other companies and other investment.

**iii) Loan and Advances to Working Fund Ratio**

Loan and advances indicates the ability of any bank to canalize its deposits in the form of loan and advances to earn high return. This ratio is computed by dividing loan and advances by total working fund, which can be states as,

$$\text{Loan and Advances to Working Fund Ratio} = \frac{\text{Loan and Advances}}{\text{Working Fund Ratio}}$$

Where, Total working fund consists current assets, net fixed assets, loan for development banks and other miscellaneous assets.

**iv) Investment on Government Securities to Total Working Fund Ratio**

This ratio shows that banks investment on government securities in comparison to the total working fund.

This ratio is calculated by dividing investment on government securities by total working fund, which can be states as,

Investment on Govt. Securities to Total Working Fund Ratio

$$= \frac{\text{Interest on Govt. Securities}}{\text{Working Fund Ratio}}$$

Hence, Investment on government securities includes treasury bills and development bonds etc.

**v) Investment on Shares and Debentures to Total Working Fund Ratio**

This ratio shows the banks investment in shares and debenture of the subsidiary and other companies.

This ratio can be computed by dividing investment on shares and debentures by total working fund, which can be states as,

Investment on Shares & Debentures to Total Working Fund Ratio

$$= \frac{\text{Investment on Shares and Debentures}}{\text{Working Fund Ratio}}$$

Where, Numerator includes investment on debentures bonds and shares of the other companies.

### **C) Profitability ratios**

Profit is the difference between revenues and expenses over a period of time. A company should earn profit to survive and grow over a long period of time, and it will have no future if it fails to make sufficient profits. Therefore, the financial manager should continuously evaluate the efficiency of its company in terms of profits. The profitability ratios are calculated to measure the operating efficiency of a company. It is the indicator of the financial performance of any institution. This implies that higher the profitability ratio, better the financial performance of the bank and vice versa.

The following ratios are taken into account under this heading.

#### **i) Return on Total Working Fund Ratio**

This ratio measures the overall profitability of all working funds i.e. total assets. A firm has to earn satisfactory return on assets or working fund for its survival. This ratio is calculated by dividing net profit by total working fund.

This can be express,

$$\text{Return on Total Working Fund Ratio} = \frac{\text{Net Profit}}{\text{Working Fund Ratio}}$$

#### **ii) Return on Loan & Advances Ratio**

This ratio indicates how efficiently the bank has employed its resources in the form of loan and advances. This ratio is computed by dividing net profit by loan & advances.

This can be expressed as,

$$\text{Return on Loan \& Advances Ratio} = \frac{\text{Net Profit}}{\text{Loan and Advances}}$$



### iii) **Total Interest Earned to Total Outside Assets Ratio**

This ratio measures the interest earning capacity of the bank through the efficient utilization of outside assets. Higher ratio implies efficient use of outside assets to earn interest.

This ratio is calculated by dividing total interest earned by total outside assets; this can be expressed as,

$$\text{Total Interest Earned to Total Outside Assets Ratio} = \frac{\text{Total Interest Earned}}{\text{Total Outside Assets}}$$

### iv) **Total Interest Earned to Total Working Fund Ratio**

This ratio is calculated to find out the percentage of interest earned to total assets (working fund). Higher ratio implies better performance of the bank its terms of interest earning on its total working fund. This ratio is calculated by dividing total interest earned by total working fund.

This can be expressed as,

$$\text{Total Interest Earned to Total Working Fund Ratio} = \frac{\text{Total Interest Earned}}{\text{Total Working Fund}}$$

Where, total interest earned includes, interest on loan, advances and overdrafts, government securities investment debentures and other inter bank loans.

### v) **Total Interest Paid to Total Working Fund Ratio**

This ratio is calculated to find out the percentage of interest paid on liabilities with respect to total working fund. This ratio is calculated by dividing total interest paid by total working fund.

Which, can be expressed as

$$\text{Total Interest Paid to Total Working Fund Ratio} = \frac{\text{Total Interest Paid}}{\text{Total Working Fund}}$$

Where, total interest paid includes total expenses on deposits, loan and advances, borrowings and other deposits.

#### **D) Risk Ratios**

Risk taking is the prime business of bank's investment management. It increases effectiveness and profitability of the bank. These, ratio indicate the amount of risk associated with the various banking operations, which ultimately influences the bank investment policy.

The following ratios are taken into account under this heading.

##### **i) Liquidity Risk Ratio**

The Liquidity risk ratio measures the level of risk associated with the liquid assets i.e. cash, bank balance that are kept in the bank for the purpose of satisfying the depositor's demand for cash. Higher the ratio, lower is the liquid risk. Dividing cash & bank balance calculate this ratio by total deposits. This can be mentioned as,

$$\text{Liquidity Risk Ratio} = \frac{\text{Total Cash \& Bank Balcne}}{\text{Total Deposit}}$$

##### **ii) Credit Risk Ratio**

Credit risk ratios measures the possibility that loan will not be repaid or that investment will deteriorate in quality or go into default with consequent loss to the bank. By definition, credit risk ratio is expressed as the percentage of non-performing loan to total loan & advances. This ratio is calculated by dividing total loan and advances by total assets.

This can be mentioned as,

$$\text{Credit Risk Ratio} = \frac{\text{Total Loan and Advances}}{\text{Total Assets}}$$

### iii) **Capital Risk Ratio**

The capital risk ratios of a bank indicate how much asset values may decline before the position of depositors and other creditors jeopardize. The capital risk is directly related to the return on equity (ROE). Higher the ratio, low is the capital risk. This ratio is computed by dividing capital (Paid up Capital + Reserves) by risk-weighted assets as computed under BASLE committee's formula.

This can be mentioned as,

$$\text{Capital Risk Ratio} = \frac{\text{Capital (Paid up } \Gamma \text{ Reserves)}}{\text{Risk Weighted Assets}}$$

## **E) Growth Ratios**

Growth ratios measure how well the firm is maintaining its economic position in its industry. It is directly related to the fund mobilization and investment management of a commercial bank.

The following growth ratios are calculated in this study.

- i. Growth ratio of total deposit
- ii. Growth ratio of loan & advances
- iii. Growth ratio of total investment
- iv. Growth ratio of net profit

### **3.5.2 Statistical Tools**

Some important statistical tools are used to achieve the objective of this study. In this study, statistical tools such as trend analysis of important variables, co-efficient of correlation between different variables as well as test of hypothesis have been used which are as follows:

#### **a) Trend Analysis**

This topic analyzes the trend of loan and advances to total deposit ratio and trend of total investment to total deposit ratio of NABIL, NIBL AND SBI from 2003/2004 to 2007/2008 and makes the forecast for the next five years. Under this topic following sub-topic have been presented.

- i) Trend analysis of loan and advances to total deposits ratio.
- ii) Trend analysis of total investment to total deposit ratio.

#### **B) Co- efficient of Correlation Analysis**

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 under this topic, Karl Pearson's co-efficient of correlation has been used to find out the relationship between the following variables.

- i. Co-efficient of correlation between deposit and loan & advances.
- ii. Co-efficient of correlation between deposit and total investment.
- iii. Co- efficient of correlation between total outside assets and net profits.

These tools analyze the relationship between these variables and help the banks to make appropriate policy regarding deposit collection, fund utilization (loan & advances and investments) and maximization of profit.

### **C) Test of Hypothesis**

The objective of this test is to test the significance regarding the parameters of the population on the basis of sample drawn from the population. This test has been conducted on the various ratios related with the banking business.

- I) Test of hypothesis on loan and advances to total deposit ratios between NABIL, NIBL & SBI Bank.
- II) Test of hypothesis on total investment to total deposit ratio between NABIL, NIBL & SBI Bank.
- III) Test of hypothesis on investment on government securities to current assets ratio between NABIL, NIBL & SBI Bank.
- IV) Test of hypothesis on loan and advances to current assets ratio between NABIL, NIBL & SBI Bank.
- V) Test of hypothesis on return on loan and advances ratios between NABIL, NIBL & SBI Bank.
- VI) Test of hypothesis on total interest earned to total outside assets ratio between NABIL, NIBL & SBI Bank.

Research methodology and the various financial and statistical tools discussed above have been used in the next chapter to analyze and interpret the data regarding the NABIL, NIBL and SBI for the study period from Fiscal year 2003/2004 to 2007/2008.

## **CHAPTR-FOUR**

### **DATA PRESENTATION AND ANALYSIS**

#### **4.Introduction**

This is an analytical chapter, where an attempt has been made to analyze and evaluate major financial items, which have an impact on investment management and fund mobilization of NABIL, INVESTMENT and SBI. A number of financial ratios -- crucial in evaluating the funds mobilization system of commercial banks -- have been calculated and analyzed in this chapter.

#### **4.1 Financial Analysis**

This is analytical chapter, where the researcher has analyzed and evaluated those major financial items, which are mainly related to the investment management and fund mobilization of NABIL Bank limited in comparison to that of other commercial Bank i.e. Investment Bank Limited and SBI Bank Limited. From the point of view of the fund mobilization and investment policy only those ratios are calculated and analyzed which are very important. The rations are designed and calculated to highlight the relationship between financial items and figures. It is a kind of mathematical relationship and procedure dividing one item by another. All these calculations are based on financial statements of concerned banks. The important and needed financial

ratios, which are to be calculated for the purpose of this study, are as follows respectively.

#### **4.1.1 Liquidity Ratio**

Liquidity ratio measures the ability of the firm to meet its current obligations. A commercial bank must maintain its satisfactory liquidity position to meet the credit need of the community, to meet demands for deposits, withdraws, pay maturity obligation in time and convert non-cash assets into cash to satisfy immediate needs without loss to bank and consequent impact in long run profit. In fact analyses of liquidity needs are helpful to the preparation of cash budget and funds flow statement.

The following ratios are evaluated and interpreted under liquidity ratio: -

##### **(i) Current Ratio**

Current ratio indicates the ability of a bank to meet its current obligation. This is the broad measure of liquidity position of the financial institution. The widely accepted standard of current ration is 2:1 but accurate standard depends on circumstances in case of banking and seasonal business ratio such as 1:1 etc.

We have,

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Where,

Current assets consist of cash and bank balance, money at call or short-term notice, loan advances investment in government securities and other interest receivable and other miscellaneous current assets where as current liabilities consist of deposits, loan and advances, bills payable, tax provision, Staff bonus, dividend payable and miscellaneous current liabilities.

**Table no: 4.1**  
**Current ratio (times)**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	1.06	1.11	1.02
2	2004/2005	0.76	0.74	1.02.
3	2005/2006	0.81	0.76	1.05
4	2006/2007	0.92	0.90	1.06
5	2007/2008	0.94	0.89	1.07
<b>Total</b>		<b>4.49</b>	<b>4.40</b>	<b>5.22</b>
<b>Mean</b>		<b>0.898</b>	<b>0.88</b>	<b>1.044</b>
<b>S.D.</b>		<b>0.105</b>	<b>0.132</b>	<b>0.021</b>
<b>C.V</b>		<b>0.116</b>	<b>0.15</b>	<b>0.020</b>

Source: Appendix 1 'A'

The above table no.1 shows that the current ratio of all three commercial banks. It is calculated as per total mean, Standard deviation and coefficient of variation.

In the case of Nabil and Investment the current ratio are fluctuating trend. But the SBI bank has increasing trend, it has 1.02 in FY 2003/2004 to 1.07 in FY 2007/2008.

In an average, Nabil has maintained higher current ratio than Investment and SBI, which states that liquidity position of Nabil is fair. The coefficient of variation between the current ratio of Nabil is 11.60%, which is comparatively lower than 15% of Investment and greater than 2% of SBI, it shows that current ratio of Nabil is consistence than Investment and it is less consistence than SBI.

**(ii) Cash and Bank Balance to Total Deposit Ration (CRR Ratio)**

Cash and bank balance is the most liquid asset. The ratio between the cash and bank balance and total deposit measure the ability of the bank to meet the unanticipated cash and all types of deposits.

We have,



$$\text{Cash and bank balance to total deposit ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposit}}$$

Where,

Cash and bank balance includes cash on hand, foreign cash on hand, cheques and other cash items, balance with domestic and abroad banks where as the total deposits include current deposits, saving deposits, fixed deposits, money at call and short term notice and other deposits.

**Table No.4.2**

**Cash and bank balance to total deposit ratio (%)**

<b>S.No.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	8.52	12.17	19.62
2	2004/2005	5.13	12.28	29.42
3	2005/2006	6.78	8.12	29.07
4	2006/2007	8.51	11.69	20.44
5	2007/2008	6.87	10.65	12.01
	<b>Total</b>	<b>35.81</b>	<b>54.91</b>	<b>110.56</b>
	<b>Mean</b>	<b>7.162</b>	<b>10.982</b>	<b>22.112</b>
	<b>S.D.</b>	<b>1.267</b>	<b>1.543</b>	<b>6.525</b>
	<b>C.V.</b>	<b>0.177</b>	<b>0.141</b>	<b>0.295</b>

Source: Appendix 1 'B'

The table no.2 shows that the total mean, standard deviation and coefficient of variation of cash and bank balance to total deposit ratio of all three commercial banks.

Figure in the table shows that the ratio (CRR) of Nabil is decreasing trend in the FY 2003/2004 & 2007/2008. But trend is increasing scale in the FY 2005/2006 & FY 2006/2007. Investment has fluctuating trend, it has range from 12.28(in 2004/2005) to 8.12(in 2005/2006). SBI has increased in 2003/2004 but it has slightly decreasing trend in all after years.

Mean and standard deviation ratio of Nabil are less than that of other two commercial banks. C.V. ratio of Nabil, Investment and SBI are 0.177, 0.141 and 0.295 respectively. From the above analysis it can be concluded that Nabil bank has better maintenance of its liquidity than that of other two. Because more liquidity indicate the inability of the bank.

**(iii) Cash and Bank Balance to Current Asset Ratio**

This ratio shows the banks liquidity capacity on the basis of cash and bank balance that is the most liquid asset. So this ratio visualizes higher liquidity position than current ratio.

We have,

$$\text{Cash and bank balance to current assets ratio} = \frac{\text{Cash and Bank balance}}{\text{Current assets}}$$

Where,

Cash and bank balance represent total of local currency, foreign currencies, cheques in hand and various bank balances in local as well as foreign banks where as the current assets consists of cash and bank balance, money at call, short term notice, loan and advances, investment in government securities and other interest receivable and others miscellaneous current assets.

**Table no. 4.3**

**Cash and bank balance to current asset ratio (%)**

<b>S. No.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	7.36	9.69	17.83
2	2004/2005	6.18	15.27	27.14
3	2005/2006	7.90	10.15	23.87
4	2006/2007	8.25	12.32	18.01
5	2007/2008	6.81	11.01	10.36
	<b>Total</b>	<b>36.5</b>	<b>58.44</b>	<b>97.21</b>
	<b>Mean</b>	<b>7.3</b>	<b>11.688</b>	<b>19.442</b>
	<b>S.D.</b>	<b>0.743</b>	<b>2.002</b>	<b>5.762</b>
	<b>C.V.</b>	<b>0.102</b>	<b>0.171</b>	<b>0.296</b>

Source: Appendix 1 'C'

Table no.3 shows the total mean, standard deviation and C.V. of cash and bank balance to current assets ratio of commercial banks. Current asset

ratio of all three banks is better as they show the ability to manage the deposit withdrawals from the customers.

The above table shows that cash and bank balance to current assets ratio of Nabil bank fluctuating trend. It has range from 6.18 (in FY 2004/2005) to 8.25 (in FY 2006/2007). Investment bank has also fluctuating trend, it has range from 9.69 (in FY 2003/2004) to 15.27(in FY 2004/2005) but SBI has increasing trend (in FY 2004/2005) i.e. 17.83 to 27.14. But then after it has decreasing trend i.e. 23.87(in FY 2005/2006), 18.01(in FY 2006/2007) & 10.36(in FY 2007/2008).

From the above analysis we can conclude that liquidity position (only cash and bank balance) of Nabil bank is lesser than Investment and SBI. But Nabil has higher consistency. SBI has higher liquidity position than Nabil and Investment but it has lower consistency. The table also reveals that Nabil has utilized its funds more efficiently.

**(iv) Investment on Government Security to Current Assets Ratio**

The government securities are not so much liquid as cash and bank balance. But they can easily sell in the market or they can be converted into cash in other ways. Investment on government securities includes treasury bills and development bonds etc.

We have,

Investment on government securities current assets ratio

$$= \frac{\text{Investment on government securities}}{\text{Current Assets}}$$

**Table no. 4.4**

**Investment on government securities to current assets ratio (%)**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	8.34	0.00	3.86
2	2004/2005	20.76	8.76	5.09
3	2005/2006	30.95	6.72	7.41

4	2006/2007	25.88	5.32	16.06
5	2007/2008	25.78	17.96	22.43
	<b>Total</b>	<b>111.71</b>	<b>38.76</b>	<b>54.85</b>
	<b>Mean</b>	<b>22.342</b>	<b>7.752</b>	<b>10.97</b>
	<b>S.D.</b>	<b>7.707</b>	<b>5.870</b>	<b>7.142</b>
	<b>C.V.</b>	<b>0.345</b>	<b>0.757</b>	<b>0.651</b>

Source: Appendix 1 'D'

Table no.4 shows the total mean, standard deviation and coefficient of variation of investment on government securities to current assets ratio of commercial banks.

Figure in the table shows that investment on government securities to current assets ratio of Nabil has increasing trend in first two FY i.e. 8.34 to 20.76(FY 2004/2005) & 30.95(FY 2005/2006) but then after it follows decreasing trend i.e. 25.88(FY 2006/2007), 25.78(FY 2007/2008). Investment has fluctuating trend, there is no investment in FY 2003/2004 and it has range from 5.32(in FY 2006/2007) to 17.96(in FY 2007/2008).But SBI has increasing trend, it has 3.86, 5.09, 7.41, 16.06 and 22.43 respective years.

In overall, the mean ratio of investment on government securities to current assets of Nabil is higher than that of investment & SBI bank i.e.  $22.342 > 7.752$  &  $10.97$ . On the other hand coefficient of variation of Nabil is lesser than other two banks i.e.  $0.345 < 0.757$  &  $0.651$ .

It can be concluded that Nabil uses to invest its current asset in government securities more than other two banks and the investment is quite stable too than that of two banks.

#### **(v) Loan and Advances to Current Assets Ratio**

To make a high profit mobilizing its fund in the best way, a commercial bank should not keep its all collected funds as cash and bank balance but they should be invested as loan and advances to the customers. In the present study

loan & advances represent to local and foreign bills discounted and purchased and loans, cash credit and overdraft in local currency as well as inconvertible foreign currency.

We have,

$$\text{Loan and advances to current assets ratio} = \frac{\text{Loan and Advances}}{\text{Current Assets}}$$

**Table no. 4.5**

**Loan & advances to current assets ratio (%)**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	49.60	55.31	71.29
2	2004/2005	63.25	70.96	58.45
3	2005/2006	55.87	76.77	63.34
4	2006/2007	55.93	76.78	60.35
5	2007/2008	57.50	63.98	61.64
	<b>Total</b>	<b>282.15</b>	<b>343.80</b>	<b>315.07</b>
	<b>Mean</b>	<b>56.43</b>	<b>68.76</b>	<b>63.014</b>
	<b>S.D.</b>	<b>4.356</b>	<b>8.211</b>	<b>4.437</b>
	<b>C.V.</b>	<b>0.077</b>	<b>0.119</b>	<b>0.070</b>

Source: Appendix 1 'E'

Table no.5 shows the total mean, standard deviation and coefficient of variation of loan & advances to current assets ratio of commercial banks. Through this table loan & advances to current assets ratios of the sample CBS are analyzed.

In case of Nabil loans and advances to current asset ratios are in fluctuating trend i.e. highest in the FY 2004/2005 i.e. 63.25 and lowest in the FY 2003/2004 i.e. 49.60. Similarly investment and SBI ratios are also in fluctuating trend i.e. highest in the FY 2006/2007(76.78) and 2003/2004(71.29) and lowest in the FY 2003/2004 (55.31) and 2004/2005(58.45) respectively.

Mean value of this ratio of Nabil bank is 56.43%, which is less than that of investment and SBI i.e. 56.43 % < 68.76% & 63.014. But coefficient of

variation is slightly greater than SBI but lesser than investment i.e.  $Nabil=0.077>SBI=0.070<investment=0.119$ .

This analysis shows that Nabil use to provide less loan & advances in comparison of other two banks. Its trend of providing loan & advances is less consistency than SBI bank but consistency than that of investment. Investment use to provide higher loan & advances but trend of providing loan & advances is consistency of SBI bank in comparison.

#### **4.1.2 Asset Management Ratios (Activity Ratio)**

Asset management ratio measures the efficiency of the bank to manage its asset in profitable and satisfactory manner. They indicate the speed with which assets are being converted. Thus these ratios are used to measure the banks ability to utilize their available resources.

Under this asset management ratio following ratios are studied.

##### **(i) Loan & Advances to Total Deposit Ratio**

It shows the relationship between loans & advances to total deposit. The ratio measures the extent to which the banks are successful to mobilize their total deposit on loan & advances.

We have,

$$\text{Loan \& advances to total deposit ratio} = \frac{\text{Loan and Advannces}}{\text{Total Deposit}}$$

Where,

Loan & advances include loans, advances, cash credit, local and foreign bill purchased and discount. Total deposits include saving, fixed current call at short deposit and others.

**Table no.4.6**

**Loan & advances to total deposit ratio (%)**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	57	69	78
2	2004/2005	53	57	63
3	2005/2006	48	61	77
4	2006/2007	58	73	69
5	2007/2008	58	62	71
	<b>Total</b>	<b>274</b>	<b>322</b>	<b>358</b>
	<b>Mean</b>	<b>54.80</b>	<b>64.40</b>	<b>71.60</b>
	<b>S.D.</b>	<b>3.90</b>	<b>5.80</b>	<b>5.50</b>
	<b>C.V.</b>	<b>0.071</b>	<b>0.090</b>	<b>0.077</b>



Source: Appendix 2 'A'

Table no.6 shows the total mean, S.D. and C.V. of loan & advances to total deposit ratio of commercial banks. Contents of the table show the percentage of loan & advances to total deposit ratio position of Nabil, Investment & SBI.

The above table exhibits that the ratio of Nabil has decreasing trend in FY 2004/2005(53) and FY 2005/2006(48) but it has increasing trend in FY 2006/2007(58) and it is stable in 2007/2008 i.e. 58. Investment & SBI has fluctuating trend i.e. highest in the FY 2006/2007(73) and FY 2003/2004(78) and lowest ratio are 57 and 63 in the same FY i.e. 2004/2005 respectively.

The mean value of Nabil is lower than that of other two banks. Mean ratio of Nabil, investment & SBI are 54.8, 64.4 & 71.60 respectively. It shows that SBI has success to maintain the highest ratios than Nabil and Investment. But coefficient of variation of Nabil is lower than that of Investment & SBI i.e.  $0.071 < 0.090$  &  $0.077$ .

From the above table it shows that SBI has strong position regarding the mobilization of total deposit on loans and advances and acquiring high profit in comparison. But only higher ratio is not better from the point of view of liquidity as the loans and advances are not as liquid as cash and bank balance. On the other hand Nabil has less C.V. than other two CBs, which indicate that loans and advances of Nabil is stable and consistent than that of other two banks.

## **(ii) Total Investment to Total Deposit Ratio**

A commercial bank mobilizes its deposit by investing its fund in different securities issued by government and other financial or non-financial companies. This ratio measures the extent to which the banks are able to mobilize their deposit on investment in various securities.

We have,

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

Where,

Total investment consists investment on government securities, investment on debenture and bonds, share in subsidiary companies, shares in other companies and other investment.

**Table no.4.7**

**Total investment to total deposit ratio (%)**

<b>S.No.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	9.79	0.43	4.45
2	2004/2005	48.64	46.29	5.65
3	2005/2006	52.88	43.65	10.75
4	2006/2007	44.85	21.52	18.51
5	2007/2008	41.33	33.51	26.50
	<b>Total</b>	<b>197.49</b>	<b>145.40</b>	<b>65.86</b>
	<b>Mean</b>	<b>39.498</b>	<b>29.08</b>	<b>13.172</b>
	<b>S.D.</b>	<b>15.344</b>	<b>16.769</b>	<b>8.302</b>
	<b>C.V.</b>	<b>0.388</b>	<b>0.577</b>	<b>0.630</b>

Source: Appendix 2 'B'

Table no 7 shows the total mean, standard deviation & coefficient of variation of total investment to total deposit ratio of commercial banks.

The above total reveals that Nabil has increasing trend in FY 2004/2005(48.60) and in FY 2005/2006 (52.88) but it has follows decreasing trend in FY 2006/2007(44.85) and 2007/2008(41.33) respectively. Investment has fluctuating trend i.e. 0.43(in FY 2003/2004), 46.29(in FY 2004/2005), 43.65(in FY2005/2006), 21.52(in FY 2006/2007), and 33.51 (in FY 2007/2008). But SBI has increasing trend; it has range from 4.45(in FY 2003/2004) to 26.50(in FY 2007/2008).

The mean value of Nabil is higher than that of Investment & SBI banks i.e.  $Nabil=39.498 > Investment=29.08 > SBI=13.172$ . But coefficient of variation of Nabil has lower than that of other two banks i.e.  $0.388 < 0.577 < 0.630$ .

Form the analysis of above table it is clear that Nabil has success to better utilization of deposit to investment than other two banks and also Nabil has higher consistency to investment in securities than other bank. Its

investment policy is better. SBI bank has least investment on in securities of different situation; it has also less consistency to invest in securities.

**(iii) Loan and Advances to Total Working Fund Ratio**

The commercial bank must be very careful in mobilizing its total asset as loan & advances in appropriate level to generate profit. This ratio reflects the extent to which the commercial banks are success in mobilizing their assets on loan & advances for the purpose of income generating. A high ratio indicates better in mobilization of funds as loan and advances and vice versa.

We have,

$$\text{Loan and Advances to Working Fund Ratio} = \frac{\text{Loan and Advances}}{\text{Working Fund Ratio}}$$

Where,

Total working fund consist current assets, net fixed assets, loan for development banks and other miscellaneous assets.

**Table no. 4.8**

**Loan and advances to total working fund ratio (%)**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	48.82	54.54	69.70
2	2004/2005	45.32	47.37	57.50
3	2005/2006	42.19	51.56	61.23
4	2006/2007	46.83	64.03	59.06
5	2007/2008	48.91	53.79	60.94
	<b>Total</b>	<b>232.07</b>	<b>271.29</b>	<b>308.43</b>
	<b>Mean</b>	<b>46.414</b>	<b>54.258</b>	<b>61.686</b>
	<b>S.D.</b>	<b>2.499</b>	<b>5.487</b>	<b>4.229</b>
	<b>C.V</b>	<b>0.054</b>	<b>0.101</b>	<b>0.069</b>

Source: Appendix 2 'C'

Table no.8 shows the total mean, standard deviation and coefficient of variation of loan and advances to total working fund ratio of commercial banks.

The above table shows that the loan and advances to total working fund ratio of Nabil has decreasing trend in FY 2004/2005(45.32) and FY 2005/2006(42.19) but it has increasing trend in FY 2006/2007(46.83) and FY 2007/2008(48.91). Investment and SBI has fluctuating trend i.e. highest in the FY 2006/2007(64.03) and 2003/2004(69.70) and lowest ratio are 47.37 and 57.50 in the same FY 2004/2005 respectively.

Mean value of Nabil is lower than that of investment & SBI i.e. 46.414<54.258<61.686. And coefficient of variation of Nabil is also lower than that of other two banks.

From the above analysis it can be conclude that SBI has success to better mobilization of funds as loan & advances for the purpose of income generation. Investment mobilize the fund less than SBI but greater than Nabil. Nabil has mobilizing its fund is lesser but it has higher consistency than that of other two commercial banks.

#### **(iv) Investment on Government Securities to Total Working Fund Ratio**

To some extend commercial bank seems to utilize its fund by purchasing government securities. Government securities are a safe medium of investment though it is not liquid as cash and bank balance. This ratio is very important to know the extent to which the banks are successful in mobilizing their total fund on different type of government securities to maximize its income.

We have,

Investment on Govt. Securities to Total Working Fund Ratio

$$= \frac{\text{Interest on Govt. Securities}}{\text{Working Fund Ratio}}$$

Where,

Investment on government securities includes treasury bills and development bonds etc.

**Table no. 4.9**

**Investment on government securities to total working fund ratio (%)**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	8.21	0	3.78
2	2004/2005	14.88	5.85	5.01
3	2005/2006	23.37	4.50	7.17
4	2006/2007	21.67	4.44	15.72
5	2007/2008	21.93	15.10	22.17
	<b>Total</b>	<b>90.06</b>	<b>29.89</b>	<b>53.85</b>
	<b>Mean</b>	<b>18.012</b>	<b>5.978</b>	<b>10.77</b>
	<b>S.D.</b>	<b>5.715</b>	<b>4.970</b>	<b>7.063</b>
	<b>C.V.</b>	<b>0.317</b>	<b>0.831</b>	<b>0.656</b>

Source: Appendix 2 'D'

Table no.9 shows the total mean, standard deviation and coefficient of variation of Investment on government securities to total working fund ratio of commercial banks.

In the above table it shows that investment of government securities to working fund ratio of Nabil has fluctuating trend. Nabil has range from 8.21(in FY 2003/2004) to 23.37(in FY 2005/2006). In case of Investment there is no investment on government securities in FY 2003/2004, but it goes on 15.10 in FY 2007/2008).But SBI has increasing trend i.e. 3.78(in FY 2003/2004), 5.01(in FY 2004/2005), 7.17(in FY 2004/2005), 15.72(in FY 2006/2007) and 22.17(in FY 2007/2008).

Mean ratio of Nabil has higher than that of Investment and SBI bank i.e. 18.012 > 5.978 & 10.77. Similarly coefficients of variation of these banks are 0.317, 0.831 & 0.656.

From the above table we found that Nabil has higher mean ratio of investment on government securities. It indicates that Nabil has success to better mobilizing of funds as investment on government securities. Nabil's investment policy is also consistency than other bank. But in the case of Investment bank it has least investment on government securities and investment policy is also less consistency.

#### **(v) Investment on Shares and Debenture to Total Working Fund Ratio**

There has been two types of investment i.e., investment on government securities and investment on shares & debenture. Investment on shares and debentures to total working fund ratio reflects the extent on which the banks are successful to mobilize their total assets on purchase of shares and debentures of other companies to generate incomes and utilize their excess fund.

We have,

Investment on Shares & Debentures to Total Working Fund Ratio

$$= \frac{\text{Investment on Shares and Debentures}}{\text{Working Fund Ratio}}$$

Where,

Investment on shares and debentures includes investment on debentures bonds and share of the other companies.

**Table no. 4.10**  
**Investment on shares and Debentures to total working fund ratio**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	0.11	0.33	0.18
2	2004/2005	0.10	0.25	0.12
3	2005/2006	0.13	0.28	0.25
4	2006/2007	0.13	0.15	0.24

5	2007/2008	0.13	0.10	0.21
	<b>Total</b>	<b>0.60</b>	<b>1.11</b>	<b>1.00</b>
	<b>Mean</b>	<b>0.12</b>	<b>0.222</b>	<b>0.20</b>
	<b>S.D.</b>	<b>0.013</b>	<b>0.085</b>	<b>0.047</b>
	<b>C.V.</b>	<b>0.108</b>	<b>0.382</b>	<b>0.235</b>

Source: Appendix 2 'E'

Table no.10 shows the total mean, standard deviation and coefficient of variation of investment on shares and debentures to total working fund ratio.

The above table shows that the investment on shares and debentures to total working fund ratio of Nabil has decrease in FY 2004/2005 i.e. 0.10 but it has increase in FY 2005/2006 i.e. 0.13, then after it has stable in 0.13 in 2006/2007 and 2007/2008. Investment and SBI has fluctuating trend. It has highest in the FY 2003/2004(0.33) and FY 2005/2006(0.25) and lowest ratio are 0.10(in FY 2007/2008) and 0.12(in FY 2004/2005) respectively.

The mean value of Nabil, Investment and SBI are 0.12, 0.222 & 0.20 respectively. The S.D. of Nabil, Investment and SBI are 0.013, 0.085,0.047 and C.V. 0.108, 0.382 and 0.235 respectively.

The above analysis shows that Nabil has invested its funds in shares and a debenture in comparison of working fund is lesser than Investment & SBI. But as its coefficient of variation of ratio is lesser than that of other two banks. We conclude that its investment in share and debentures seems to be consistence.

#### **4.1.3 Profitability Ratios**

Profitability ratios are very helpful to measure the overall efficiency of operation of financial institutions. Here, profitability ratios are calculated and evaluated in terms of the relationship between net profit and assets. Higher the profit ratio shows that higher the efficiency of a bank.



The following profitability ratios are taken into account under this heading.

**(i) Return on Total Working Fund Ratio**

This ratio measures the profit earning capacity by utilizing available resources i.e. total asset. Return will be higher if the banks working fund is well managed and efficiency utilized. Maximizing taxes within the legal options available will also improve the return.

We have,

$$\text{Return on Total Working Fund Ratio} = \frac{\text{Net Profit}}{\text{Working Fund Ratio}}$$

Where,

Net profit includes the profit that is left to the internal equities after all costs, charge and expenses.

**Table no. 4.11**  
**Return on total working fund ratio (%)**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	2.19	1.91	0.98
2	2004/2005	1.59	1.10	0.17
3	2005/2006	1.54	1.15	0.58
4	2006/2007	2.51	1.30	0.64
5	2007/2008	2.72	1.15	0.72
	<b>Total</b>	<b>10.55</b>	<b>6.61</b>	<b>3.09</b>
	<b>Mean</b>	<b>2.11</b>	<b>1.322</b>	<b>0.618</b>
	<b>S.D.</b>	<b>0.476</b>	<b>0.302</b>	<b>0.262</b>
	<b>C.V.</b>	<b>0.226</b>	<b>0.228</b>	<b>0.424</b>

Source: Appendix 3 ‘A’

The above table no.11 shows the total mean, standard deviation and coefficient of variation of return on total working fund ratio of all three commercial bank

In above table return on total working fund ratio of Nabil has decreasing in FY 2004/2005 and 2005/2006 i.e. 1.59 & 1.54. Then after it has increasing trend in FY2006/2007 and 2007/2008 i.e. 2.51 & 2.72. In case of Investment it has fluctuating trend, it has range from 1.10(in FY 2004/2005) to 1.91(in FY 2003/2004). SBI has decrease in FY2004/2005(0.17) but it has increasing trend from FY 2005/2006(0.58) to FY 2007/2008(0.72).

Mean ratio of Nabil is higher than that of Investment & SBI bank i.e.  $2.11 > 1.322 > 0.618$ . Similarly, C.V. of Nabil is lower than that of other two banks i.e.  $0.266 < 0.228 < 0.424$ .

From the mean ratio analysis it is found that Nabil bank has success to maintain the higher ratio in return on total working fund. The coefficient of variation of Nabil is lower than Investment and SBI banks. It indicates the return on total working fund ratio of Nabil is stable and consistent. It also reveals that investment policy of Nabil bank is efficient and effort able.

## (ii) Return on Loan & Advances Ratio

It measures the earning capacity of a commercial banks on its deposits mobilized on loan & advances. Higher the ratio greater will be the return and vice versa.

We have

$$\text{Return on Loan \& Advances Ratio} = \frac{\text{Net Profit}}{\text{Loan and Advances}}$$

Where,

Loan & Advances includes loan cash credit, overdraft bills purchased and discounted.

### Table no.4.12

#### Return on loan & advances ratio (%)

<b>S.N.</b>	<b>Fiscal year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	4.49	3.51	1.41
2	2004/2005	3.50	2.32	0.30
3	2005/2006	3.65	2.23	0.95
4	2006/2007	5.37	2.02	1.09
5	2007/2008	5.56	2.14	1.18
	<b>Total</b>	<b>22.57</b>	<b>12.22</b>	<b>4.93</b>
	<b>Mean</b>	<b>4.514</b>	<b>2.444</b>	<b>0.986</b>
	<b>S.D.</b>	<b>0.849</b>	<b>0.542</b>	<b>0.374</b>
	<b>C.V.</b>	<b>0.188</b>	<b>0.222</b>	<b>0.380</b>

Source: Appendix 3 'B'

The above table no 12 shows the total mean, standard deviation and coefficient of variation of return on loan & advances ratio of commercial banks.

In the above table return on loan & advances ratio of Nabil bank has decrease in FY 2004/2005(3.50) but it has increasing trend in FY 2005/2006(3.65), 2006/2007(5.37), 2007/2008(5.56). In case of Investment it has decreasing trend in FY 2004/2005(2.32), 2005/2006(2.23) and 2007/2008(12.02) but it has increase in 2007/2008(2.14). SBI bank has decrease in FY 2004/2005(0.30) but it has increasing trend then after.

Mean ratio of Nabil is greater than that of other two banks i.e.  $4.514 > 2.444 > 0.986$ . Similarly, coefficient of variation of Nabil is lesser than Investment & SBI i.e.  $0.188 < 0.222 < 0.380$  respectively.

From above analysis it is found that Nabil bank has the comparatively higher than others. It concludes that Nabil has success to earn high return on its loan & advances. It indicates that investment policy of Nabil has effective than other banks. The C.V. ratio of Nabil is also lower; it shows that Nabil has consistency in return than other banks.

**(iii) Total Interest Earned to Total Outside Assets Ratio**

It reflects that the extent to which the bank is successful to earn interest as major income on all the outside assets. Higher the ratio higher will be the earning power of total outside assets. This is very important ratio, as the main asset is the outside asset of a commercial bank.

We have,

$$\text{Total Interest Earned to Total Outside Assets Ratio} = \frac{\text{Total Interest Earned}}{\text{Total Outside Assets}}$$

Where,

Total outside assets includes loan & advances, investment on government securities, share and debentures and other all types of investment.

**Table no. 4.13**

**Total interest earned to total outside assets ratio (%)**

<b>S.N.</b>	<b>Fiscal year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	12.20	13.43	11.63
2	2004/2005	7.90	7.95	9.74
3	2005/2006	7.16	7.44	8.16
4	2006/2007	7.38	6.15	8.28
5	2007/2008	7.14	6.65	7.00
	<b>Total</b>	<b>41.78</b>	<b>41.62</b>	<b>44.81</b>
	<b>Mean</b>	<b>8.356</b>	<b>8.324</b>	<b>8.962</b>
	<b>S.D.</b>	<b>1.941</b>	<b>2.628</b>	<b>1.593</b>
	<b>C.V.</b>	<b>0.232</b>	<b>0.316</b>	<b>0.178</b>

Source: Appendix 3 'C'

The above table no.13 shows the total mean, standard deviation & coefficient of variation of total interest earned to total outside assets ratio of commercial banks.

The above table shows the ratio of total interest earned to total outside assets of Nabil, Investment and SBI all have fluctuating trend. It has highest ratio i.e. 12.20, 13.43, & 11.63 in same FY 2003/2004 and lowest ratio 7.14(in FY 2007/2008), 6.15(in FY 2006/2007) and 7.00(in FY 2007/2008) respectively.

Mean ratio of Nabil is higher than Investment bank i.e.  $8.356 > 8.324$  but lower than SBI bank i.e.  $8.356 < 8.962$ . Similarly, C.V. of Nabil is lower than Investment i.e.  $0.232 < 0.316$  but greater than SBI bank i.e.  $0.232 > 0.178$ .

Above analysis shows that it can be concluded that Nabil have better position with respect to the income earned from the total outside asset in comparison to Investment bank but Nabil does not have better position in comparison to SBI.

#### **(iv) Total Interest Earned to Total Working Fund Ratio**

It reflects the extent to which the banks are successful in mobilizing their total assets to generate high income as interest. This ratio actually reveals the earning capacity of a commercial bank by mobilizing its working fund: A high ratio is indicator of high earning power of the bank on its total working fund and vice versa.

We have,

$$\text{Total Interest Earned to Total Working Fund Ratio} = \frac{\text{Total Interest Earned}}{\text{Total Working Fund}}$$

#### **Table no.4.14**

#### **Total interest earned to total working fund ratio**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	6.97	7.37	8.56
2	2004/2005	6.90	6.82	6.10
3	2005/2006	6.35	6.56	5.69
4	2006/2007	6.15	5.10	6.21
5	2007/2008	5.98	5.52	5.85
	<b>Total</b>	<b>32.35</b>	<b>31.37</b>	<b>32.41</b>
	<b>Mean</b>	<b>6.47</b>	<b>6.274</b>	<b>6.482</b>
	<b>S.D.</b>	<b>0.398</b>	<b>0.840</b>	<b>1.055</b>
	<b>C.V.</b>	<b>0.062</b>	<b>0.134</b>	<b>0.163</b>

Source: Appendix 3 'D'

Table no.14 shows the total mean, standard deviation & coefficient of variation of total interest earned to total working fund ratio of Nabil, Investment and SBI bank.

The above table shows that the ratio of total interest earned to total working fund ratio of Nabil has decreasing trend i.e. 6.97(in FY 2003/2004) to 5.98(in FY 2007/2008). Investment and SBI has fluctuating trend. it has highest ratio 7.37 and 8.56 both of banks in FY 2003/2004 and lowest ratio 5.10(in FY 2006/2007) and 5.69(in FY 2005/2006) respectively.

Mean ratio of Nabil bank has higher than Investment bank i.e.  $6.47 > 6.274$  but lower than SBI bank i.e.  $6.47 < 6.482$ . Coefficient of variance of Nabil has lower than that of other two banks i.e.  $0.062 < 0.134 < 0.163$ .

From above analysis we can concluded that the ratio of total interest earned to total working fund ratio of Nabil bank is satisfactory in compared to other two banks. It means the total interest earned to total working fund ratio of the Nabil is stable and consistency in comparison to Investment and SBI.

#### **(v) Total Interest Paid to Total Working Fund Ratio**

Total interest paid to total working fund ratio measure the percentage of total interest paid against the total working fund. A high ratio indicates the higher interest expenses on total working fund and vice-versa.

We have,

$$\text{Total Interest Paid to Total Working Fund Ratio} = \frac{\text{Total Interest Paid}}{\text{Total Working Fund}}$$

Where,

Total interest paid includes total expenses on deposit liabilities, loan & advances (borrowing) and other deposits.

**Table no.4.15**

**Total interest paid to total working fund ratio (%)**

<b>S.N.</b>	<b>Fiscal year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	2.88	3.05	5.52
2	2004/2005	3.15	3.18	3.73
3	2005/2006	2.62	2.62	4.11
4	2006/2007	1.92	2.10	3.86
5	2007/2008	1.69	2.46	3.03
	<b>Total</b>	<b>12.26</b>	<b>3.41</b>	<b>20.25</b>
	<b>Mean</b>	<b>2.452</b>	<b>2.682</b>	<b>4.05</b>
	<b>S.D.</b>	<b>0.559</b>	<b>0.394</b>	<b>0.818</b>

	<b>C.V.</b>	<b>0.228</b>	<b>0.147</b>	<b>0.202</b>
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Source: Appendix 3 'E'

The table no. 15 shows that the total mean, standard deviation and coefficient of variance of total interest paid to total working fund ratio of all three commercial banks.

The above table shows that the total interest paid to total working fund ratio of Nabil has increase in FY 2004/2005(3.15) but it has decreasing trend then after. Investment and SBI has fluctuating trend. It has highest in FY 2004/2005(3.18) and FY 2003/2004(5.52) and lowest in FY2006/2007(2.10) and FY 2007/2008 respectively.

If the mean ratios are observed, it is found that the Nabil bank has the lowest of all. The mean ratios of Nabil, Investment and SBI has 2.452, 2.682 and 4.05 respectively. It means Nabil has paid lower interest in comparison to other banks. But the coefficient of variation of Nabil is higher than that of other two banks i.e.  $0.228 > 0.147 \& 0.202$ . It indicates that the total interest paid to total working fund ratio of Nabil is less consistent than Investment and SBI. It can be concluded that the position of Nabil is better than other is as its ratio is always lower than other bank. That means it is paying less interest against its working fund.

#### **4.1.4 Risk Ratio**

The possibility of risk makes banks investment a challenging task. Bank has to take risk to get return on investment. It increases effectiveness and profitability of the bank. If a bank expects high return on its investment it has to accept the risk and manage it efficiently.

Through following ratios, effort has been made to measure the level of risk.



### (i) Liquidity Risk Ratio

The liquidity risk ratio measures the level of risk associated with the liquid assets i.e. cash, bank balance that are kept in the bank for the purpose of satisfying the depositor's demand for cash. Higher the ratio, lower the liquidity risks.

We have,

$$\text{Liquidity Risk Ratio} = \frac{\text{Total Cash \& Bank Balcne}}{\text{Total Deposit}}$$

**Table no.4.16**

#### **Liquidity risk ratio (%)**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	8.52	12.17	19.62
2	2004/2005	5.13	12.28	29.42
3	2005/2006	6.78	8.12	29.07
4	2006/2007	8.51	11.69	20.44
5	2007/2008	6.87	10.65	12.01
	<b>Total</b>	<b>35.81</b>	<b>54.91</b>	<b>110.56</b>
	<b>Mean</b>	<b>7.162</b>	<b>10.982</b>	<b>22.112</b>
	<b>S.D.</b>	<b>1.267</b>	<b>1.543</b>	<b>6.525</b>
	<b>C.V.</b>	<b>0.77</b>	<b>0.140</b>	<b>0.295</b>

Source: Appendix 4 'A'

The table no. 16 shows the mean, standard deviation and coefficient of variation of liquidity risk ratio of commercial banks. Figure in the table shows the percentage of liquidity risk ratio of Nabil, Investment & SBI.

In above table liquidity ratios of the commercial banks are in fluctuating trend. Nabil has maintained a highest ratio of 8.52 in the FY 2003/2004 Similarly, Investment and SBI have maintained a highest ratio of 12.28 and

29.42 in the same FY i.e. 2004/2005. They have maintained a lowest ratio of 5.13, 8.12 and 12.01 in the FY 2004/2005, 2005/2006 and 2007/2008 respectively.

If the mean ratios are observed Nabil has lesser than that of Investment & SBI respectively, i.e.  $7.162 < 10.982 < 22.112$ . Which indicate that SBI liquidity risk is lower and Nabil liquidity risk is higher between the other two CBs. But according to the coefficient of variation Nabil's ratio is higher than Investment but lower than SBI. It indicates that Nabil's liquidity is consistency than SBI bank.

## **(ii) Credit Risk Ratio**

Credit risk ratio measures the possibility that loan will not be repaid or that investment will deteriorate in quality or go into default with consequent loss to the bank. Actually credit risk ratio shows the proportion of non-performing assets in total loan and advances of a bank.

We have,

$$\text{Credit Risk Ratio} = \frac{\text{Total Loan and Advances}}{\text{Total Assets}}$$

### **Table no. 4.17**

#### **Credit risk ratio (%)**

<b>S.N.</b>	<b>Fiscal year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	48.82	54.54	69.70
2	2004/2005	45.32	47.37	57.50
3	2005/2006	42.19	51.56	61.23
4	2006/2007	46.83	64.03	59.06
5	2007/2008	48.91	53.79	60.94
	<b>Total</b>	<b>232.07</b>	<b>271.29</b>	<b>308.43</b>
	<b>Mean</b>	<b>46.414</b>	<b>54.258</b>	<b>61.686</b>
	<b>S.D.</b>	<b>2.499</b>	<b>5.487</b>	<b>4.229</b>
	<b>C.V.</b>	<b>0.054</b>	<b>0.101</b>	<b>0.069</b>

Source: Appendix 4 'B'

The above table no.17 shows that the total mean, standard deviation & coefficient of variation of credit risk ratio of commercial banks.

The above table shows that the credit risk ratios of all three commercial banks are fluctuating trend. Nabil has maintained a highest ratio of 48.91 in FY 2007/2008 Similarly, Investment and SBI have maintained a highest ratio of 64.03 and 69.70 in FY 2006/2007 and 2003/2004 respectively.

Mean ratio of Nabil is lower than Investment and SBI i.e.  $46.414 < 54.258 < 61.686$ . And coefficient of variation of Nabil is higher than that of other two banks. It indicates that SBI has stable credit policy and consistent than other two banks. Nabil has slightly less consistency than Investment and less consistency than SBI.

### **(iii) Capital Risk Ratio**

Capital ratio measures bank ability to attract deposits and inter bank funds. It also determine the level of profit, a bank can earn if a bank chooses to take high capital risk. The capital risk is directly related to return on equity.

We have,

$$\text{Capital Risk Ratio} = \frac{\text{Capital (Paid up capital \& Reserves)}}{\text{Risk Weighted Assets}}$$

(Only loan and advances is taken as risk weighted assets)

**Table no.4.18**

**Capital risk ratio (%)**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	13.42	19.81	6.32
2	2004/2005	12.77	19.31	5.60
3	2005/2006	15.41	20.41	13.03
4	2006/2007	16.94	11.06	12.75
5	2007/2008	18.09	10.22	12.18
	<b>Total</b>	<b>76.63</b>	<b>80.81</b>	<b>49.88</b>
	<b>Mean</b>	<b>15.326</b>	<b>16.162</b>	<b>9.976</b>
	<b>S.D.</b>	<b>2.021</b>	<b>4.530</b>	<b>3.30</b>
	<b>C.V.</b>	<b>0.132</b>	<b>0.280</b>	<b>0.331</b>

Source: Appendix 4 'C'

The table no.18 shows the total mean, standard deviation & coefficient of variance of capital risk ratio of commercial banks.

In above table capital risk ratio of Nabil has decrease in FY 2004/2005(12.77) but then after it has increasing trend up to 18.09(in FY 2007/2008). Investment and SBI are in fluctuating trend. It has highest range 20.41 and 13.03 in same FY 2004/2005 and lowest range 10.22 in FY 2007/2008 and 6.32 in FY 2003/2004 respectively.

If the mean ratios are observed Nabil's ratio is slightly lesser than Investment but higher than that of SBI. Similarly, coefficient of variation is lower than that of other two banks i.e.  $0.132 < 0.280 < 0.331$ . It is concluded that the Nabil bank is more stable than the other two banks and it is also more consistency than investment and SBI.

#### 4.1.5 Growth Ratio

Growth ratios are directly related to the fund mobilization and investment management of the commercial bank. It represents how well the commercial bank maintaining the economic and financial position. Higher the ratio, better the performance of the bank and vice-versa.

Mathematically it is calculated as:

$$\text{Factor} = \frac{\text{Last Year Figure}}{\text{First Year Figure}}$$

$$\text{Factor} = (1+g)^{n-1}$$

Where,

g = growth ratio

n = number of period

Again, growth ratio is measured in percentage.

Under this section growth ratio of total deposit, loan & advances, total investment and net profit are calculated.

##### (i) Growth Ratio to Total Deposit

**Table no.4.19**

**Growth ratio of total deposit (%)**

S.N.	Fiscal year	Nabil	Investment	SBI
1	2003/2004	12779.51	2983.28	453.73
2	2004/2005	15839.01	4256.21	6612.29

3	2005/2006	15506.44	4174.76	5572.47
4	2006/2007	13447.65	7922.75	6522.82
5	2007/2008	14119.03	11524.67	7198.32
	<b>Growth ratio (%)</b>	<b>2.523</b>	<b>40.195</b>	<b>99.576</b>

Source: Appendix 9, 11 and 13

The above table no.19 shows that the growth ratio of Nabil bank is less than Investment and SBI bank. We can see growth rate of Nabil i.e. 2.523% is less than that of 40.195% & 99.576%. The above position of growth rate indicates that SBI and Investment used to increase its deposit collection very tightly than Nabil.

## (ii) Growth Ratio of Loan & Advances

**Table no.4.20**  
**Growth ratio of loan & advances**

S.N.	Fiscal Year	Nabil	Investment	SBI
1	2003/2004	7334.76	2070.68	3559.41
2	2004/2005	8324.44	2429.03	4188.41
3	2005/2006	7437.90	2564.43	4299.25
4	2006/2007	7755.95	5772.14	4468.72
5	2007/2008	8189.99	7130.13	5143.66
	<b>Growth rate (%)</b>	<b>2.796</b>	<b>36.222</b>	<b>9.64</b>

Source: Appendix 9, 11 and 13

The above table no.20 shows the growth ratio of loan & advances. The growth ratio of Investment bank is very high i.e. 36.222% where as SBI & Nabil bank's growth rate is very low i.e. 9.64% & 2.786% respectively. This position of growth ratio indicates that the performance of investment to grant loan and advances in comparison to other banks is better where as Nabil used to increase its loan & advances is not satisfactory.

**(iii) Growth Ratio of Total Investment**

**Table no.4.21**

**Growth ratio of total investment**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	1250.94	12.69	201.79
2	2004/2005	7704.31	1970.27	373.63
3	2005/2006	1899.51	1822.16	599.06
4	2006/2007	6031.18	1705.24	1280.12
5	2007/2008	5836.07	3862.48	1907.52
	<b>Growth rate (%)</b>	<b>46.967</b>	<b>317.687</b>	<b>75.345</b>

Source: Appendix 9, 11 and 13

The above table no.21 shows the growth ratio of total investment of Nabil, Investment & SBI. Those are 46.967%, 317.687% & 75.345% respectively. It seems that growth ratio of Nabil is less than SBI. But in the case of Investment it seemed to be sound efficiency of bank managers it is due to flux change of investment strategy and bank also running the growth stage.

**(iv) Growth Ratio of Net profit**

**Table no. 4.22**  
**Growth ratio of net profit**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	329.12	72.66	50.07
2	2004/2005	291.37	56.39	12.51
3	2005/2006	271.63	57.09	40.85
4	2006/2007	416.25	116.82	48.75
5	2007/2008	455.32	152.67	60.86
	<b>Growth rate (%)</b>	<b>8.45</b>	<b>20.40</b>	<b>5.00</b>

Source: Appendix 10, 12 and 13

The above table no22 shows that the growth ratio of net profit of Nabil, Investment & SBI are 8.45%, 20.40%, and 5.00% respectively. The above position indicates that growth ratio of net profit of Nabil is slightly higher than SBI and lower than Investment, it means Nabil has average position in compassion to the other two banks.

## **4.2 Statistical Tools**

Some important statistical tools are used to achieve the objective of this study. In this study, statistical tools such as, trend analysis, co-efficient of correlation analysis between different variables, test of hypothesis are used.

### **4.2.1 Trend Analysis**

Under this topic, analysis trend of loan & advances to total deposit ratio as well as trend of total investment to total deposit ratios of Nabil, Investment and SBI bank are calculated and forecasted for next five years. The forecast is based on the following assumptions.

- a. The first assumption is that other things will remain unchanged.
- b. The bank will run in present potion.



- c. The economy will remain in the present stage
  - d. The forecast will be true only when the limitation of least square method is carried out
  - e. Nepal Rastra Bank will not change its guidelines to commercial banks.
- (i) **Trend analysis of loan and advances to total deposits ratio of Nabil Investment & SBI.**

Calculate the trend values of loan and advances to total deposits ratio of Nabil, Investment and SBI for 5 years from 2003/2004 to 2007/2008 and forecast for next 5 years from 2008/2009 to 2012/20113. The following table no 23 shows the trend value of deposit for ten years for the Nabil, Investment and SBI.

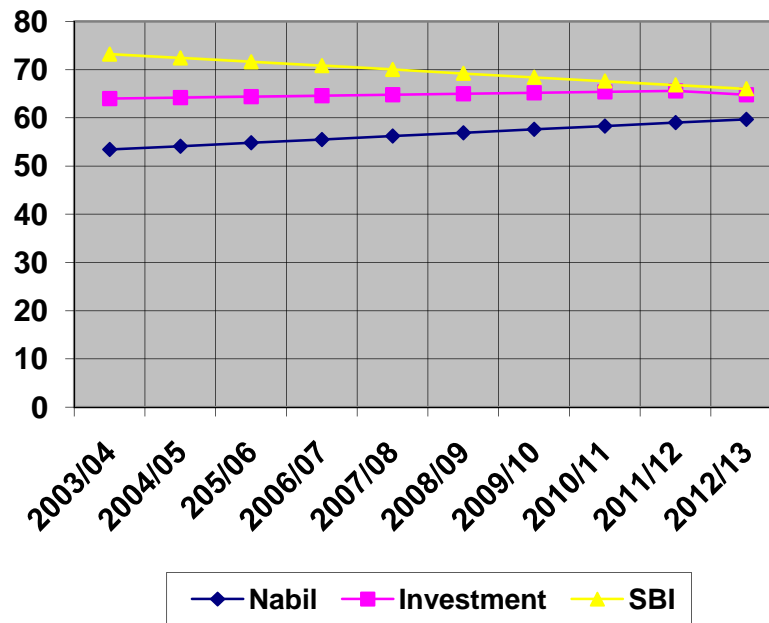
**Table no.4.23**  
**Trend analysis of loan and advances to total deposits ratio of Nabil**  
**Investment & SBI**

S.N.	Fiscal Year	Nabil	Investment	SBI
1	2003/2004	53.40	64.00	73.20
2	2004/2005	54.10	64.20	72.40
3	2005/2006	54.80	64.40	71.60
4	2006/2007	55.50	64.60	70.80
5	2007/2008	56.20	64.80	70.00
6	2008/2009	56.90	65.00	69.20
7	2009/2010	57.60	65.20	68.40
8	2010/2011	58.30	65.40	67.60
9	2011/2012	59.00	65.60	66.80
10	2012/2013	59.70	65.80	66.00

Source: Appendix 6

The calculated and projected trend values of loan and advances of Nabil, Investment and SBI are fitted in the following trend line.

**Figure 4.1**  
**Trend analysis of loan and advances to total deposits ratio of Nabil**  
**Investment & SBI**



From the above table no 23 it has been shows that the ratio of loan & advances to total deposits of Nabil and Investment bank are in increasing trend but SBI bank is decreasing trend. If our assumption are applied the ratio of loan & advances to total deposits of Nabil in 2012/2013 will be 59.70% which is the lowest than other bank. Similarly ratio of Investment and SBI is 2012/2013 will be 65.80% and 66.00% respectively.

From above trend analysis it is quite obvious that Nabil deposit utilization position in relation to loan & advances to total deposit ratio is lower than other bank but it has increasing trend. Its increasing trend ratio is 0.7 that is highest than Investment banks increasing trend ratio i.e. 0.2 where as SBI bank has decreasing trend ratio. These increasing trend means Nabil may use relatively large portion of their deposit by providing loan. It is also found that the loan and advances position of Nabil is increasing trend that means it will be better position in future.

**(ii) Trend analysis of total investment to total deposit ratio of Nabil, Investment and SBI.**

Calculate the trend values of total investment to total deposits ratio of Nabil, Investment and SBI for 5 years from 2003/2004 to 2007/2008 and forecast for next 5 years from 2008/2009 to 2012/2013. The following table no.24 shows the trend value of total investments to total deposits ratio of Nabil, Investment and SBI bank.

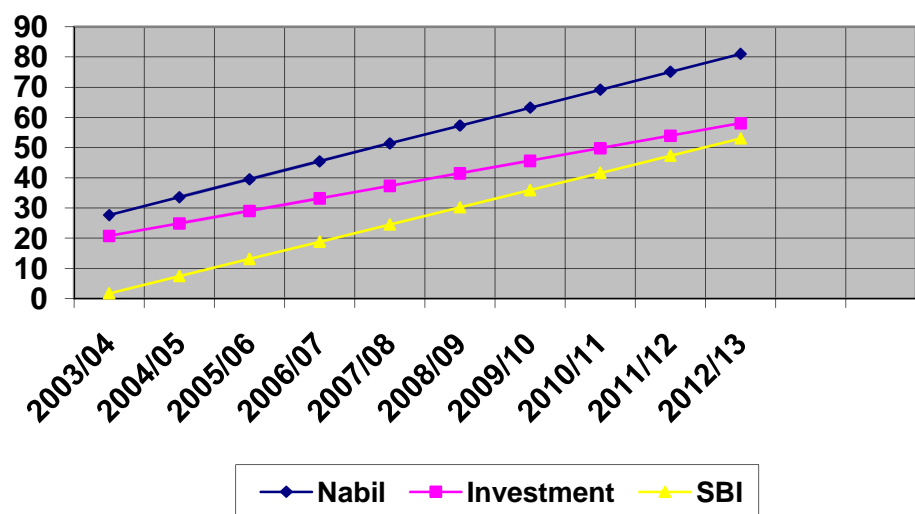
**Table no. 4.24**  
**Trend analysis of total investment to total deposit ratio of Nabil,**  
**Investment and SBI**

<b>S.N.</b>	<b>Fiscal Year</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
1	2003/2004	27.64	20.802	1.78
2	2004/2005	33.569	24.941	7.476
3	2005/2006	39.498	29.08	13.172
4	2006/2007	45.427	33.219	18.868
5	2007/2008	51.356	37.358	24.564
6	2008/2009	57.285	41.497	30.26
7	2009/2010	63.214	45.636	35.956
8	2010/2011	69.143	49.775	41.652
9	2011/2012	75.072	53.914	47.348
10	2012/2013	81.001	58.053	53.044

Source: Appendix 6

The calculated and projected trend values of total investment to total deposits of Nabil, Investment and SBI are fitted in the following trend line.

**Figure 4.2**  
**Trend LINE of total investment to total deposit ratio of Nabil, Investment and SBI**



From the above table no.24 shows that the ratio of total investment to total deposit ratio of Nabil, Investment and SBI banks all are increasing trend. If our assumption is applied the ratio of total investment to total deposit of Nabil in 2012/2013 will be 81.001%, which is higher than other bank. Similarly ratio of Investment and SBI in 2012/2013 will be 58.53% and 53.044% respectively.

From the above analysis it can be concluded that Nabil's increasing trend ratio is 5.929 which is greater increasing ratio than other two banks, it means Nabil may use relatively large portion of deposit towards investment in different sectors. Above analysis also reveals that Nabil, Investment and SBI are uses the skill and attention towards the potential sector of the investment.

From above trend chart it is found that Nabil has favorable condition than investment and SBI for utilizing the total deposit towards investment.

#### 4.2.2 Coefficient of Correlation Analysis

Under this topic, Karl person's coefficient of correlation is used to find out the relationship between deposit and loan & advances, deposit and total investment, outside asset and net profit.

##### (i) Co-efficient of correlation between deposits and loan & advances

Coefficient of correlation( $r$ ) between deposits and loans and advances measures the degree of relationship between these two variables. The purpose of correlation analysis between deposit and loan and advances is to find out whether deposit is significantly used as loan and advances. In this analysis deposit is independent variables ( $x$ ) and loan & advances are dependent variables ( $y$ ).

**Table no.4.25**

##### **Coefficient of correlation between deposit and loan & advances**

<b>Evaluation criteria</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
$r$	0.45	0.98	0.88
$r^2$	0.20	0.97	0.78
P.E.r	0.11	0.004	0.03
6P.E.r	0.65	0.024	0.18

Source: Appendix 7

From the above table no.25 shows that  $r$ ,  $r^2$ , P.E.r between deposit and loan and advances of Nabil, Investment and SBI for the period of 2003/2004 to 2007/2008.

The above table it is found that the co-efficient of correlation ( $r$ ) between deposit and loan and advances of Nabil, Investment and SBI are 0.45, 0.98 & 0.88 respectively. It shows the highly positive relationship between these two variables. However co-efficient of determination i.e.  $r^2$  it indicates that in the case of Nabil 0.20 of the variation in the dependent variable i.e. loan & advances has been explained by the independent variables i.e. deposit. In the case of Investment 0.97 and in case of SBI 0.78 of the dependent variable has been explained by the independent variable. More over considering the probable error in case of Nabil  $r^2$  is lower than 6.P.E.r but Investment and SBI of  $r^2$  is greater than 6.P.E.r.

From above analysis it can be conclude that the value of  $r$  is significant that means there is significant relationship between deposit and loan & advances of Nabil, Investment & SBI. It also reveals that all three banks are successful in mobilizing their deposits are loan & advances. Investment has the highest value of ' $r$ ' that indicates the better position of it is mobilizing deposit as loan & advances in comparison to Nabil & SBI.

**(ii) Coefficient of correlation between deposit and total investment.**

Coefficient of correlation between deposit and total investment measures the degree of relationship between these two variables. The purpose of calculating this analysis is to find out whether deposit is significantly used as investment or not. In this analysis deposit is independent variable ( $x$ ) and total investment is independent variable ( $y$ ).

**Table no.4.26**

**Coefficient of correlation between deposit and total investment**

<b>Evaluation criteria</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
R	0.87	0.84	0.76
$r^2$	0.76	0.71	0.57
P.E.r	0.03	0.04	0.06
6P.E.R	0.19	0.23	0.35

Source: Appendix 7

The above table no26 shows that, the value of  $r$ ,  $r^2$ , P.E.r, 6 P.E.r between deposit and loans and advances of Nabil with comparison to Investment and SBI For the study period 2003/2004 to 2007/2008.

From the above table in case of Nabil it is found that coefficient of correlation between deposit and total investment is 0.87, which is higher than Investment & SBI. It shows that positive relationship between these two variables. Moreover, when we consider the value of coefficient of determination ( $r^2$ ) it is 0.76 it means 76% of variation in the dependent variable is explained by the independent variable. When analyze the value of  $r$  and comparing with 6 P.E.r. we can find that  $r$  is much greater than value 6 P.E.r. that reveals there is significant relationship between deposit and investment.

Similarly, Investment and SBI have the positive correlation between deposit and loans and advances. The relationship is significant and the value of  $r^2$  shows high percent in the dependent variables, which has been explained by the independent variable. Above analysis indicated that Nabil bank successful in maximizing the investment of their deposits in comparison to other two banks because we have the highest value of  $r$  of Nabil than Investment & SBI.

**(iii) Coefficient of correlation between outside assets and net profit**

Coefficient of correlation between outside asset and net profit measures the degree of relationship between these two variables. The purpose of

computing these analysis is to find out whether net profit is significantly correlated with respect to total assets or not. In this analysis outside asset is independent variable (x) and net profit is independent variable (y).

**Table no.4.27**

**Coefficient of correlation between outside assets and net profit**

<b>Evaluation criteria</b>	<b>Nabil</b>	<b>Investment</b>	<b>SBI</b>
R	(0.15)	0.91	0.50
$r^2$	0.02	0.82	0.25
P.E.r.	0.13	0.02	0.10
6 P.E.r.	0.79	0.14	0.61

Source: Appendix 7

The above table no27 shows the value of r,  $r^2$ , P.E.r, 6. P.E.r.between outside assets and net profit of Nabil with comparison to Investment & SBI for the study period 2003/2004 to 2007/2008.

From the above table in case of Nabil it is found that coefficient of correlation between outside assets and net profit is (0.15). It shows the negative relationship between these two variables. Moreover, when we consider the value of coefficient of determination ( $r^2$ ) it 0.02 and it means 2% of the variation in the dependent variable is explained by the independent variable. Where analyze the value of r and comparing with 6.P.E.r we can find that r is very lower than the value of 6.P.E.r, which reveals that Nabil is not capable to earn net profit by mobilizing its total outside assets.

In case of Investment and SBI there is positive correlation between outside asset and net profit. The relationship is significant and the value of  $r^2$  shows high percent in the dependent variable, which has been explained by the independent variable. Above analysis indicates that Investment and SBI have significant correlation between mobilization of funds and returns.



### 4.2.3 Test of Hypothesis

It is an assumption about the population, which may or may not be true, to determine whether it is true or not by taking some sample with followed some procedure is called testing of hypothesis. The test of hypothesis discloses the fact whether the difference between the computed statistic and hypothetical parameter is significant.

#### Types of hypothesis: -

- (i) Null hypothesis
  - (ii) Alternative hypothesis
- (i) **Null hypothesis ( $H_0$ ):**  $\bar{X}_1 = \bar{X}_2$  : - It always rejected the difference & accepts they (assumption value & actual value) are same i.e. there is no significant difference between mean ratios of loan & advances to total deposits of Nabil, Investment & SBI.
- (ii) **Alternative hypothesis ( $H_0$ ):**  $\bar{X}_1 \neq \bar{X}_2$  : - Complementary of null is called alternative hypothesis i.e. there is significant difference between mean ratios of loan & advances to total deposits of Nabil, Investment & SBI.

Generally, following steps are followed for the test of hypothesis.

- a. Formulating hypothesis
  - (i) Null hypothesis
  - (ii) Alternative hypothesis
- b. Computing the test statistics
- c. Fixing the level of significance
- d. Finding critical region
- e. Deciding two-tailed or one tailed test
- f. Making decision

In this topic t statistic is used to find out the test of significance regarding the parameter of the population on the basis of sample drawn from the population.

### **t-test**

If we draw a large number of small samples i.e. ( $n < 30$ ) and compute the mean for each sample and then plot the frequency distribution of these mean, the resulting sampling distribution would be t-test. On these study sample are taken only for five years i.e. ( $5 < 30$ ).

Assumption made for using t-test in this case is that: -

- (a) The parent populations from which samples are drawn are normally distributed.
- (b) The two samples are random and independent of each other.
- (c) The population variances are equal and unknown.

#### **(i) Test of hypothesis on loan and advances to total deposit ratios between Nabil, Investment & SBI.**

Here, mean ratio of loan and advances to total deposit of Nabil, Investment and SBI are taken and carried out under t-test of significance difference.

**Table no. 4.28**

**Test of hypothesis on loan and advances to total deposit ratios between Nabil, Investment & SBI**

S.N.	Nabil	Investment	SBI
1	$X_1=274.00$	$X_2=322.00$	$X_3=358.00$
2	$\bar{X}_1=54.80$	$\bar{X}_2=64.40$	$\bar{X}_3=71.60$
3	$X_1^2=74.80$	$X_2^2=167.20$	$X_3^2=151.20$

Source: Appendix 8

**(a) Test of significance of difference between Nabil & Investment**

Setting of hypothesis,

**Null hypothesis ( $H_0$ ):**  $\bar{X}_1 = \bar{X}_2$

i.e., there is no significant difference between mean ratios of loan & advances to total deposit of Nabil & Investment.

**Attractive hypothesis ( $H_1$ ):**  $\bar{X}_1 \neq \bar{X}_2$  (two tailed test)

i.e., there is significant difference between mean ratios of loans & advances to total deposit of Nabil & Investment.

The test statistics under  $H_0$  is,

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

$$\begin{aligned} S^2 &= \frac{1}{n_1 + n_2 - 2} \left( \sum X_1^2 - \frac{(\sum X_1)^2}{n_1} + \sum X_2^2 - \frac{(\sum X_2)^2}{n_2} \right) \\ &= \frac{1}{5 + 5 - 2} \left( 74.80 + 167.20 - \frac{(54.80 \times 5)^2}{5} - \frac{(64.40 \times 5)^2}{5} \right) \\ &= 30.25 \end{aligned}$$

Now,

$$t = \frac{54.80 - 64.40}{\sqrt{30.25 \left( \frac{1}{5} + \frac{1}{5} \right)}}$$

$$= -2.760$$

The calculated value of  $|t|=2.760$

Tabulated value of 't' (two-tailed test) at 5% level of  $(n_1 + n_2 - 2)$  d.f. i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of  $|t|$  i.e. 2.760 is greater than its tabulated value i.e. 2.306 at 5% LOS for two tailed test. Null hypothesis is rejected, i.e. there is significant difference between mean ratios of loan & advances to total deposit of Nabil & Investment.

**(b) Test of significance difference between Nabil & SBI.**

Settings of hypothesis,

**Null hypothesis ( $H_0$ ):**  $\bar{X}_1 = \bar{X}_3$

i.e. there is no significant difference between mean ratios of loan & advances to total deposit of Nabil & SBI.

**Alternative hypothesis ( $H_1$ ):**  $\bar{X}_1 \neq \bar{X}_3$  (two tailed test)

i.e. there is significant difference between mean ratios of loan & advances to total deposit of Nabil & SBI.

The test statistics under  $H_0$  is,

$$t = \frac{\bar{X}_1 - \bar{X}_3}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_3} \right)}}$$

Where,

$$\begin{aligned} S^2 &= \frac{1}{n_1 + n_3 - 2} \left[ \sum X_1^2 - \frac{(\sum X_1)^2}{n_1} + \sum X_3^2 - \frac{(\sum X_3)^2}{n_3} \right] \\ &= \frac{1}{5 + 5 - 2} [74.80 - \frac{151.20^2}{5} + 151.20^2 - \frac{151.20^2}{5}] \\ &= 28.25 \end{aligned}$$

Now,

$$t = \frac{54.80 - 71.60}{\sqrt{28.25 \left( \frac{1}{5} + \frac{1}{5} \right)}}$$

$$= -4.998$$

The calculated value of  $|t| = 4.998$

Tabulated value of 't' (two tailed test) at 5% value of  $(n_1 + n_2 - 2)$  d.f. i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of  $|t|$  i.e. 4.998 is greater than that its tabulated value i.e. 2.306 at 5% loss for two-tailed test. Null hypothesis is rejected, i.e. there is significant difference between mean ratio of loan & advances to total deposit of Nabil & SBI.

**(ii) Test of hypothesis on total Investment to total deposit ratio between Nabil, Investment & SBI.**

Here, mean ratios of total investment to total deposit of Nabil, investment and SBI are taken and carried out under t test of significant difference.

**Table no.4. 29**

**Test of hypothesis on total Investment to total deposit ratio between Nabil, Investment & SBI**

S.N.	Nabil	Investment	SBI
1	$X_1=197.49$	$X_2=145.40$	$X_3=65.86$
2	$\bar{X}_1=39.498$	$\bar{X}_2=29.08$	$\bar{X}_3=13.17$
3	$X_1^2=1177.219$	$X_2^2=1406.071$	$X_3^2=344.649$

Source: Appendix 8

**(a) Test of significance difference between Nabil & Investment.**

Settings of hypothesis,

**Null hypothesis (H<sub>0</sub>):**  $\bar{X}_1 = \bar{X}_2$

i.e. there is no significant difference between mean ratio of total investment to total deposits of Nabil & Investment.

**Alternative hypothesis (H<sub>1</sub>):**  $\bar{X}_1 \neq \bar{X}_2$

i.e. there is significant difference between mean ratios of total investment to total investment tot total deposit of Nabil & Investment

The test statistics under H<sub>0</sub> is,

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

$$\begin{aligned} s^2 &= \frac{1}{n_1 + n_2 - 2} \left[ \sum X_1^2 - \frac{(\sum X_1)^2}{n_1} + \sum X_2^2 - \frac{(\sum X_2)^2}{n_2} \right] \\ &= \frac{1}{5 + 5 - 2} \left[ 177.219 - \frac{(1406.071)^2}{5} + 1406.071 - \frac{(1406.071)^2}{5} \right] \\ &= 322.911 \end{aligned}$$

Now,

$$\begin{aligned} t &= \frac{39.498 - 29.08}{\sqrt{322.91 \left( \frac{1}{5} + \frac{1}{5} \right)}} \\ &= 0.917 \end{aligned}$$

The calculate value of t=0.917

Tabulated value of 't' (two tailed test) at 5% level of (n<sub>1</sub>+ n<sub>2</sub>-2) d.f. i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculate value of 't' is less than its tabulated value at 5% LOS for two tailed test. Null hypothesis is accepted, i.e. there is no significant

difference between mean ratios of total investment to total deposit of Nabil & Investment.

**(b) Test of significance of difference between Nabil & investment.**

Settings of hypothesis,

**Null hypothesis (H<sub>0</sub>):**  $\bar{X}_1 = \bar{X}_3$

i.e. there is no significant difference between mean ratio of total investment to total deposits ratio of Nabil & SBI.

**Alternative hypothesis (H<sub>1</sub>):**  $\bar{X}_1 \neq \bar{X}_3$  (two tailed tested)

i.e. there is significant difference between mean ratio of total investment to total deposit ratio of Nabil & SBI.

The test statistics under H<sub>0</sub> is,

$$t = \frac{\bar{X}_1 - \bar{X}_3}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_3} \right)}}$$

Where,

$$\begin{aligned} S^2 &= \frac{1}{n_1 + n_3 - 2} \left[ \sum X_1^2 - \frac{(\sum X_1)^2}{n_1} + \sum X_3^2 - \frac{(\sum X_3)^2}{n_3} \right] \\ &= \frac{1}{5 + 5 - 2} \left[ 1177.219 - \frac{344.649^2}{5} + 344.649 - \frac{177.219^2}{5} \right] \\ &= 190.234 \end{aligned}$$

Now,

$$\begin{aligned} t &= \frac{39.498 - 13.172}{\sqrt{190.234 \left( \frac{1}{5} + \frac{1}{5} \right)}} \\ &= 3.018 \end{aligned}$$

: - The calculated value of t = 3.018.

Tabulated value of 't' (two-tailed test) at 5% level of  $(n_1 + n_2 - 2)$  i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of 't' is higher than its tabulated value at 5% LOS for two-tailed test. Null hypothesis is rejected, i.e. there is significant difference between mean ratios of total investment to total deposit ratio of Nabil & SBI.

**(iii) Test of hypothesis on investment on government securities to current assets ratio between Nabil, Investment & SBI.**

Here, mean ratios of investment on government securities to current assets of Nabil, Investment & SBI are taken and carried out under t test of significance difference.

**Table no. 4.30**

**Test of hypothesis on investment on government securities to current assets ratio between Nabil, Investment & SBI**

S.N.	Nabil	Investment	SBI
1	$X_1=111.71$	$X_2=38.76$	$X_3=54.85$
2	$\bar{X}_1=22.342$	$\bar{X}_2=7.752$	$\bar{X}_3=10.97$
3	$X_1^2=296.994$	$X_2^2=172.293$	$X_3^2=255.04$

Source: Appendix 8

**(a) Test of significance difference between Nabil & Investment.**

Settings of hypothesis,

Null hypothesis ( $H_0$ ):  $\bar{X}_1 = \bar{X}_2$

i.e. there is no significant different between ratio of investment on government securities to current assets ratio of Nabil & investment.

Alternative hypothesis ( $H_1$ ):  $\bar{X}_1 \neq \bar{X}_2$  (two tailed tested) i.e. there is significant difference between mean ratio of investment on government securities to current assets ratio of Nabil & Investment.

The test statistics under  $H_0$  is,



$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

$$\begin{aligned} s^2 &= \frac{1}{n_1 + n_2 - 2} \left[ \sum X_1^2 + \sum X_2^2 - \frac{(\sum X_1)^2}{n_1} - \frac{(\sum X_2)^2}{n_2} \right] \\ &= \frac{1}{5 + 5 - 2} [296.994 + 172.293 - \frac{22.342^2}{5} - \frac{7.752^2}{5}] \\ &= 58.661 \end{aligned}$$

Now,

$$\begin{aligned} t &= \frac{22.342 - 7.752}{\sqrt{58.661 \left( \frac{1}{5} + \frac{1}{5} \right)}} \\ &= 3.012 \end{aligned}$$

The calculated value of  $t = 3.012$

Tabulated value of 't' (two tailed test) at 5% level of  $(n_1 + n_2 - 2)$  i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of  $t$  is higher than its tabulated value at 5% LOS for two-tailed test. Null hypothesis is rejected, i.e. there is significant difference between mean ratios of investment on government securities to current assets ratio of Nabil & Investment.

**(b) Test of significance difference between Nabil & SBI.**

Settings of hypothesis,

Null hypothesis ( $H_0$ ):  $\bar{X}_1 = \bar{X}_3$

i.e. there is no significant difference between mean ratio of investment on government securities to current assets ratio of Nabil & SBI.

Alternative hypothesis ( $H_1$ ):  $\bar{X}_1 \neq \bar{X}_3$  (two tailed tested)

i.e. there is significant difference between mean ratio of investment on government securities to current assets ratio of Nabil & SBI.

The test statistics under  $H_0$  is,

$$t = \frac{\bar{X}_1 - \bar{X}_3}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_3} \right)}}$$

Where,

$$\begin{aligned} S^2 &= \frac{1}{n_1 + n_3 - 2} \left( \sum X_1^2 + \sum X_3^2 - \frac{(\sum X_1)^2}{n_1} - \frac{(\sum X_3)^2}{n_3} \right) \\ &= \frac{1}{5 + 5 - 2} \left( 296.994 + 255.04 - \frac{(22.342)^2}{5} - \frac{(10.97)^2}{5} \right) \\ &= 69.004 \end{aligned}$$

Now,

$$\begin{aligned} t &= \frac{22.342 - 10.97}{\sqrt{69.004 \left( \frac{1}{5} + \frac{1}{5} \right)}} \\ &= 2.165 \end{aligned}$$

The calculated value of  $t=2.165$

Tabulated value of 't' (two tailed test) at 5% level of  $(n_1 + n_2 - 2)$  i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of  $t$  is lower than its tabulated value at 5% LOS for two-tailed test. Null hypothesis is accepted, i.e. there is no significant difference between mean ratios of investment on government securities to current assets ratio of Nabil & SBI.

**(iv) Test of hypothesis on loan & advances to current assets ratio between Nabil, Investment & SBI.**

Here, mean ratios of loan & advances to current assets ratio of Nabil, Investment & SBI are taken and carried out under t test of significance difference.

**Table no.4.31**

**Test of hypothesis on loan & advances to current assets ratio between Nabil, Investment & SBI**

S.N.	Nabil	Investment	SBI
1	$X_1=282.15$	$X_2=343.80$	$X_3=315.07$
2	$\bar{X}_1=56.43$	$\bar{X}_2=68.76$	$\bar{X}_3=63.014$
3	$X_1^2=94.87$	$X_2^2=337.071$	$X_3^2=98.413$

Source: Appendix 8

**(a) Test of significant difference between Nabil & Investment.**

Settings of hypothesis,

**Null hypothesis ( $H_0$ ):**  $\bar{X}_1 = \bar{X}_2$

i.e. there is no significant different between mean ratio of loan & advances to current assets ratio of Nabil & Investment.

**Alternative hypothesis ( $H_1$ ):**  $\bar{X}_1 \neq \bar{X}_2$  (two tailed tested)

i.e. there is significant difference between mean ratio of loan & advances to current assets ratio of Nabil & Investment.

The test statistics under  $H_0$  is,

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

$$\begin{aligned}
s^2 &= \frac{1}{n_1 + n_2 - 2} \left( \sum X_1^2 - \frac{(\sum X_1)^2}{n_1} + \sum X_2^2 - \frac{(\sum X_2)^2}{n_2} \right) \\
&= \frac{1}{5 + 5 - 2} (94.87 - \frac{337.071^2}{5} + \dots) \\
&= 53.993
\end{aligned}$$

Now,

$$\begin{aligned}
t &= \frac{56.43 - 68.76}{\sqrt{53.993 \left( \frac{1}{5} + \frac{1}{5} \right)}} \\
&= -2.653
\end{aligned}$$

The calculated value of  $|t| = 2.653$

Tabulated value of 't' (two tailed test) at 5% level of  $(n_1 + n_2 - 2)$  i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of t is higher than its tabulated value at 5% LOS for two-tailed test. Null hypothesis is rejected, i.e. there is significant difference between mean ratio of loan & advances to current assets ratio of Nabil & investment.

**(a) Test of significance difference between Nabil & SBI.**

Settings of hypothesis,

**Null hypothesis ( $H_0$ ):**  $\bar{X}_1 = \bar{X}_3$

i.e. there is no significant difference between mean ratio of loan & advances to current assets ratio of Nabil & SBI.

**Alternative hypothesis ( $H_1$ ):**  $\bar{X}_1 \neq \bar{X}_3$  (two tailed tested)

i.e. there is significant difference between mean ratio of loan & advances to current assets ratio of Nabil & SBI.

The test statistics under  $H_0$  is,

$$t = \frac{\bar{X}_1 - \bar{X}_3}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_3} \right)}}$$

Where,

$$\begin{aligned} s^2 &= \frac{1}{n_1 + n_3 - 2} \left( \sum X_1^2 + \sum X_3^2 - \frac{(\sum X_1)^2}{n_1} - \frac{(\sum X_3)^2}{n_3} \right) \\ &= \frac{1}{5 + 5 - 2} (94.87 + 98.413 - \frac{56.43^2}{5} - \frac{63.014^2}{5}) \\ &= 24.160 \end{aligned}$$

Now,

$$\begin{aligned} t &= \frac{56.43 - 63.014}{\sqrt{24.160 \left( \frac{1}{5} + \frac{1}{5} \right)}} \\ &= -2.118 \end{aligned}$$

The calculated value to  $|t| = 2.118$

Tabulated value of 't' (two tailed test) at 5% level of  $(n_1 + n_2 - 2)$  i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of t is lower than its tabulated value at 5% LOS for two-tailed test. Null hypothesis is accepted, i.e. there is no significant difference between mean ratio of loan & advances to current assets ratio of Nabil & SBI.

**(v) Test of hypothesis on return on loan & advances ratio between Nabil, Investment & SBI.**

Here mean ratio of return on loan & advances ratio of Nabil, Investment & SBI are taken and carried out under t-test of significance difference.

**Table no.4.32**

**Test of hypothesis on return on loan & advances ratio between Nabil, Investment & SBI**

S.N.	Nabil	Investment	SBI
1	$X_1=22.57$	$X_2=12.22$	$X_3=4.93$
2	$\bar{X}_1=4.514$	$\bar{X}_2=2.444$	$\bar{X}_3=0.986$

3	$X_1^2=3.602$	$X_2^2=1.469$	$X_3^2=0.702$
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Source: Appendix 8

**(a) Test of significance difference between Nabil & Investment.**

Settings of hypothesis,

**Null hypothesis ( $H_0$ ):**  $\bar{X}_1 = \bar{X}_2$

i.e. there is no significant difference between mean ratio of return on loan & advances ratio of Nabil & Investment.

**Alternative hypothesis ( $H_1$ ):**  $\bar{X}_1 \neq \bar{X}_2$  (two tailed tested)

i.e. there is significant difference between mean ratio of return on loan & advances ratio of Nabil & Investment.

The test statistics under  $H_0$  is,

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

$$\begin{aligned} s^2 &= \frac{1}{n_1 + n_2 - 2} \left( \sum X_1^2 - \frac{(\sum X_1)^2}{n_1} + \sum X_2^2 - \frac{(\sum X_2)^2}{n_2} \right) \\ &= \frac{1}{5 + 5 - 2} \left( 3.602 + 1.469 \right) \\ &= 0.634 \end{aligned}$$

Now,

$$t = \frac{4.514 - 2.444}{\sqrt{0.634 \left( \frac{1}{5} + \frac{1}{5} \right)}}$$

$$= 4.107$$

The calculated value of  $t = 4.107$

Tabulated value of 't' (two tailed test) at 5% level of  $(n_1 + n_2 - 2)$  i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of  $t$  is higher than tabulated value at 5% LOS for two tailed test. Null hypothesis is rejected, i.e. there is significant difference between mean ratio of return on loan & advances ratio of Nabil & Investment.

**(b) Test of significance difference between Nabil & SBI.**

Settings of hypothesis,

**Null hypothesis ( $H_0$ ):**  $\bar{X}_1 = \bar{X}_3$

i.e. there is no significant difference between mean ratio of return on loan & advances ratio of Nabil & SBI.

**Alternative hypothesis ( $H_1$ ):**  $\bar{X}_1 \neq \bar{X}_3$  (two tailed tested)

i.e. there is significant difference between mean ratio of return on loan & advances ratio of Nabil & SBI.

The test statistics under  $H_0$  is,

$$t = \frac{\bar{X}_1 - \bar{X}_3}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_3} \right)}}$$

Where,

$$S^2 = \frac{1}{n_1 + n_3 - 2} \left( \sum X_1^2 - \frac{(\sum X_1)^2}{n_1} + \sum X_3^2 - \frac{(\sum X_3)^2}{n_3} \right)$$

$$= \frac{1}{5 \sqrt{5}} \sqrt{\frac{3.602}{5} \Gamma 0.702 A}$$

$$= 0.538$$

Now,

$$t = \frac{4.514 - 0.986}{\sqrt{0.538 \left( \frac{1}{5} \Gamma \frac{1}{5} \right)}}$$

$$= 7.603$$

The calculated value of  $|t| = 7.603$

Tabulated value of 't' (two tailed test) at 5% level of  $(n_1 + n_2 - 2)$  i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of t is higher than its tabulated value at 5% LOS for two-tailed test. Null hypothesis is rejected, i.e. there is significant difference between mean ratio of return on loan & advances ratio of Nabil & SBI.

**(vi) Test of hypothesis on return on total interest earned to total outside assets ratio between Nabil, Investment & SBI.**

Here mean ratio of total interest earned to total outside assets ratio of Nabil, Investment & SBI are taken and carried out under t-test of significance difference.



**Table no.4. 33**

**Test of hypothesis on return on total interest earned to total outside assets ratio between Nabil, Investment & SBI**

S.N.	Nabil	Investment	SBI
1	$X_1=41.78$	$X_2=41.62$	$X_3=44.81$
2	$\bar{X}_1=8.356$	$\bar{X}_2=8.324$	$\bar{X}_3=8.962$
3	$X_1^2=18.846$	$X_2^2=34.52$	$X_3^2=12.68$

Source: Appendix 8

**(a) Test of significance difference between Nabil & Investment.**

Settings of hypothesis,

**Null hypothesis ( $H_0$ ):**  $\bar{X}_1 = \bar{X}_2$

i.e. there is no significant difference between mean ratio of total interest earned to total outside assets ratio of Nabil & Investment.

**Alternative hypothesis ( $H_1$ ):**  $\bar{X}_1 \neq \bar{X}_2$  (two tailed tested)

i.e. there is significant difference between mean ratio of total interest earned to total outside assets ratio of Nabil & Investment.

The test statistics under  $H_0$  is,

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

$$S^2 = \frac{1}{n_1 + n_2 - 2} \left( \sum X_1^2 - \frac{(\sum X_1)^2}{n_1} + \sum X_2^2 - \frac{(\sum X_2)^2}{n_2} \right)$$

$$= \frac{1}{5 \Gamma 5} \sqrt{\frac{8.846 \Gamma 34.52 A}{2}}$$

$$= 6.671$$

Now,

$$t = \frac{8.356 - 8.324}{\sqrt{6.671 \left( \frac{1}{5} \Gamma \frac{1}{5} \right)}}$$

$$= 0.020$$

The calculated value of  $t = 0.020$

Tabulated value of 't' (two tailed test) at 5% level of  $(n_1 + n_2 - 2)$  i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of  $t$  is lower than tabulated value at 5% LOS for two-tailed test. Null hypothesis is accepted, i.e. there is no significant difference between mean ratios of total interest earned to total outside assets ratio of Nabil & Investment.

**(b) Test of significance difference between Nabil & SBI.**

Settings of hypothesis,

**Null hypothesis ( $H_0$ ):**  $\bar{X}_1 = \bar{X}_3$

i.e. there is no significant difference between mean ratio of total interest earned to total outside assets ratio of Nabil & SBI.

**Alternative hypothesis ( $H_1$ ):**  $\bar{X}_1 \neq \bar{X}_3$  (two tailed tested)

i.e. there is significant difference between mean ratio of total interest earned to total outside assets ratio of Nabil & SBI.

The test statistics under  $H_0$  is,

$$t = \frac{\bar{X}_1 - \bar{X}_3}{\sqrt{S^2 \left( \frac{1}{n_1} + \frac{1}{n_3} \right)}}$$

Where,

$$\begin{aligned} s^2 &= \frac{1}{n_1 + n_3 - 2} \left[ \sum X_1^2 + \sum X_3^2 - \frac{(\sum X_1)^2}{n_1} - \frac{(\sum X_3)^2}{n_3} \right] \\ &= \frac{1}{5 + 5 - 2} [8.846 + 12.68 - \frac{8.356^2}{5} - \frac{8.962^2}{5}] \\ &= 3.941 \end{aligned}$$

Now,

$$\begin{aligned} t &= \frac{8.356 - 8.962}{\sqrt{3.941 \left( \frac{1}{5} + \frac{1}{5} \right)}} \\ &= -0.482 \end{aligned}$$

The calculated value of  $t = -0.482$

Tabulated value of 't' (two tailed test) at 5% level of  $(n_1 + n_3 - 2)$  i.e. 8 d.f. is 2.306.

**Decision: -**

Since the calculated value of t is lower than its tabulated value at 5% LOS for two-tailed test. Null hypothesis is accepted, i.e. there is no significant difference between mean ratios of total interest earned to total outside assets ratio of Nabil & SBI.

### 4.3 Major Findings of the Study

The main findings of the study are derived on the analysis of financial data of Nabil, Investment and SBI is given below.

#### 1. Liquidity ratio

The liquidity position of Nabil and other compared commercial banks i.e. Investment and SBI reveals that:

- ) The mean ratio of cash and bank balance to total deposits of Nabil is less than Investment and SBI. It states that the liquidity position of Nabil is not better than that of other two compared banks. Nabil bank has better to maintain of its liquidity position.
- ) The mean ratio of cash and bank balance to current assets ratio of Nabil is lesser than Investment & SBI. But Nabil has higher consistency than that of other two compared banks. It states that the Nabil has utilized its funds more efficiently.
- ) From the analysis of current ratio, it is found that the mean ratio of Nabil is higher than Investment but lower than SBI i.e. Nabil have an average, it means Nabil has maintained higher current ratio in compared to other banks. The ratio of Nabil is more variable than Investment but fewer variables than SBI.
- ) The mean ratio of loan & advances to current assets of Nabil is lower than Investment & SBI. But it has average consistency than other two banks. It reveals that Nabil use to provide less loan & advances in comparison of other two banks.
- ) The mean ratio of investment on government securities to current asset of Nabil is higher than Investment & SBI. It states that he Nabil uses to invest its current asset in government securities more than that of other two compared banks.

The above result shows that the liquidity position of Nabil is comparatively lower than Investment & SBI. It has the lower cash and bank balance to total deposit, cash and bank balance to current assets ratio and loan & advances to current assets but it has average consistency. It has the highest investment on government securities to current assets ratio.

## **2. Asset management ratio**

The assets management ratio of Nabil, Investment & SBI shows that;

- ) The mean ratio of total investment to total deposit of Nabil is higher than Investment and SBI. It can be concluded that Nabil is success to better utilization of deposit to investment than other two banks.
- ) The mean ratio of loan & advances to working fund ratio of Nabil is lower than Investment & SBI. It can be conclude that Nabil has mobilizing its fund is lesser but it has less consistency than that of other two banks.
- ) The mean ratio of loan & advances to total deposit of Nabil is lower than Investment & SBI. But Nabil has less C.V. than that of other two banks it indicates that loans and advances of Nabil is stable and consistent.
- ) The mean ratio of investment on shares and debentures to total working fund of Nabil is lower than Investment & SBI. But its investment in shares and debentures seems to be consistent than other compared banks.
- ) In case of Investment on government securities to total working fund ratio, Nabil has higher mean ratio than Investment & SBI. It conclude the Nabil's investment policy is more variable and consistency than that of other compared banks.

From the above analysis, it can be conclude that Nabil has highest investment policy towards investment to total deposits and government

securities to total working fund but lower into shares and debentures to total working funds. And Nabil has stable and consistent than that of other two banks.

### **3. Profitability ratio**

From the analysis of profitability ratio of Nabil, Investment and SBI it shows that;

- ) The mean ratio of return and loan & advances is comparatively higher than Investment & SBI. The variability of the ratio of Nabil is higher and it is also consistency in return than other two banks.
- ) The mean ratio of total interest earned to total outside assets of Nabil is greater than Investment and lower than SBI. it indicated the Nabil has average position towards income earned from total outside asset in comparison to other two banks.
- ) The mean ratio of return on total working fund ratio of Nabil is higher than Investment & SBI and it is more consistent. it can be conclude the Nabil has success to maintain the high ratio in return on total working fund.
- ) The mean ratio of total interest paid to total working fund of Nabil is lower than Investment & SBI. It means Nabil has paid lower interest than other tow banks.
- ) The mean ratio of total investment earned to total working fund of Nabil is also greater than Investment and lower than SBI. The variability of the ratio of Nabil is in average in comparison to Investment & SBI.

From the above findings, it can be said that Nabil is average profitable in comparison to other compared banks. To earn high profit in future the bank must maintain its high profit margin.

### **4. Risk ratio**

The risk ratios of Nabil, Investment and SBI reveal that;

- ) Nabil has maintained higher mean ratio of capital risk than SBI but lower mean ratio than Investment. The ratio of Nabil is more consistent than other two banks.
- ) The mean ratio of liquidity risk of Nabil is lower than Investment & SBI. The ratio of Nabil is more consistent than SBI & less consistent than Investment.
- ) The mean ratio of credit risk of Nabil is also lower than other two compared banks. The credit risk ratio of Nabil is less variable in comparison to Investment and SBI.

From the above findings, it can be concluded that Nabil has average risk ratio. The bank should maintain risk against credit fund to earn high profit.

## **5. Growth ratio**

The growth ratio of Nabil, Investment & SBI shows that;

- ) The growth ratio of total deposit of Nabil is lower than Investment & SBI. It indicated that the performance of Nabil to collect deposit is not better. But deposit amount of Nabil is still high than other two compared banks.
- ) The growth ratio of loan & advances of Nabil is lower than Investment & SBI. It indicates that the performance of Nabil to grant loan & advances is not satisfactory.
- ) The growth ratio of Nabil's total investment is also not better than that of Investment and SBI. But total investment of Nabil is higher than other bank's investment amount.
- ) The growth ratio of Nabil's net profit is higher than SBI and lower than Investment. It indicates that the Nabil has moderately successful to earn profit than Investment & SBI.

From the above findings, it can conclude that Nabil cannot maintain high growth ratios in total deposit, loan & advances and investment but it has moderate position in net profit.

## **6. Trend analysis and projection for next five years.**

The trend analysis and projection for next five years of Nabil, Investment & SBI reveals that;

- ) The trend analysis of loan and advances to total deposits ratio of Nabil & Investment bank have increasing trend but SBI has decreasing trend. Nabil's increasing trend ratio is 0.70, which is highest than Investment's increasing trend ratio by 0.20 and SBI has decreasing trend ratio by – 0.80. The increasing trend of Nabil's reveals that it will be better position in future.
- ) The trend analysis of total investment of total deposit ratio of all three banks has increasing trend. Nabil's increasing trend ratio is 5.929, which is greater than Investment's increasing trend ratio i.e. 4.139 and SBI's increasing trend ratio i.e. 5.696. The increasing trend ratio of Nabil's reveals that it has better condition for utilizing the total deposit towards investment.

From the above findings, it can be concluded that Nabil may use relatively large portion of their deposit into providing loan and towards the potential sector of the investment. It shows the Nabil's position will be better in near future in comparison to other two banks.

## **7. Co-efficient of correlation analysis**

Co-efficient of correlation analysis between different variables of Nabil, Investment & SBI shows that;



- ) Co-efficient of correlation between deposit and loan & advances of all three banks are positive relationship between these variables. Nabil has the lowest value of co-efficient of correlation between deposit and loan & advances than Investment and SBI. This indicated Nabil position is not better in mobilization of deposit as loan & advances in compared to investment & SBI.
- ) Co-efficient of correlation between deposit and total Investment of Nabil is higher than Investment and SBI. It shows the positive relationship between these two variables. It indicates that the total deposit in mobilizing as on investment of Nabil.
- ) Co-efficient of correlation between outside assets and net profit of Nabil has negative relationship but Investment and SBI have positive relationship. It reveals that Nabil is not capable to earn net profit by mobilizing its total outside assets.

From above findings, it can be concluded that there is significant relationship between deposit and total investment & deposit and loan & advances but negative relationship between outside assets and net profit of Nabil.

## **8. Test of hypothesis**

By analyzing the test of significance difference of regarding the parameter of the population, it has been found that;

- ) There is significant difference between mean ratios of loan & advances to total deposits of Nabil, Investment & SBI.
- ) There is no significant difference between mean ratios of total investment to total deposit of Nabil & Investment, but there is significant difference between mean ratios of total investment of total deposit ratio of Nabil & SBI.

- ) There is significant difference between mean ratios of investment on government securities to current assets of Nabil & Investment, but there is no significant difference between mean ratios of investment on government securities to current assets of Nabil & SBI.
- ) There is significant difference between mean ratio of loan & advances to current assets ratio of Nabil & Investment, but there is no significant difference between mean ratios of loan & advances to current ratio of Nabil & SBI.
- ) There is significant difference between mean ratio of return on loan & advances ratio of Nabil, Investment & SBI.
- ) There is significant difference between mean ratios of total interest earned to total outside assets ratio of Nabil & Investment but there are no significant differences between mean ratios of total interest earned to total outside assets ratio of Nabil & SBI.

## **CHAPTER - V**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

In the last chapter of this study is summary, conclusion and recommendation have discussed and explored the facts and matters required for various parts of the study. Through the analytical chapter by using some important financial as well as statistical tools, makes a comparative analysis of various aspects of the investment of concern commercial banks.

Having completed the basic analysis required for the study, the researcher must point out the mistakes and error and also correct them by giving suitable suggestions for further improvement. Therefore, this summarized and recommended tasks of the researcher of the study would be meaningful to the top management of the bank to initiate the action and achieve the desired result.

## **5.1 Summary**

The economic development of a country depends upon the development of commerce and industry. And, there is no any doubt, banking promotes the development of commerce cause banking itself is the part of commerce. The process of economic development depends upon various factors, however economists are now convinced that capital formation and its proper utilization plays a paramount role for rapid economic development.

The economic growth was very slow in earlier year; it has caught its full selling with the restoration democracy in the country. At present, overall economic growth rate still decline year by year. Reasons behind this decline are insecure situation faced by industry, decrease in the tourist arrival, drop in the production and export of carpet, garment and pashmina industry and political situation and activities of Maoists.

The evolution of the organized financial system in Nepal has more recent history than in other countries of the world. In Nepalese context, the history of banking is not more than six decade. After the announcement of liberal and free market economic based policy Nepalese banks and financial

sectors having greater network and access to national and international markets. Commercial banks play a vital role which deals with other people's money and stimulate saving by mobilized idle resources to those sectors where there are investment opportunities. Modern banks provide various services to their customers in view of facilitating their economic and social life.

The objective of the commercial banks is always to earn more profit by investing or granting loans and advances into profitable, secured and marketable sectors. But commercial banks should be careful while performing the credit creation function; the banks should never invest their funds in those securities, which are too much fluctuating. And commercial banks must follow the rules and regulations as well as different directions issued by central banks and the ministry of finance while mobilizing the funds or the commercial banks should invest their funds only in those securities, which are legal.

There has been a number of commercial banks established, the research has taken into consideration.

**'Nabil Bank Ltd'** – Nabil Bank Limited was the first joint venture commercial bank incorporated in 1984 by joint investment of Dubai Bank Limited and Nepali promoters. This bank is awarded by "Bank of the Year 2004".

**'Nepal Investment Bank Ltd'** – Nepal Investment Bank was the third joint venture bank established in 1986 under the company act 1964 by joint investment of Banque Indosues and Nepali promoters. This bank is awarded by "Bank of the Year 2003".

**'Nepal State Bank of India Ltd (SBI)'** – Nepal SBI Bank was established in 1963 under the company act 1964 by joint investment of state bank of India and Nepalese promoters.

In the study, the ward investment covers a wide range of activities i.e. the investment of income, savings or other collected funds. If there is no

savings, there is no existence of investment therefore, savings and investment are interrelated. Investment policy is a one facet of the overall spectrum of policies that guide banks investment operations and it ensures efficient allocation of funds to achieve the well being economic development of the nation. A sound and viable investment policy attracts both borrowers and lenders, which help to increase the volumes and quality of deposits, loan and investment. Therefore, the investment policy should be carefully analyzed.

Some sources of funds for the investment of the bank are capital, general reserves, accumulated profit, deposits and external & internal borrowings. Similarly, some important banking terms, which are frequently used in this study, are loan and advances, investment on government securities, shares and debentures, deposits and other use of funds.

In this study, for the analysis and interpretation of the data different financial & statistical tools are used. In the financial tools liquidity ratios, assets management ratios, profitability ratios, risk ratios and growth ratio have been used. Where, as in statistical tools mean, standard deviation, coefficient of variation, trend analysis, coefficient of correlation and test of hypothesis have been used. Only the secondary data have been used for the analysis in this research. The data are obtained from annual reports of concerned banks, likewise, the financial statement of five years i.e. 2003/2004 to 2007/2008 were selected for the purpose evaluation.

## **5.2 Conclusion**

The above-mentioned major findings led this study to the following conclusions

- ) The liquidity position of Nabil is comparatively lower than Investment and SBI but it has the highest investment on government securities to current assets ratio.
- ) Through the assets management ratio, Nabil has highest investment policy towards investment to total deposits and government securities to total working fund but lower into shares and development to total working fund.
- ) In analysis of profitability, return on total working fund and return on loan & advances of Nabil is higher, total interest earned to total outside assets and total interest earned to total working fund of Nabil's is average but total interest paid to total working fund of Nabil is lower.
- ) From the viewpoint of risk ratio, liquidity risk and credit risk of Nabil is lower than Investment and SBI but in case of capital risk Nabil has average ratio than other two.
- ) From the analysis of growth ratio, Nabil has lower growth rate in total deposits, loan & advances and total investment but it has average growth rate in net profit. However, in all growth rates there is higher amount of Nabil's than
- ) Through the both trend analysis i.e. loan & advances to total deposits and total investment of total deposit ratios of Nabil's is greater than Investment and SBI. It shows the Nabil's position will be better in future.
- ) From the co-efficient of correlation between deposit and loan & advances and deposit & total investment is significant relationship but there is negative relationship between outside assets and net profit of Nabil.

- ) Through the analysis and findings we can summarize that Nabil's investment policy is better in every sector and profitability ratio is also good. Similarly, trend of loan & advances and total investment to total deposits shows that Nabil's position will be better. However, liquidity position and growth rate is not good but it has average risk ratio.
- ) Investment bank has better investment policy, profitability and trend of loan & advances and total investment to total deposits than SBI bank, and also it has very good growth rate than other banks. However, SBI bank has good liquidity position and risk ratio.

## **5.2 Recommendations**

On the basis of above analysis and conclusion, following recommendations are made.

- ) Besides giving priority of investing on government securities, Nabil is recommended to invest its fund in purchase of shares and debentures of other financial and non-financial companies. Government securities such as treasury bills are gives very lowest interest rate rather than other's company's securities. This also helps to maintain the sound portfolio of the banks.
- ) Profitability is the main indicator of the financial performance of cash and every business organization. In this study, profitability ratio is good from the angle of return but it is seen that Nabil cannot earn higher interest through the outside assets and working fund. So Nabil is recommended to increase its interest earned in outside assets and working fund by investing more & more funds in loan & advances and different types of securities. Because higher interest earning capacity of the bank implies better performance of the bank.

- ) A commercial bank must maintain its satisfactory liquidity position to meet the credit need of the community; however, external as well as internal factors affect the liquidity position of banks. As Nabil's has maintained the ratio of cash and bank balance to total deposits and current assts considerably lower than Investment & SBI, Nabil is recommended to increase cash and bank balance to make the immediate payment to the depositor and to meet the demand of loan & advances.
- ) If a bank expects high return on its investment it has to accept the risk, it increases effectiveness and profitability of the bank. The risk taken by Nabil, from the angle of capital risk is an average whereas liquidity risk and credit risk is lower than that of other two banks and its consistency are highly volatile which may result higher loss. The bank should not take high risk, Nabil should carefully analyze in above risk to achieve higher returns.
- ) The growth ratios represent how well the commercial banks are maintaining their economic and financial position; it is directly related to the fund mobilization and investment. Nabil's growth ratio is not good than that of other two banks. It has very much fluctuating growth rate however, it has higher amount of growth rate. Nabil is recommended that it should increase its growth ratio into deposits, loan and advances, investment & net profit.
- ) Co-efficient of correlation analysis interprets the relationship between the two or more variables, co-efficient of correlation between outside assets and net profit of Nabil is negative, it shows that there is negative relationship between these two variables. It reveals that Nabil is not capable to earn net profit by mobilizing its total outside assets. So, Nabil should innovate new strategy and changing its current policy for more and more utilizing its outside assets to earn more profit.
- ) In the light of growing competition in the banking sector, the business of the bank should be customer oriented. The bank is recommended to adopt new technology and services such as financial switch system



(SWIFT), automatic teller machine (ATM) cards, visa electron debit card, international credit card, locker services, lending against gold and silver services, parking service, 24 hour services etc. The bank should involve in different kind of social and community development activities. The bank has been able to provide more personalized services and a better environment for its customer, it is an effective tool to attract and retain the customers.

- ) To get success in competitive banking environment, depositor's money must be utilized as loan and advances. The largest item of the bank in the asset side is loan and advances. If it is neglected, then it could be the main cause of liquidity crisis in the bank. Nabil's loan & advances to total deposit ratio and loan & advances to total working fund ratio is lower than Investment & SBI. To overcome this situation Nabil is strongly recommended to follow liberal lending policy and invest more and more percentage of total deposit and total working fund in loan & advances.
- ) In order to collection much funds, Nabil is suggested not to be surrounded and limited only big clients i.e. multinational companies, large industries, manufacturer companies, NGO's and INGO's etc, it should be give emphasis to the lower level people also. Through different kind of scheme such as ezee saving scheme, cumulative deposit scheme, house building deposit scheme, deposit linked life insurance scheme, recurring deposit scheme and many other the bank can collect a large fund from lower level people of the kingdom.

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## Appendix – 1

### Liquidity Ratio

#### A. Current Ratio

##### Calculation of Current Ratio of NABIL, Investment and SBI Bank

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Total Current Assets	14788.91	13161.68	13313.40	13868.30	14244.04
Total Current Liabilities	13977.29	17226.21	16384.73	15135.42	15153.13
Ratio (Times)	1.06	0.76	0.81	0.92	0.94
Investment Bank					
Total Current Assets	3744.09	3423.11	3340.25	7517.89	11144.33
Total Current Liabilities	3362.44	4629.02	4410.21	8359.46	12506.94
Ratio (Times)	1.11	0.74	0.76	0.90	0.89
SBI Bank					
Total Current Assets	4992.66	7166.11	6787.45	7404.57	8345.34
Total Current Liabilities	4880.51	7043.64	5459.41	6992.43	7808.29
Ratio (Times)	1.02	1.02	1.05	1.06	1.07

#### B. Cash and Bank Balance to Total Deposit Ratio

##### Calculation of Cash and Bank Balance to Total Deposit Ratio of NABIL, Investment and SBI Bank

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Cash & Bank Balance	1088.75	812.90	1051.82	1144.77	970.49
Total Deposits	12779.51	15839.01	15506.44	13447.65	14119.03

Ratio (Times)	8.52	5.13	6.78	8.51	6.87
Investment Bank					
Cash & Bank Balance	362.92	522.86	338.92	926.53	1226.92
Total Deposits	2983.28	4256.21	4174.76	7922.75	11524.67
Ratio (Times)	12.17	12.28	8.12	11.69	10.65
SBI Bank					
Cash & Bank Balance	890.02	1945.14	1619.96	1333.54	864.42
Total Deposits	4535.73	6612.29	5572.47	6522.82	7198.32
Ratio (Times)	19.62	29.42	29.07	20.44	12.01

### C. Cash and Bank Balance to Current Assets Ratio

#### Calculation of Cash and Bank Balance to Current Assets Ratio of NABIL, Investment and SBI Bank

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Cash & Bank Balance	1088.75	812.90	1051.82	1144.77	970.49
Current Assets	14788.91	13161.68	13313.40	13868.30	14244.04
Ratio (Times)	7.36	6.18	7.90	8.25	6.81
Investment Bank					
Cash & Bank Balance	362.92	522.86	338.92	926.53	1226.92
Current Assets	3744.09	3423.11	3340.25	7517.89	11144.33
Ratio (Times)	9.69	15.27	10.15	12.32	11.01
SBI Bank					
Cash & Bank Balance	890.02	1945.14	1619.96	1333.54	864.42
Current Assets	4992.66	7166.11	6787.45	7404.57	8345.34
Ratio (Times)	17.83	27.14	23.87	18.01	10.36

### D. Investment on Government Securities to Current Assets Ratio

#### Calculation of Investment on Government Securities to Current Assets Ratio of NABIL, Investment and SBI Bank

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Investment on Govt. Securities	1233.82	2732.96	4120.29	3588.77	3672.63
Current Assets	14788.91	13161.68	13313.40	13868.30	14244.04
Ratio (Times)	8.34	20.76	30.95	25.88	25.78
Investment Bank					
Investment on Govt. Securities	0.00	300.00	224.00	400.00	2001.10
Current Assets	3744.09	3423.11	3340.25	7517.89	11144.33
Ratio (Times)	0.00	8.76	6.72	5.32	17.96
SBI Bank					
Investment on Govt. Securities	192.85	364.69	503.17	1189.39	1871.46
Current Assets	4992.66	7166.11	6787.45	7404.57	8345.34
Ratio (Times)	3.86	5.09	7.41	16.06	22.43

### E. Loan & Advances to Current Assets Ratio

#### Calculation of Loan & Advances to Current Assets Ratio of NABIL, Investment and SBI Bank

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Loan & Advances	7334.76	8324.44	7437.90	7755.95	8189.99
Current Assets	14788.91	13161.68	13313.40	13868.30	14244.04
Ratio (Times)	49.60	63.25	55.87	55.93	57.50
Investment Bank					
Loan & Advances	2070.68	2429.03	2546.43	2572.14	7130.13
Current Assets	3744.09	3423.11	3340.25	7517.89	11144.33
Ratio (Times)	55.31	70.96	76.77	76.78	63.98
SBI Bank					
Loan & Advances	3559.41	4188.41	4299.25	4468.72	5143.66
Current Assets	4992.66	7166.11	6787.45	7404.57	8345.34
Ratio (Times)	71.29	58.45	63.34	60.35	61.64

## Appendix – 2

### Asset Management Ratio (Activity Ratio)

#### A. Loan & Advances to Total Deposit Ratio

##### Calculation of Loan & Advances to Current Assets Ratio of NABIL, Investment and SBI Bank

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Loan & Advances	7334.76	8324.44	7437.90	7755.95	8189.99
Total Deposit	12779.51	15839.01	15506.44	13447.65	14119.03
Ratio (Times)	57	53	48	58	58
Investment Bank					
Loan & Advances	2070.68	2429.03	2546.43	2572.14	7130.13
Total Deposit	2983.28	4256.21	4174.76	7922.75	11524.67
Ratio (Times)	69	57	61	73	62
SBI Bank					
Loan & Advances	3559.41	4188.41	4299.25	4468.72	5143.66
Total Deposit	4535.73	6612.29	5572.47	6522.82	7198.32
Ratio (Times)	78	63	77	69	71

#### B. Total Investment to Total Deposit Ratio

##### Calculation of Total Investment to Current Assets Ratio of NABIL, Investment and SBI Bank

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Total Investment	1250.94	7704.31	8199.51	6031.17	5836.07
Total Deposit	12779.51	15839.01	15506.44	13447.65	14119.03

Ratio (Times)	9.79	48.64	52.88	44.85	41.33
Investment Bank					
Total Investment	12.69	1970.27	1822.16	1705.24	3864.48
Total Deposit	2983.28	4256.21	4174.76	7922.75	11524.67
Ratio (Times)	0.43	46.29	43.65	21.52	33.51
SBI Bank					
Total Investment	201.79	373.63	599.06	1207.28	1907.52
Total Deposit	4535.73	6612.29	5572.47	6522.82	7198.32
Ratio (Times)	4.45	5.65	10.75	18.51	26.50

### C. Loan & Advances to Working Fund Ratio

#### Calculation of Loan & Advances to Working Fund Ratio of NABIL, Investment and SBI Bank

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Loan & Advances	7334.76	8324.44	7437.90	7755.95	8189.99
Total Working Fund	15024.20	18367.15	17629.25	16562.61	16745.61
Ratio (Times)	48.82	45.32	42.19	46.83	48.91
Investment Bank					
Loan & Advances	2070.68	2429.03	2546.43	2572.14	7130.13
Total Working Fund	3796.70	5127.37	4973.90	9014.24	13255.50
Ratio (Times)	54.54	47.37	51.56	64.03	53.79
SBI Bank					
Loan & Advances	3559.41	4188.41	4299.25	4468.72	5143.66
Total Working Fund	5106.57	7284.79	7021.14	7566.33	8440.40
Ratio (Times)	69.70	57.50	61.23	59.06	60.94

### D. Investment on Government to Working Fund Ratio

#### Calculation of Investment on Government to Working Fund Ratio of NABIL, Investment and SBI Bank

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Investment on Govt. Securities	1233.82	2732.96	4120.29	3588.77	3672.63
Total Working Fund	15024.20	18367.15	17629.25	16562.61	16745.61
Ratio (Times)	8.21	14.88	23.37	21.67	21.93
Investment Bank					
Investment on Govt. Securities	0.00	300.00	224.40	400.00	2001.10
Total Working Fund	3796.70	5127.37	4973.90	9014.24	13255.50
Ratio (Times)	0.00	5.85	4.50	4.44	15.10
SBI Bank					
Investment on Govt. Securities	192.85	364.69	503.17	1189.39	1871.46
Total Working Fund	5106.57	7284.79	7021.14	7566.33	8440.40
Ratio (Times)	3.78	5.01	7.17	15.72	22.17



**E. Investment on Shares and Debentures to Working Fund Ratio**  
**Calculation of Investment on Shares and Debentures to Working Fund Ratio of NABIL,**  
**Investment and SBI Bank**

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
<b>NABIL Bank</b>					
Investment on Shares & Debentures	16.12	18.82	22.22	22.22	22.22
Total Working Fund	15024.20	18367.15	17629.25	16562.61	16745.61
Ratio (Times)	0.11	0.10	0.13	0.13	0.13
<b>Investment Bank</b>					
Investment on Shares & Debentures	12.69	12.69	13.89	13.89	13.89
Total Working Fund	3796.70	5127.37	4973.90	9014.24	13255.50
Ratio (Times)	0.33	0.25	0.28	0.15	0.10
<b>SBI Bank</b>					
Investment on Shares & Debentures	8.94	8.94	17.89	17.89	17.89
Total Working Fund	5106.57	7284.79	7021.14	7566.33	8440.40
Ratio (Times)	0.18	0.12	0.25	0.24	0.21

**Appendix – 3**

**Profitability Ratio**

**A. Return on Total Working Fund Ratio**

**Calculation of Return on Working Fund Ratio of NABIL, Investment and SBI Bank**

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
<b>NABIL Bank</b>					
Net Profit	329.12	291.37	271.63	416.25	455.32
Total Working Fund	15024.20	18367.15	17629.25	16562.61	16745.61
Ratio (Times)	2.19	1.59	1.54	2.51	2.72
<b>Investment Bank</b>					
Net Profit	72.66	56.39	57.09	116.82	152.67
Total Working Fund	3796.70	5127.37	4973.90	9014.24	13255.50
Ratio (Times)	1.91	1.10	1.15	1.30	1.15
<b>SBI Bank</b>					
Net Profit	50.07	12.51	40.85	48.75	60.86
Total Working Fund	5106.57	7284.79	7021.14	7566.33	8440.40
Ratio (Times)	0.98	0.17	0.58	0.64	0.72

**B. Return on Loan & Advances Ratio**

**Calculation of Return on Loan & Advances Ratio of NABIL, Investment and SBI Bank**

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
<b>NABIL Bank</b>					
Net Profit	329.12	291.37	271.63	416.25	455.32

Loan & Advances	7334.76	8324.44	7437.90	7755.90	8189.99
Ratio (Times)	4.49	3.50	3.65	5.37	5.56
Investment Bank					
Net Profit	72.66	56.39	57.09	116.82	152.67
Loan & Advances	2070.68	2429.03	2564.43	5772.14	7130.13
Ratio (Times)	3.51	2.32	2.23	2.02	2.14
SBI Bank					
Net Profit	50.07	12.51	40.85	48.75	60.86
Loan & Advances	3559.41	4188.41	4299.25	4468.72	5143.66
Ratio (Times)	1.41	0.30	0.95	1.09	1.18

### C. Total Interest Earned to Total Outside Assets Ratio

#### Calculation of Total Interest earned to Total Outside Assets Ratio of NABIL, Investment & SBI Bank.

Particular	Fiscal Year				
	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007
NABIL Bank					
Total Interest Earned	1047.03	1266.70	1120.18	1017.87	1001.62
Total Outside Assets	8585.70	16028.75	15637.41	13787.12	14026.06
Ratio (Times)	12.20	7.90	7.16	7.38	7.14
Investment Bank					
Total Interest Earned	279.86	349.75	326.22	459.51	331.40
Total Outside Assets	2083.37	4399.30	4386.59	7477.38	10992.61
Ratio (Times)	13.43	7.95	7.44	6.15	6.65
SBI Bank					
Total Interest Earned	437.32	444.56	399.63	469.74	493.60
Total Outside Assets	3761.20	4562.04	4898.31	5676.00	7051.18
Ratio (Times)	11.63	9.74	8.16	8.28	7.00

### D. Total Interest Earned to Total Working Fund Ratio

#### Calculation of Total Interest earned to Total Working Fund Ratio of NABIL, Investment & SBI Bank.

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
NABIL Bank					
Total Interest Earned	1047.03	1266.70	1120.18	1017.87	1001.62
Total Working Fund	15024.20	18367.15	17629.25	16562.61	16745.61
Ratio (Times)	6.97	6.90	6.35	6.15	5.98
Investment Bank					
Total Interest Earned	279.86	349.75	326.22	459.51	331.40
Total Working Fund	3796.70	5127.37	4973.90	9014.24	13255.50
Ratio (Times)	7.37	6.82	6.56	5.10	5.52
SBI Bank					
Total Interest Earned	437.32	444.56	399.63	469.74	493.60
Total Working Fund	5106.57	7284.79	7021.14	7566.33	8440.40
Ratio (Times)	8.56	6.10	5.69	6.21	5.85

**E. Total Interest Paid to Total Working Fund Ratio****Calculation of Total Interest Paid to Total Working Fund Ratio of NABIL, Investment & SBI Bank**

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
<b>NABIL Bank</b>					
Total Interest Paid	432.96	578.36	462.08	317.35	282.94
Total Working Fund	15024.20	18367.15	17629.25	16562.61	16745.61
Ratio (Times)	2.88	3.15	2.62	1.92	1.69
<b>Investment Bank</b>					
Total Interest Paid	115.73	163.15	130.44	189.21	326.21
Total Working Fund	3796.70	5127.37	4973.90	9014.24	13255.50
Ratio (Times)	3.05	3.18	2.62	2.10	2.46
<b>SBI Bank</b>					
Total Interest Paid	281.66	271.79	288.58	291.82	255.92
Total Working Fund	5106.57	7284.79	7021.14	7566.33	8440.40
Ratio (Times)	5.52	3.73	4.11	3.86	3.03

## Appendix – 4

### Risk Ratio

#### A. Liquidity Risk Ratio

##### Calculation of Liquidity Risk Ratio of NABIL, Investment and SBI Banks

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
<b>NABIL Bank</b>					
Cash & Bank Balance	1088.75	812.90	1051.82	1144.77	970.49
Total Deposit	12779.51	15839.01	15506.44	13447.65	14119.03
Ratio (Times)	8.52	5.13	6.78	8.51	6.87
<b>Investment Bank</b>					
Cash & Bank Balance	362.92	522.86	338.92	926.53	1226.92
Total Deposit	2983.28	4256.21	4174.76	7922.75	11524.67
Ratio (Times)	12.17	12.28	8.12	11.69	10.65
<b>SBI Bank</b>					
Cash & Bank Balance	890.02	1945.14	1619.96	1333.54	864.42
Total Deposit	4535.73	6612.29	5572.47	6522.82	7198.32
Ratio (Times)	19.62	29.42	29.07	20.44	12.01

#### B. Credit Risk Ratio

##### Calculation of Credit Risk Ratio of NABIL, Investment and SBI Banks

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
<b>NABIL Bank</b>					
Total Loan & Advances	7334.76	8324.44	7437.90	7755.95	8189.99
Total Assets	15024.20	18367.15	17629.25	16562.61	16745.61
Ratio (Times)	48.82	45.32	42.1	46.83	48.91
<b>Investment Bank</b>					
Total Loan & Advances	2070.68	2429.03	2546.43	2572.14	7130.13
Total Assets	3796.70	5127.36	4973.90	9014.24	13255.50
Ratio (Times)	54.54	47.37	51.56	64.03	53.79
<b>SBI Bank</b>					
Total Loan & Advances	3559.41	4188.41	4299.25	4468.72	5143.66
Total Assets	5106.57	7284.79	7021.14	7566.33	8440.40
Ratio (Times)	69.70	57.50	61.23	59.06	60.94

#### C. Capital Risk Ratio

##### Calculation of Capital Risk Ratio of NABIL, Investment and SBI Banks

Particular	Fiscal Year				
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
<b>NABIL Bank</b>					
Capital	984.07	1062.83	1146.42	1314.18	1481.68
Risk Weighted Assets	7334.76	8324.44	7437.90	7755.95	8189.99
Ratio (Times)	13.42	12.77	15.41	16.95	18.09
<b>Investment Bank</b>					
Risk Weighted Assets	410.24	469.08	523.46	638.53	729.04
Ratio (Times)	2070.68	2429.03	2564.43	5772.14	7130.13
Ratio (Times)	19.81	19.31	20.41	11.06	10.22
<b>SBI Bank</b>					
Risk Weighted Assets	224.95	238.55	560.34	569.86	626.64
Ratio (Times)	3559.41	4188.41	4299.25	4468.72	5143.66
Ratio (Times)	6.32	5.60	13.03	12.75	12.18

## Appendix – 5

### Calculation of Mean, Standard Deviation and Co-efficient of Variation of current ratio of NABIL, Investment & SBI Bank

Fiscal Year	NABIL Bank		Investment Bank		SBI Bank	
	X <sub>1</sub>	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub>	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub>	X <sub>3</sub> <sup>2</sup>
2003/2004	1.06	1.1236	1.11	1.1231	1.02	1.0404
2004/2005	0.76	0.5776	0.74	0.5476	1.02	1.0404
2005/2006	0.81	0.6561	0.76	0.5776	1.05	1.1025
2006/2007	0.92	0.8486	0.90	0.81	1.06	1.1236
2007/2008	0.94	0.8836	0.89	0.7921	1.07	1.1449
	X <sub>1</sub> = 4.49	X <sub>1</sub> <sup>2</sup> = 4.0873	X <sub>2</sub> = 4.40	X <sub>2</sub> <sup>2</sup> = = 3.9594	X <sub>3</sub> = 5.22	X <sub>3</sub> <sup>2</sup> = 5.4818

Where,

X<sub>1</sub> = Total Current ratio of NABIL Bank

X<sub>2</sub> = Total Current ratio of Investment Bank

X<sub>3</sub> = Total Current ratio of SBI Bank

Calculation of Mean Ratio of NABIL Bank Current Ratio

$$\text{Mean} = \frac{X_1}{N} = \frac{4.49}{5} = 0.898$$

Calculation of Standard Deviation of Current Ratio

$$\begin{aligned} \text{S.D.} &= \sqrt{\frac{(X_1)^2}{N} - \frac{X_1^2}{N}} \\ &= \sqrt{\frac{4.0873}{5} - \frac{4.49^2}{5}} \\ &= \sqrt{0.81746 - 0.8064} \\ &= 0.105 \end{aligned}$$

Calculation of Coefficient of Variation (C.V.)

$$\begin{aligned} \text{CV} &= \frac{\text{S.D.}}{\bar{X}} \times 100 \% \\ &= \frac{0.105}{0.898} \times 100 \\ &= 11.69 \end{aligned}$$

Calculation of Mean, Std. Deviation and coefficient of variation of Investment and SBI banks are calculated accordingly.

### Appendix – 6

#### Calculation of Co-efficient of Correlation between Deposits and Loan & Advance of NABIL Bank

FY	Deposits (X)	Loan & Advance(Y)	$x = X - \bar{X}$	$x^2$	$y = Y - \bar{Y}$	$y^2$	$xy$
2003/2004	12779.51	7334.76	(1558.82)	2429913.56	(473.85)	224531.91	738642.79
2004/2005	15839.01	8324.44	1500.68	2252046.46	515.83	266082.65	774099.80
2005/2006	15506.44	7437.90	1168.11	1364485.64	(370.71)	137424.42	(433028.46)
2006/2007	13447.65	7755.95	(890.68)	793307.30	(52.66)	2772.86	46901.32
2007/2008	14119.03	8189.99	(219.30)	48091.61	381.38	145452.23	(83636.31)
Total	X = 71691.64	Y = 39043.04	x = 0.00	$x^2 =$ 6887844.58	y = 0.00	$y^2 =$ 776264.09	xy = 1042979.14
Mean	14338.33	7808.61					

Now,

$$\text{Co-efficient of Correlation (r)} = \frac{N \cdot \sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

$$= \frac{5 \cdot 1042979.14}{\sqrt{5 \cdot 6887844.58} \sqrt{5 \cdot 776264.09}}$$

$$= 0.45$$

$$r^2 = 0.20$$

$$\text{Probable Error (P.F.r)} = 0.6745 \frac{\sum y^2}{n}$$

$$= 0.6745 \frac{1042979.14}{5}$$

$$= 0.11$$

$$= 0.65$$

Coefficients of correlation of NABIL, Investment & SBI are calculated accordingly.

### Appendix – 7

#### Calculation of hypothesis on loan & advance to total deposit ratios of NABIL, Investment & SBI Bank

FY	NABIL			Investment			SBI		
	X <sub>1</sub>	x <sub>1</sub> = (x <sub>1</sub> - $\bar{X}_1$ )	X <sub>1</sub> <sup>2</sup>	X <sub>2</sub>	x <sub>2</sub> = (X <sub>2</sub> - $\bar{X}_2$ )	X <sub>2</sub> <sup>2</sup>	X <sub>3</sub>	X <sub>3</sub> = (X <sub>3</sub> - $\bar{X}_3$ )	X <sub>3</sub> <sup>2</sup>
2003/2004	57.00	2.20	4.84	69.00	4.60	21.16	78.00	6.40	40.96
2004/2005	53.00	-1.80	3.24	57.00	-7.40	54.76	63.00	-8.60	73.96
2005/2006	48.00	-6.80	46.24	61.00	-3.40	11.56	77.00	5.40	29.16
2006/2007	58.00	3.20	10.24	73.00	8.60	73.96	69.00	-2.60	6.76
2007/2008	58.00	3.20	10.24	62.00	-2.40	5.76	71.00	-0.60	0.36
Total	X <sub>1</sub> = 274.00	x <sub>1</sub> = 0.00	x <sub>1</sub> <sup>2</sup> = 74.80	X <sub>2</sub> = 322.00	x <sub>2</sub> = 0.00	x <sub>2</sub> <sup>2</sup> = 167.20	X <sub>3</sub> = 358.00	x <sub>3</sub> = 0.00	x <sub>3</sub> <sup>2</sup> = 151.20

Here,

$$\bar{X}_1 = \frac{X_1}{n} \quad \bar{X}_2 = \frac{X_2}{n} \quad \bar{X}_3 = \frac{X_3}{n}$$

$$\bar{X}_1 = \frac{274.00}{5} \quad \bar{X}_2 = \frac{322.00}{5} \quad \bar{X}_3 = \frac{358.00}{5}$$

$$= 54.80 \quad = 64.40 \quad = 71.60$$

Test of significance of difference between (other ratios) NABIL, Investment and SBI Bank are calculated accordingly.